Meeting Program

HILTON ATLANTA
MAY 6-9, 2015
MISSION
The SID mission is to advance and promote the sciences relevant to skin health and disease through education, advocacy and scholarly exchange of scientific information.

VISION
The SID will be the pre-eminent organization for the science of skin health and diseases. It will be a leading purveyor of educational programming. It will promote a culture of discovery and serve as the premier forum for the exchange of scientific information relating to dermatologic research. It will build cross-disciplinary bridges to provide catalytic leadership in attaining intellectual, political, and financial support for skin-related scientific investigation. The SID will be – and be viewed as – a significant force in shaping public policy. As a result of recruiting, nurturing, and mentoring the next generation of scientists, it will be a financially robust and self-sustaining organization.

CORE VALUES
• Integrity
• Collegiality
• Shared beliefs
• Innovation
• Leadership

CONNECT WITH THE SID!
#SIDATL2015
www.sidnet.org
Check-in and check for updates at the SID 2015 Annual Meeting Facebook
www.facebook.com/SID2015annualmeeting

COMMERCIAL SUPPORT
As of March 26, 2015
Abbvie
Actelion
Amgen
Anacor
Celgene
Eli Lilly

2015 EXHIBITORS
Cell n Tec
CYTOO
Elsevier
Metabolon, Inc.
NIAMS
Pfizer
ZenBio, Inc.

FUTURE ANNUAL MEETINGS
75th Annual Meeting
May 11-14, 2016
The Westin Kierland Resort & Spa
Scottsdale, Arizona

76th Annual Meeting
April 26-29, 2017
Hilton Portland & Executive Tower
Portland, Oregon

JID- 2018
May 16-19, 2018
Rosen Shingle Creek
Orlando, Florida

77th Annual Meeting
May 8-11, 2019
Hilton Chicago
Chicago, Illinois

OFFICERS
PRESIDENT
S. Wright Caughman, MD
VICE PRESIDENT
Alexa B. Kimball, MD/MPH
PRESIDENT-ELECT
Mark Udey, MD/PhD
VICE PRESIDENT-ELECT
Anthony Gaspari, MD
IMMEDIATE PAST PRESIDENT
Paul R. Bergstresser, MD
SECRETARY-TREASURER
Alice P. Pentland, MD
ASSISTANT SECRETARY-TREASURER
Richard L. Gallo, MD/PhD
JID EDITOR
Barbara A. Gilchrest, MD

BOARD OF DIRECTORS
Cheng-Ming Chuong, MD/PhD
James T. Elder, MD/PhD
Janet A. Fairley, MD
Maranke I. Koster, PhD
Andrew P. Kowalczyk, PhD
David J. Margolis, MD/PhD
Anthony E. Oro, MD/PhD
M. Joyce Rico, MD/MBA
John Seykora, MD/PhD
Martin Weinstock, MD/PhD

RESIDENT/POST DOCTORAL FELLOWS
Fang Liu, PhD
Lisa Liu, MD/PhD
Welcome to Atlanta

On behalf of the Society for Investigative Dermatology (SID), welcome to the 2015 Annual Meeting in Atlanta. The capital city of Georgia, Atlanta has a rich history, a thriving present, and an exciting future. Home to Coca Cola, CNN, Gone with the Wind, the Atlanta Symphony Orchestra, Martin Luther King and the Civil Rights Movement, the Atlanta Braves, the busiest airport in the world, and a host of world renowned universities and research institutions, including Emory University, Georgia Institute of Technology, and the Centers for Disease Control and Prevention, Atlanta is an international hub for business, culture, entertainment, and academia.

We hope you will find time to enjoy the city’s vibrant, multicultural atmosphere, world-class restaurants, and outstanding historic and cultural attractions. Atlanta blends all the excitement of a major metropolitan center with genuine Southern charm and hospitality, and I’m confident that you will enjoy your stay.

As always, we are grateful to the Committee on Scientific Programs which has again this year planned an exciting and enlightening program for us.

SID COMMITTEE ON SCIENTIFIC PROGRAMS
Co-Chairs
Anthony Gaspari, MD & My Mahoney, PhD

COMMITTEE MEMBERS
Sam Hwang, MD, Sarah Millar, PhD, Paul T. Nghiem, MD/PhD, Abrar A. Quareshi, MD/PhD, Nicole L. Ward, PhD, Victoria P. Werth, MD, Daniel Kaplan, MD/PhD, Ethan Lerner, MD/PhD

Since its founding in 1937, the SID has been committed to facilitating the careers of young investigators by providing a dynamic forum in which a diverse group of scientists can interact. We remain fully committed to this goal and to offer programming that reaches all members of the dermatology and cutaneous biology research communities.

We have scheduled a variety of activities to highlight scientific advances made by our community, and social events that will celebrate our international scientific community and the culture and beauty of Atlanta.

Welcome to what promises to be another truly outstanding SID Annual Meeting!

S. Wright Caughman
President
Alice P. Pentland
Secretary-Treasurer
Richard L. Gallo
Asst. Secretary-Treasurer

The photos of the Atlanta skyline are provided as part of a collaborative effort by Dr. Andrew Kowalczyk, Mr. Joshua Lewis, and Ms. Sara Stahley. Andrew Kowalczyk is a faculty member at Emory University in the Departments of Cell Biology and Dermatology, and a member of the SID Board of Directors. Josh Lewis and Sara Stahley are PhD candidates in the Biochemistry, Cell and Developmental Biology program in Emory University’s Laney Graduate School. Research in the Kowalczyk lab focuses on the basic biology of cell adhesion and the pathomechanisms of the skin disease pemphigus vulgaris. The group's interest in photography dovetails with their expertise in high resolution light microscopy to gain insights into cell adhesion in development and skin disease.
Claim CME and help the Society for Investigative Dermatology (SID)!

Attention SID 2015 Annual Meeting attendees:

The SID requests that everyone who needs CME to claim hours for its meeting. CME hours are important to claim because you need them to maintain licensure and Board Certification and credentialing.

Presentations during the four-day SID Annual Meeting cover a wide range of common and rare skin diseases and feature data on promising therapeutics but, did you know that CME educational grants also support the SID and its Members? Educational Grants allow the SID and its Committee on Scientific Programs to independently develop a meeting template with content based on the stated needs of the skin research community. This results in high quality presentations that provide objective and scientific discourse to our global audience.

In addition, feedback from CME evaluations enables the Society to employ a cycle of continuous improvement. Our abstract categories evolve in parallel with emergent areas of science. We want the data compiled from these surveys to be representative of the SID community. Your suggestions for future topics and keywords ensure that we stay on the cutting edge of discovery.

Claim your CME hours! Help yourself, and help support the SID.
CME Statement & Objectives
University of Rochester School of Medicine and Dentistry presents...

THE 2015 SOCIETY FOR INVESTIGATIVE DERMATOLOGY ANNUAL MEETING

COMMERCIAL SUPPORT STATEMENT
Commercial Support Acknowledgment: This CME activity is supported by educational grants. A complete list of supporters will be published in the course syllabus.

STATEMENT OF NEED
The educational programming of the SID is designed to develop, maintain, and/or increase the abilities, skills, and professional performance of its target audiences. SID CME activities will:

1) Disseminate updated evidence-based knowledge of skin biology/disease and applications for maintaining health and preventing, diagnosing, and treating disease in a manner that fosters scientific excellence, elevates the standard of care, and meets high ethical standards.
2) Provide target audiences with a relevant forum for the exchange of cutting-edge scientific ideas, information, and methodology.
3) Advance the science involved in basic skin biology and clinical care of patients with skin disease.
4) Provide exposure to novel science (both concepts and methods) which may be relevant in the future to understanding and treatment of skin disease.

TARGET AUDIENCE
The primary target audiences for SID CME activities include all of the sectors of the dermatology community, consisting of research investigators, clinicians, research and clinical trainees, members of industry, and community advocates for skin health/disease.

LEARNING OBJECTIVES
At the conclusion of this activity, participants should be able to:

- Identify which disease states require new or additional research
- Evaluate state-of-the-are information relating to basic skin biology research
- Describe how newly discovered, evidence-based scientific information may or may not be applied to the current practice of investigative or clinical dermatology
- Apply strategies to structure and design successful research proposals, abstracts, and manuscripts

- Facilitate interdisciplinary and/or collaborative investigation in clinical dermatology and skin biology to improve research hypotheses, processes and/or techniques
- Incorporate knowledge gained from interactions between basic scientists and clinicians into daily decision-making

FACULTY LISTING
Activity Medical Director:
Alice P. Pentland, MD
Chair, Department of Dermatology
University of Rochester

SUMMARY OF FACULTY DISCLOSURE/CONFLICT RESOLUTION
Staff and Content Validation Reviewer Disclosure
The staff involved with this activity and any content validation reviewers of this activity have reported no relevant financial relationships with commercial interests.

Resolution of Conflicts of Interest
In accordance with the ACCME Standards of Commercial Support of CME, the University of Rochester School of Medicine and Dentistry will implement mechanisms, prior to the planning and implementation of this CME activity, to identify and resolve conflicts of interest for all individuals in a position to control content of this CME activity.

UNAPPROVED USE DISCLOSURE STATEMENT
The University of Rochester requires CME faculty (speakers) to disclose to attendees when products or procedures being discussed are off-label, unlabeled, experimental, and/or investigational (not FDA approved); and any limitations on the information that is presented, such as data that are preliminary or that represent ongoing research, interim analyses, and/or unsupported opinion. This information is intended solely for continuing medical education and is not intended to promote off-label use of these medications. If you have questions, contact the medical affairs department of the manufacturer for the most recent prescribing information. Faculty will not be discussing information about pharmaceutical agents that is outside of U.S. Food and Drug Administration approved labeling.

DISCLAIMER
The information provided at this CME activity is for continuing education purposes only and is not meant to substitute for the independent medical judgment of a healthcare provider relative to diagnostic and treatment options of a specific patient’s medical condition.

INSTRUCTIONS ON HOW TO RECEIVE CREDIT
In order to receive CME credit, participants must sign-in, review the CME information (accreditation, learning objectives, faculty disclosures, etc.) and attend the CME activity. Participants should also complete the activity evaluation form and return it to the appropriate representative following the CME activity. Participants should also complete the activity evaluation form and return it to the Society for Investigative Dermatology via fax to 216.579.9333 or mail to:

Society for Investigative Dermatology
CME
526 Superior Avenue E, Suite 540
Cleveland, OH 44114

ACCREDITATION STATEMENT
This activity has been planned and implemented in accordance with the accreditation requirements and policies of the Accreditation Council for Continuing Medical Education (ACCME) through the joint providership of the University of Rochester School of Medicine and Dentistry and the Society for Investigative Dermatology. The University of Rochester School of Medicine and Dentistry is accredited by the ACCME to provide continuing medical education for physicians.

CERTIFICATION
The University of Rochester School of Medicine and Dentistry designates this live activity for a maximum of 29.25 AMA PRA Category 1 Credit(s)™. Physicians should claim only the credit commensurate with the extent of their participation in the activity.
### TUESDAY, MAY 5, 2015

<table>
<thead>
<tr>
<th>Event</th>
<th>Time</th>
<th>Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pachyonychia Congenita Project (PC Project) Symposium</td>
<td>1:00 pm – 4:10 pm</td>
<td>Salon C, Hilton Atlanta</td>
</tr>
<tr>
<td>Resident Retreat for Future Academicians</td>
<td>4:30 pm – 9:30 pm</td>
<td>Salon D, Hilton Atlanta</td>
</tr>
<tr>
<td>Resident/PhD Retreat Dinner</td>
<td>6:00 pm – 7:30 pm</td>
<td>Salon E, Hilton Atlanta</td>
</tr>
<tr>
<td>PhD Retreat</td>
<td>7:30 pm – 9:30 pm</td>
<td>Salon C, Hilton Atlanta</td>
</tr>
</tbody>
</table>

### WEDNESDAY, MAY 6, 2015

<table>
<thead>
<tr>
<th>Event</th>
<th>Time</th>
<th>Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pachyonychia Congenita Project (PC Project) Symposium</td>
<td>7:00 am – 12:00 pm</td>
<td>Salon C, Hilton Atlanta</td>
</tr>
<tr>
<td>Resident Retreat for Future Academicians</td>
<td>7:00 am – 3:00 pm</td>
<td>Salon D, Hilton Atlanta</td>
</tr>
<tr>
<td>PhD Retreat</td>
<td>7:00 am – 3:00 pm</td>
<td>Salon E, Hilton Atlanta</td>
</tr>
<tr>
<td>SID Board of Directors Meeting</td>
<td>7:00 am – 2:15 pm</td>
<td>Crystal Ballroom, Hilton Atlanta</td>
</tr>
<tr>
<td>Registration</td>
<td>8:00 am – 6:30 pm</td>
<td>Convention Registration Area, First Floor, Hilton Atlanta</td>
</tr>
<tr>
<td>Translational Science Symposium: Immune Therapies in Skin Cancer</td>
<td>12:00 pm – 3:00 pm</td>
<td>Grand Ballroom, Hilton Atlanta</td>
</tr>
<tr>
<td>Irvin H. Blank Forum</td>
<td>3:00 pm – 5:00 pm</td>
<td>Getting Under Your Skin: Collaboration with Biomedical Engineers Grand Ballroom, Hilton Atlanta</td>
</tr>
<tr>
<td>State-of-the-Art Plenary Lecture 1</td>
<td>5:00 pm - 5:30 pm</td>
<td>Basic Mechanisms and Dynamics of Skin Regeneration Valentina Greco, PhD Grand Ballroom, Hilton Atlanta</td>
</tr>
<tr>
<td>State-of-the-Art Plenary Lecture 2</td>
<td>5:30 pm - 6:00 pm</td>
<td>Two Sides of a Coin: Hair Keratins in Teeth Maria I. Morasso, PhD Grand Ballroom, Hilton Atlanta</td>
</tr>
<tr>
<td>President’s Welcome</td>
<td>6:00 pm - 6:15 pm</td>
<td>S. Wright Caughman, MD</td>
</tr>
<tr>
<td>Kligman/Frost Leadership Lecture</td>
<td>6:15 pm - 6:45 pm</td>
<td>The Importance of Sticking Together Kathleen J. Green, PhD Grand Ballroom, Hilton Atlanta</td>
</tr>
<tr>
<td>American Skin Association Achievement Awards</td>
<td>6:45 pm – 6:55 pm</td>
<td>Grand Ballroom, Hilton Atlanta</td>
</tr>
<tr>
<td>ASA/David Martin Carter Award</td>
<td>6:55 pm - 7:00 pm</td>
<td>Grand Ballroom, Hilton Atlanta</td>
</tr>
<tr>
<td>Welcome Reception</td>
<td>7:00 pm – 9:00 pm</td>
<td>Pool/Tennis Deck 3rd Floor (weather permitting) or Grand Ballroom/Salon Foyer Location</td>
</tr>
</tbody>
</table>

### THURSDAY, MAY 7, 2015

<table>
<thead>
<tr>
<th>Event</th>
<th>Time</th>
<th>Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pediatric Dermatology Research Alliance/Society for Pediatric Dermatology Session Rooms 204-207, Hilton Atlanta</td>
<td>7:00 am – 8:00 am</td>
<td></td>
</tr>
<tr>
<td>Registration</td>
<td>7:30 am – 5:00 pm</td>
<td></td>
</tr>
<tr>
<td>Plenary Session I</td>
<td>8:00 am – 9:00 am</td>
<td></td>
</tr>
<tr>
<td>Eugene M. Farber Lecture</td>
<td>9:00 am – 9:30 am</td>
<td></td>
</tr>
<tr>
<td>Naomi M. Kanof Lecture</td>
<td>9:30 am – 10:00 am</td>
<td></td>
</tr>
<tr>
<td>Clinical Scholars Program Session 1</td>
<td>10:00 am – 12:00 pm</td>
<td></td>
</tr>
<tr>
<td>Co-Morbidities: Skin &amp; Systemic Disease</td>
<td></td>
<td></td>
</tr>
<tr>
<td>American DermatoEpidemiology Network (ADEN) Meeting</td>
<td>12:00 pm - 1:45 pm</td>
<td></td>
</tr>
<tr>
<td>American Acne and Rosacea Society (AARS) Scientific Symposium</td>
<td>12:00 pm – 1:45 pm</td>
<td></td>
</tr>
<tr>
<td>Satellite Symposium</td>
<td>12:00 pm – 12:45 pm</td>
<td></td>
</tr>
<tr>
<td>Academic-Industry Partnership Project</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Panel Discussion</td>
<td>12:00 pm - 12:45 pm</td>
<td></td>
</tr>
<tr>
<td>National Rosacea Society Research Workshop</td>
<td>12:00 pm – 1:45 pm</td>
<td></td>
</tr>
<tr>
<td>International Society for Cutaneous Lymphomas/Cutaneous T-Cell Lymphoma Symposium (ISCL/CTCL) Room 204-207, Hilton Atlanta</td>
<td>12:00 pm – 1:45 pm</td>
<td></td>
</tr>
<tr>
<td>Concurrent Mini-Symposia</td>
<td>2:00 pm – 5:00 pm</td>
<td></td>
</tr>
<tr>
<td>Auto Immunity</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Carcinogenesis &amp; Cancer Genetics</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Epidemiology</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gene Therapy &amp; Clinical Therapeutics</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Skin &amp; Hair Developmental Biology</td>
<td></td>
<td></td>
</tr>
<tr>
<td>National Eczema Association Reception – The Decade of Eczema!</td>
<td>5:00 pm – 6:30 pm</td>
<td></td>
</tr>
<tr>
<td>Crystal Ballroom, Hilton Atlanta</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Social Event</td>
<td>6:30 pm - 10:30 pm</td>
<td></td>
</tr>
<tr>
<td>Georgia Aquarium</td>
<td></td>
<td>Ticketed Event: Pre-Registration Required</td>
</tr>
</tbody>
</table>

*Buses depart from the Hilton Atlanta beginning at 6:00 pm. Buses will begin shuttling guests back to the hotel beginning at 8:30 pm.*
**MEETING-AT-A-GLANCE**

### FRIDAY, MAY 8, 2015

<table>
<thead>
<tr>
<th>Event</th>
<th>Time</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pediatric Dermatology Research Alliance/Society for Pediatric Dermatology Meeting</td>
<td>7:00 am – 8:00 am</td>
</tr>
<tr>
<td>Registration</td>
<td>7:30 am – 4:00 pm</td>
</tr>
<tr>
<td>Business Meeting for Members</td>
<td>7:45 am – 8:30 am</td>
</tr>
<tr>
<td>Plenary Session II</td>
<td>8:30 am – 9:30 am</td>
</tr>
<tr>
<td>Stephen Rothman Memorial Award</td>
<td>9:30 am – 9:45 am</td>
</tr>
<tr>
<td>Herman Beerman Lecture</td>
<td>9:45 am – 10:15 am</td>
</tr>
<tr>
<td>State-of-the-Art Plenary Lecture 3</td>
<td>10:15 am – 10:45 am</td>
</tr>
<tr>
<td>Poster Session II</td>
<td>11:15 am – 1:15 pm</td>
</tr>
<tr>
<td>Research in Cutaneous Surgery (RCS) Meeting</td>
<td>12:00 pm – 1:45 pm</td>
</tr>
<tr>
<td>Women's Dermatologic Society Luncheon</td>
<td>12:00 pm – 1:45 pm</td>
</tr>
<tr>
<td>NIAID Symposium</td>
<td>12:00 pm – 1:45 pm</td>
</tr>
<tr>
<td>Concurrent Mini-Symposia</td>
<td>2:00 pm – 5:00 pm</td>
</tr>
<tr>
<td>Clinical Research (Observations, Pathophysiology &amp; Outcomes)</td>
<td></td>
</tr>
<tr>
<td>Salon D, Hilton Atlanta</td>
<td></td>
</tr>
<tr>
<td>Epidermal Structure &amp; Barrier Function</td>
<td></td>
</tr>
<tr>
<td>Salon C, Hilton Atlanta</td>
<td></td>
</tr>
<tr>
<td>Genetic Disease &amp; Gene Regulation</td>
<td></td>
</tr>
<tr>
<td>Rooms 204-207, Hilton Atlanta</td>
<td></td>
</tr>
<tr>
<td>Innate Immunity, Inflammation &amp; Microbiology</td>
<td></td>
</tr>
<tr>
<td>Salon E, Hilton Atlanta</td>
<td></td>
</tr>
<tr>
<td>Pigmentation &amp; Melanoma</td>
<td></td>
</tr>
<tr>
<td>Salon A/B, Hilton Atlanta</td>
<td></td>
</tr>
<tr>
<td>Interdisciplinary Spotlight: Skin Cancer</td>
<td></td>
</tr>
<tr>
<td>Grand Ballroom, Hilton Atlanta</td>
<td></td>
</tr>
<tr>
<td>Mini-Symposia Mixers</td>
<td>5:00 pm - 6:00 pm</td>
</tr>
<tr>
<td>Individual Concurrent Meeting Rooms</td>
<td></td>
</tr>
</tbody>
</table>

### SATURDAY, MAY 9, 2015

<table>
<thead>
<tr>
<th>Event</th>
<th>Time</th>
</tr>
</thead>
<tbody>
<tr>
<td>North American Hair Research Society-Scientific Session and Annual Business Meeting</td>
<td>6:00 pm – 9:30 pm</td>
</tr>
<tr>
<td>National Psoriasis Foundation Scientific Advisory Board Meeting</td>
<td>6:00 pm – 9:30 pm</td>
</tr>
<tr>
<td>National Alopecia Areata Foundation (NAAF) Reception</td>
<td>6:00 pm – 9:30 pm</td>
</tr>
<tr>
<td>Trainee Dinner</td>
<td>7:00 pm - 9:00 pm</td>
</tr>
<tr>
<td>SID Board of Directors Meeting</td>
<td>7:00 am – 7:45 am</td>
</tr>
<tr>
<td>Registration</td>
<td>7:30 am – 12:00 pm</td>
</tr>
<tr>
<td>Plenary Session III</td>
<td>8:00 am – 9:00 am</td>
</tr>
<tr>
<td>William Montagna Lecture</td>
<td>9:00 am – 9:30 am</td>
</tr>
<tr>
<td>Julius Stone Lecture</td>
<td>9:30 am – 10:00 am</td>
</tr>
<tr>
<td>Clinical Scholars Program Session II</td>
<td>10:15 am – 12:15 pm</td>
</tr>
<tr>
<td>Concurrent Mini-Symposia</td>
<td>12:30 pm – 3:30 pm</td>
</tr>
<tr>
<td>Adaptive Immunity &amp; Vaccination</td>
<td></td>
</tr>
<tr>
<td>Growth Factors, Cell Adhesion &amp; Matrix Biology</td>
<td></td>
</tr>
<tr>
<td>Photobiology</td>
<td></td>
</tr>
<tr>
<td>Tissue Regeneration &amp; Wound Healing</td>
<td></td>
</tr>
<tr>
<td>International Societies for Investigative Dermatology (ISID) Information Meeting</td>
<td>2:00 pm – 3:30 pm</td>
</tr>
</tbody>
</table>
2015 EDUCATIONAL TRACKS

The SID is pleased to offer special educational tracks—special collections of focused topics within the 2015 Annual Meeting: The Skin Cancer, Inflammatory Skin Disease, and Trainee Tracks. The SID has been increasing the variety of sessions offered at the Annual Meeting that are geared toward residents, fellows, students and clinicians. The Track system is an easy way for attendees to identify components of the Meeting that provide in-depth coverage. Session components of each track are indicated with initials on the ‘Meeting at a Glance’ pages as follows: Skin Cancer Track (SC); Inflammatory Skin Diseases (I); and Trainee Track (T).

Tracks include portions of the meeting that offer a density of thematic content, providing a cohesive learning experience. They also provide significant opportunities for networking and collaboration, as attendees share common clinical and research interests. Note: These Tracks merely highlight themes that run throughout the meeting. Attendees are encouraged to select sessions by conducting keyword searches for disease, mechanism, gene, etc.

Young Investigator/Trainee Track
There are several sessions offered during the SID meeting that are designed for Trainees. They are intended to provide an overview of basic, clinical and translational science, along with opportunities to interact with senior faculty. The target audience includes medical and biomedical science students, research fellows, Dermatology residents, PhD/post-doctoral candidates, and junior faculty.

TRACK COMPONENTS:
- May 6: Irwin Blank Forum
- May 7 & 9: Clinical Scholars Sessions
- Round Table Discussions (during all Poster Sessions): Drop in at one of our Round Tables! An informal setting during poster sessions with experts from the SID community to help you understand poster session topics, techniques, and disease areas.
- Mini-Symposia Mixers: These informal Q&A sessions will occur after all poster session topics, May 8-9 Concurrent Sessions. Mixers start at 5:00 pm to provide opportunities for interaction among meeting attendees. Light refreshments/snacks provided.

Inflammatory Skin Disease
This track includes special sessions occurring over the four-day SID meeting and offers an in-depth view of Inflammatory Skin Diseases, both common and rare, through a variety of lenses. Presentations span the full translational continuum—from animal surrogate models to human trials, utilizing genetic, mechanistic, epidemiological, and technical approaches.

TRACK COMPONENTS:
- May 7: Eugene Farber Lecture
- May 7: Naomi M. Kanof Lecture
- May 7: Clinical Scholars Plenary Session
- May 7: Mini-Symposium - Gene Therapy & Clinical Therapeutics
- May 8: NIAID Symposium
- May 8: Mini-Symposium - Clinical Research (Observations, Pathophysiology, and Outcomes)
- May 8: Mini-Symposium - Innate Immunity, Inflammation & Microbiology
- May 9: Plenary Session III
- May 9: Julius Stone Lecture
- May 9: Clinical Scholars - Infectious Skin Disease
- May 9: Mini-Symposium - Adaptive Immunity & Vaccination

Skin Cancer
A significant amount of skin cancer research will be presented during this year’s SID meeting. More than a fourth of the abstract submissions relate to all types of skin cancers, and many of the Invited/Named Lectures relate to emergent areas of cutaneous oncology.

TRACK COMPONENTS:
- May 6: Translational Symposium, ‘Immune Therapies for Skin Cancer’
- May 7: Plenary Session I
- May 7: Mini-Symposium - Carcinogenesis & Cancer Genetics
- May 7: Mini-Symposium - Gene Therapy & Clinical Therapeutics
- May 8: Stephen Rothman Memorial Award
- May 8: Herman Beerman Lecture
- May 8: Mini-Symposium - Clinical Research (Observations, Pathophysiology, and Outcomes)
- May 8: Mini-Symposium - Pigmentation & Melanoma
- May 8: Interdisciplinary Spotlight: Skin Cancer
- May 9: William Montagna Lecture
2015 SID RESIDENT RETREAT ATTENDEES

Lauren Becker, MD, University of Minnesota
Kristin BiBe, MD, PhD, University of Pittsburgh Medical Center
Yiyin Erin Chen, MD, PhD, University of California, San Francisco
Albert Sean Chiou, MD, Stanford University
William E. Damsky, MD, PhD, Yale University School of Medicine
Stephanie Galliano, MD, SUNY Downstate
Albert Gutierrez JR, MD, PhD, Mayo Clinic Arizona
Noori Kim, MD, Johns Hopkins School of Medicine
Newsha Lajevardi, MD, Warren Alpert Medical School of Brown University
Valerie Laniosz, MD, PhD, Mayo Clinic College of Medicine, Rochester
Matthew R. LeBouef, MD, PhD, University of Pennsylvania
Evelyn Lilly, MD, Yale University School of Medicine
Karl L. Martinez Rosales, MD, Universidad Autónoma de Baja California
William H. McCoy IV, MD, PhD, Washington University School of Medicine
Alexander Means, MD, The University of Chicago Medicine
Rajini Murthy, MD, Emory University
Giang-Huong Nguyen, MD, PhD, University of Colorado
Khang Nguyen, MD, University of Texas, Southwestern
Ellen Pritchett, MD, Drexel University College of Medicine
Syri Keena Que, MD, University of Connecticut Health Center
Adam Raff, MD, PhD, Harvard University
Bahram Razani, MD, PhD, University of California, San Francisco
Chris Richardson, MD, PhD, University of Rochester
Todd Rickett, MD, Rush University
Rachel Rosenstein, MD, PhD, New York University, Langone Medical Center
Sandee Saluja, MD, University of Utah
Michael Sargen, MD, Emory University
David Schairer, MD, Einstein-Montefiore
Jeffrey Scott, MD, University Hospitals, Case Medical Center
Susan Seo, MD, Roger Williams Medical Center
Ansalan Shabbir, MD, PhD, University of Miami
Elisha Singer, MD, Northwestern University
Pooja Sohla, MD, Medstar Washington
Karl William Staser, MD, PhD, Washington University School of Medicine
Andrea Suarez, MD, PhD, Weill Cornell Medical College/New York Presbyterian Hospital
Jennifer C. Tang, MD, Marshfield Clinic
Rebecca Vasquez, MD, University of Texas, Southwestern
Matthew Vesely, MD, PhD, Yale University School of Medicine
Annie Wang, MD, Warren Alpert Medical School of Brown University
Sarah Whitley, MD, PhD, University of Pittsburgh Medical Center
Howa Youn, MD, Emory University
Shali Zhang, MD, Emory University
Xiaolong (Alan) Zhou, MD, MSc, University of Miami

2015 SID PHD RETREAT ATTENDEES

Nathan Archer, PhD, Johns Hopkins School of Medicine
Xiaomin Bao, PhD, Stanford University
Joshua Broussard, PhD, Northwestern University
Jing Chen, PhD, University of Pennsylvania
Natalie Chemets, PhD, Thomas Jefferson University
Ann E. Collier, PhD, Indiana University
Duncan Hieu M Dam, PhD, Northwestern University
Guillermo C. Rivera González, PhD, Yale University School of Medicine
Geoffrey Hannigan, PhD (2015 Candidate), University of Pennsylvania
Joanna Jacków, PhD, Laboratory of Genetic Skin Diseases, Imagine Institute, France
Kindra Kelly-Scumpia, PhD, University of California, Los Angeles
Dongwon Kim, PhD, Johns Hopkins School of Medicine
Tetsuro Kobayashi, DVM, PhD, National Cancer Institute, National Institutes of Health
Samantha Yu-Jean Lin, PhD, Yale University School of Medicine
Alon Mantel, PhD, Hamilton University, Skin of Color Research Institute
Tiago Reis Matos, MD, MSc, Harvard Medical School / Dana-Farber Cancer Institute
Terry Medfer, PhD, Oregon Health and Science University
Haris Mirza, MD, PhD, Yale University School of Medicine
Christopher Nirschl, PhD, Brigham and Women’s Hospital
John T. O’Malley, MD, PhD, Harvard Medical School / Brigham and Women’s Hospital
Meenal Kumar Sarkar, PhD, University of Michigan
Asuka Sato, DVM, Hokkaido University Graduate School of Medicine
Thirthar Palanivelu Vetrichevvel, MD, University of Western Australia

2015 SID ALBERT M. KLIGMAN TRAVEL FELLOWSHIP AWARD WINNERS

Zelma Chiesa, University of Pennsylvania Perelman School of Medicine
Vida Chitsazzaadzadeh, MD Anderson Cancer Center
Gina DeSefano, Columbia University
Philip Elaides, MGH, Tufts University School of Medicine
Christoph Ellebercht, University of Pennsylvania
Keitaro Fukuda, Keio University School of Medicine
Miyoju Fujinaga-Kalabis, The Wistar Institute
Sameer Gupta, Massachusetts General Hospital, Harvard Medical School
Ali Jabbari, Columbia University
Prajaktaja Jaju, Stanford University
Chunisa Kiatsuraryanom, Juntendo University Graduate School of Medicine
Dong Joo Kim, The Rockefeller University, Stony Brook University
Tetsuro Kobayashi, Keio University School of Medicine, NCI, NIH
Bradley Kubick, University of Colorado AM
Katherine Lewandowski, Northwestern University
Chung-Ping Liao, University of Texas Southwestern Medical Center
Xijian Liu, Duke University
Kathryn Martinez, New York University School of Medicine
YC Metzger, Tel Aviv Sourasky Medical Center
Haley Naik, National Cancer Institute, National Heart, Lung and Blood Institute
Audrey Nosbaum, University of California, San Francisco
Carly Page, Johns Hopkins University
Sanjay Premi, Yale University School of Medicine
Paawinee Rerknimit, Kyoto University Graduate School of Medicine
Adriana Rodriguez-Aranaz, University of Rochester Central “Dr. Ignacio Morones Prieto”, Universidad Autónoma de San Luis Potosí
James Sanford, University of California, San Diego
Martina Sanlunenzo, University of California, San Francisco
Lindsay Seldin, Duke University
Raghav Tripathi, Case Western Reserve University
Stephen Watt, University of Dundee
Hua Zhou, University of Maryland Medical School

2015 SID STUDENT RESEARCH / FELLOW TRAVEL AWARDS

Vellina Atanasova, Thomas Jefferson University
Aparna Bhaduri, Stanford University
Brandon Cohen, New York University Langone Medical Center
Annie Collier, Indiana University School of Medicine
Duncan Hieu Dam, Northwestern University
Liza Gill, Michigan State University
Alex Han, Brown University
Yu-Ying He, University of Chicago
Sho Hrioyasu, Washington State University
Joanna Jacków, Inserm UMR 1163 and Imagine Institute of Genetic Diseases
Dongwon Kim, Johns Hopkins School of Medicine
Young Lim, Yale School of Medicine
Lin Lin, University of North Carolina
Whitney Longmate, Albany Medical College
Ji-Won Oh, University of California, Irvine
Gabriela Petrof, King’s College London
Brett Roberts, University of Nebraska Medical Center
Minal Sarkar, University of Michigan
Amanda Suggs, Case Western Reserve University
Eddy Wang, University of British Columbia
Andrew Word, University of Texas-Southwestern
Hsin-Jung Wu, Indiana University
Xuesong Wu, Medical College of Wisconsin
Xiong Yang Yin, Anhui Medical University

SID / APSA COLLABORATION TRAVEL AWARD WINNERS

Joseph Cho, University of Utah
Sakeen Kashem, University of Minnesota
Goran Micevic, Yale School of Medicine

2015 JSID / SID YOUNG COLLEGIATEY AWARD WINNERS

Yutaka Inaba, Wakayama Medical University
Asuka Sato, Hokkaido University
Takeshi Yamauchi, Tohoku University

2015 SID / SID YOUNG COLLEGIATEY AWARD WINNERS

Yutaka Inaba, Wakayama Medical University
Asuka Sato, Hokkaido University
Takeshi Yamauchi, Tohoku University
**HOTEL MAP**

**First Floor**

**Second Floor**
Meeting Information & Policies

REPRODUCTION AND PHOTOGRAPHY POLICY
Any photography, filming, taping, recording or reproduction in any medium of any of the programs, exhibits, or lectures (oral or posters) presented at the 2015 SID Annual Meeting is strictly forbidden. Failure to comply with this rule may lead to the removal of your Meeting credentials.

ON-SITE REGISTRATION
On-site registration will take place at the SID Registration Counter in the Convention Registration Area on the first floor during the following hours:

<table>
<thead>
<tr>
<th>Day</th>
<th>Time</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wednesday, May 6, 2015</td>
<td>8:00 am - 6:30 pm</td>
</tr>
<tr>
<td>Thursday, May 7, 2015</td>
<td>7:30 am - 5:00 pm</td>
</tr>
<tr>
<td>Friday, May 8, 2015</td>
<td>7:30 am - 4:00 pm</td>
</tr>
<tr>
<td>Saturday, May 9, 2015</td>
<td>7:30 am - 12:00 pm</td>
</tr>
</tbody>
</table>

BADGES
Badges for both pre- and on-site registration can be picked up at the SID Registration Counter (First Floor registration area of the Hilton Atlanta Hotel). Meeting attendees are required to wear their badges at all times for entry to all sessions and other Meeting activities.

SPECIAL SERVICES FOR THE PHYSICALLY CHALLENGED
The Atlanta Hilton Hotel’s facilities are fully accessible to the physically challenged.

If you have any special needs, please stop at the SID Registration Counter upon arrival or call 404.572.6473 by Thursday, April 30, 2015.

TABLETOP EXHIBITORS
Stop by our “Coalition of Skin Diseases” tabletop exhibitors located outside of registration!

- American Acne and Rosacea Society
  https://acneandrosacea.org/
- National Alopecia Areata Foundation (NAAF)
  https://www.naaf.org/
- National Eczema Association
  http://nationaleczema.org/
- Emory Science Advocacy Network (EScAN)
  https://www.facebook.com/PolitScientists

PLACEMENT SERVICES
The SID is pleased to offer a placement service to its members. A year-round placement/job postings page is available to members on the SID website at www.sidnet.org. In addition, prospective employers and candidates may conduct interviews or post additional announcements at the Meeting. A poster board will be available in the registration area for such postings.

TECHNICAL EXHIBITS
Exhibits will be on display during the following times in the Galleria Exhibit Hall – Lower Level of the Hilton Atlanta Hotel:

<table>
<thead>
<tr>
<th>Day</th>
<th>Time</th>
</tr>
</thead>
<tbody>
<tr>
<td>Thursday, May 7, 2015</td>
<td>10:00 am – 12:00 pm</td>
</tr>
<tr>
<td>Friday, May 8, 2015</td>
<td>11:15 am – 1:15 pm</td>
</tr>
<tr>
<td>Saturday, May 9, 2015</td>
<td>10:00 am – 12:00 pm</td>
</tr>
</tbody>
</table>

The SID welcomes representatives from the following organizations:

- Cell n Tec
- CYTOO
- Elsevier
- Metabolon, Inc.
- NIAMS
- Pfizer
- ZenBio, Inc.
Wednesday Sessions

<table>
<thead>
<tr>
<th>PAGE</th>
<th>TITLE</th>
</tr>
</thead>
<tbody>
<tr>
<td>12</td>
<td>Meeting–at–a–Glance</td>
</tr>
<tr>
<td>13-14</td>
<td>Translational Science Symposium on Immune Therapies in Skin Cancer</td>
</tr>
<tr>
<td>15</td>
<td>Irvin H. Blank Forum</td>
</tr>
<tr>
<td>16</td>
<td>State-of-the-Art Plenary Lecture 1</td>
</tr>
<tr>
<td>17</td>
<td>State-of-the-Art Plenary Lecture 2</td>
</tr>
<tr>
<td></td>
<td>President's Welcome</td>
</tr>
<tr>
<td>18</td>
<td>Albert M. Kligman/Philip Frost Leadership Lecture</td>
</tr>
<tr>
<td>19</td>
<td>American Skin Association (ASA) Achievement Awards</td>
</tr>
<tr>
<td>20</td>
<td>ASA / David Martin Carter Award</td>
</tr>
<tr>
<td>21</td>
<td>Welcome Reception</td>
</tr>
</tbody>
</table>
Meeting-At-A-Glance

WEDNESDAY, MAY 6, 2015

International Pachyonychia Congenita Consortium (IPCC) Symposium  7:15 am – 12:00 pm
Salon C, Hilton Atlanta

Dermatology Resident Retreat for Future Academicians  7:00 am – 3:00 pm
Salon D, Hilton Atlanta  By Invitation Only

PhD Retreat for Future Investigators  7:00 am – 3:00 pm
Salon E, Hilton Atlanta  By Invitation Only

SID Board of Directors Meeting  7:00 am – 2:00 pm
Crystal Ballroom, Hilton Atlanta

Registration  8:00 am – 6:30 pm
Convention Registration Area, First Floor, Hilton Atlanta

Translational Science Symposium: Immune Therapies in Skin Cancer  12:00 pm – 3:00 pm
Grand Ballroom, Hilton Atlanta

Irvin H. Blank Forum  3:00 pm – 5:00 pm
Getting Under Your Skin: Collaboration with Biomedical Engineers
Grand Ballroom, Hilton Atlanta

State-of-the-Art Plenary Lecture 1  5:00 pm - 5:30 pm
Basic Mechanisms and Dynamics of Skin Regeneration
Valentina Greco, PhD
Grand Ballroom, Hilton Atlanta

State-of-the-Art Plenary Lecture 2  5:30 pm - 6:00 pm
Two Sides of a Coin: Hair Keratins in Teeth
Maria I. Morasso, PhD
Grand Ballroom, Hilton Atlanta

President's Welcome  6:00 pm -6:15 pm
S. Wright Caughman, MD

Kligman/Frost Leadership Lecture  6:15 pm - 6:45 pm
The Importance of Sticking Together
Kathleen J. Green, PhD
Grand Ballroom, Hilton Atlanta

American Skin Association (ASA) Achievement Awards  6:45 pm – 6:55 pm
Grand Ballroom, Hilton Atlanta

ASA/David Martin Carter Award  6:55 pm -7:00 pm
Grand Ballroom, Hilton Atlanta

Welcome Reception  7:00 pm – 9:00 pm
Pool/Tennis Deck 3rd Floor (weather permitting)
or Grand Ballroom/Salon Foyer Location

ASSOCIATE MEETINGS

WEDNESDAY, MAY 6, 2015

International Pachyonychia Congenita Consortium (IPCC) Symposium
7:15 am – 12:00 pm
Salon C, Hilton Atlanta

Dermatology Resident Retreat for Future Academicians
7:00 am – 3:00 pm
Salon D, Hilton Atlanta
By Invitation only

PhD Retreat for Future Investigators
7:00 am – 3:00 pm
Salon E, Hilton Atlanta
By Invitation only

SID Board of Director's Meeting
7:00 am – 2:00 pm
Crystal Ballroom, Hilton Atlanta

NOTES

__________________________________
__________________________________
__________________________________
__________________________________
__________________________________
__________________________________
__________________________________
__________________________________
__________________________________
__________________________________
__________________________________
__________________________________
__________________________________
__________________________________
__________________________________
__________________________________
__________________________________
Translational Science Symposium
**Immune Therapies in Skin Cancer**

Wednesday, May 6, 2015  12:00 pm – 3:00 pm  Grand Ballroom, Hilton Atlanta

12:00 pm  Introduction
Oscar Colegio, MD/PhD

Dr. Colegio, MD/PhD, is an Assistant Professor of Dermatology at Yale School of Medicine where his clinical practice and research is focused on immunodeficiency-associated skin cancers and skin disorders associated with solid organ transplantation. He directs the Yale Transplant Dermatology Clinic at the Yale-New Haven Transplantation Center, a clinic where care is provided to kidney, liver, heart, pancreas, lung and bone marrow transplant recipients. Dr. Colegio's research focuses on defining the role of immune cells called macrophages in tumor progression. His studies have characterized pathways of tumorigenesis critical to a variety of tumor types including melanoma and cutaneous squamous cell carcinoma. Dr. Colegio is a graduate of The University of Texas at Austin, where he earned a B.S. in Pharmacy in 1995, and of Yale University where he earned a Ph.D. in Cell Biology in 2003 and an M.D., with election to Alpha Omega Alpha, in 2004.

12:10 pm  Melanoma
Mario Sznol, MD

**Immune Checkpoint Inhibitors for Treatment of Metastatic Melanoma**

Dr. Sznol received his undergraduate degree from Rice University and Baylor College of Medicine (BCM) in Houston, Texas. He trained in internal medicine at BCM and completed a medical oncology fellowship in the Department of Neoplastic Diseases, Mount Sinai Hospital, New York. He spent the next twelve years in the Biologics Evaluation Section (BES), Investigational Drug Branch (IDB), Cancer Therapy Evaluation Program of the National Cancer Institute, and was Head of the BES from 1994-1999. He attended in the Biological Response Modifiers Program, NCI, from 1988-1996 and on the Immunotherapy Service of the Surgery Branch, NCI, from 1997-1999. From 1999 to 2004 Dr. Sznol was a Vice President and Executive Officer of Vion Pharmaceuticals in New Haven, CT. Dr. Sznol is currently Professor of Internal Medicine at Yale University School of Medicine and is Deputy Section Chief of Medical Oncology, Co-Director of the Melanoma Program, and Co-Director of Yale SPORE in Skin Cancer.

12:40 pm  Melanoma
Paul Tumeh, MD

**Unique Cellular Signatures (CD8, PD1, PDL1, Clonality) in the Tumor Microenvironment Predict Response to Anti-PD1 Therapy in Melanoma**

Dr. Paul Tumeh is currently an Assistant Professor in the Division of Dermatology at UCLA. He has an active melanoma specialty clinic and serves as a sub-principal investigator on all melanoma immunotherapy clinical trials at UCLA Medical Center. His translational research program has two main objectives: i) to identify niches (i.e., discrete cellular microenvironments) within tumors that drive or inhibit response to therapies that block the PD1/PDL1 axis, and ii) to isolate distinct cell-types (e.g., myeloid-derived cells) from their native microenvironment in order to investigate the molecular mechanisms underlying response and non-response to anti-PD-1 therapy. He is currently focused on understanding the phenotype and function of PD-1+ myeloid-derived cells at the invasive tumor margin and how these cells may determine treatment outcome. His most recent publications include articles in Nature, New England Journal of Medicine, and Clinical Cancer Research.

12:50 pm  Melanoma & Cutaneous T-cell lymphoma
Rachael Clark, MD/PhD

**Recognizing and Reversing Immune Evasion Strategies in Skin Cancer**

Dr. Clark is a physician scientist, a human immunologist, and an Associate Professor of Dermatology at Brigham and Women's Hospital and Harvard Medical School. Her research focuses on the study of T cell responses in skin and other peripheral tissues, including T cell responses in healthy skin, impaired T cell responses in skin cancer, and maladaptive T cell activation in inflammatory skin diseases and cutaneous lymphomas. Her studies, carried out on human cells and tissues, have the goals of developing novel therapies for skin disease while at the same time advancing our understanding of human immune responses.
1:10 pm  Cutaneous T-cell lymphoma
Richard Edelson, MD
*Immunizing Against Patient-Specific CTCL Antigens*

Dr. Edelson is the Aaron and Marguerite Lerner Professor and Chairman of the Department of Dermatology. A graduate of Hamilton College and Yale Medical School, he was a medical intern at the University of Chicago, a Dermatology resident at Harvard and an immunology post-doctoral fellow at the National Cancer Institute. He has been Yale Dermatology Chairman since 1986, and has also served as Deputy Dean for Clinical Affairs and Director of the Yale Comprehensive Cancer Center.

1:30 pm  Cutaneous T-cell lymphoma
Thomas Kupper, MD
*New Insights Into CTCL*

Dr. Kupper is the Fitzpatrick Professor of Dermatology at Harvard Medical School, the Chairman of the Departments of Dermatology at Brigham and Women’s Hospital and the Dana Farber Cancer Institute, and the Director of the Cutaneous Oncology Program at the Dana Farber Brigham and Women’s Cancer Center. He received his BS at UCLA, and his MD at Yale Medical School, where he trained as a resident and fellow in Surgery and Dermatology. Dr. Kupper has a long track record of outstanding research accomplishments and extramural funding. He serves as an Associate Editor for several journals, including the Journal of Clinical Investigation, and has chaired and participated in multiple NIH study sections. Dr. Kupper’s research has focused on cellular and molecular mechanisms in innate and adaptive immunity, focusing on cytokines, dendritic cells, and T cells, and includes the study of inflammatory diseases of skin and other epithelial tissues, vaccine development and bioterrorism, wound healing, and cancers of the skin and lymphoid organs, including translational research in cutaneous lymphomas and melanoma.

1:50 pm  Merkel cell carcinoma
Paul Nghiem, MD/PhD
*Merkel polyomavirus and rationale for immunotherapy in Merkel cell carcinoma*

Dr. Nghiem is the Michael Piepkorn (pronounced pip-com) Endowed Chair in Dermatology Research and a Professor of Dermatology and Pathology at the University of Washington and the Fred Hutchinson Cancer Research Center in Seattle. He grew up in Olympia, Washington, and attended college at Harvard University. He then pursued MD and PhD degrees at Stanford University where he studied Cancer Biology and Immunology.

2:10 pm  Merkel cell carcinoma
Isaac Brownell, MD/PhD
*Immunotherapy Trials for Merkel cell carcinoma*

Dr. Brownell is a Board Certified Dermatologist and a Fellow of the American Academy of Dermatology. He obtained degrees in electrical engineering and mathematics prior to undergoing MD/PhD training at Baylor College of Medicine. Dr. Brownell completed a dermatology residency at the New York University School of Medicine, and a postdoctoral research fellowship the laboratory of Dr. Alexandra Joyner at the Sloan-Kettering Institute. On the clinical faculty at the Memorial Sloan-Kettering Cancer Center, his practice focused on patients with high-risk skin cancers. In 2011, Dr. Brownell joined the Dermatology Branch in the Center for Cancer Research, National Cancer Institute where he is Head of the Cutaneous Development and Carcinogenesis Section.

2:20 pm  Squamous cell carcinoma
Sarah Aaron, MD/PhD
*Infection and Immunity in Cutaneous Squamous Cell Carcinoma*

Dr. Aaron is Assistant Professor in residence of dermatology at the University of California, San Francisco (UCSF) and the Helen Diller Family Comprehensive Cancer Center (HD FCC). She is Director of the High Risk Skin Cancer Program, Director of the Dermatology Clinical Research Unit and the Associate Director of the Dermatologic Surgery and Laser Center at UCSF. She is also Chief of Mohs Micrographic Surgery at the San Francisco VA Medical Center and is affiliated with the Melanoma Center in San Francisco.

2:30 pm  Closing Panel
Irvin H. Blank Forum
Getting Under Your Skin: Collaboration with Biomedical Engineers

Wednesday, May 6, 2015 3:00 pm – 5:00 pm Grand Ballroom, Hilton Atlanta

3:00 pm  INTRODUCTION
Andrew Kowalczyk, PhD

Dr. Kowalczyk is a faculty member at Emory University in the departments of Cell Biology and Dermatology. Research in the Kowalczyk laboratory addresses fundamental mechanisms of cell-cell contact in the context of epidermal blistering diseases, and in vascular development and angiogenesis. Dr. Kowalczyk’s current work centers on the regulation of plasma membrane dynamics of members of the cadherin family of cell adhesion molecules, and the roles of these proteins in the mechanical integrity of the epidermis and other tissues.

3:05 pm  TECHNOLOGIES & SKIN
John Rogers, PhD

Dr. Rogers obtained BA and BS degrees in chemistry and in physics from the University of Texas, Austin, in 1989. From MIT, he received SM degrees in physics and in chemistry in 1992 and the PhD degree in physical chemistry in 1995. From 1995 to 1997, Rogers was a Junior Fellow in the Harvard University Society of Fellows. He joined Bell Laboratories as a Member of Technical Staff in the Condensed Matter Physics Research Department in 1997, and served as Director of this department from the end of 2000 to 2002. He is currently Swanlund Chair Professor at University of Illinois at Urbana/Champaign, with a primary appointment in the Department of Materials Science and Engineering, and joint appointments in several other departments, including Bioengineering. He is Director of the Seitz Materials Research Laboratory.

3:30 pm  MECHANICAL ENGINEERING & SKIN
Valerie Horsley, PhD

Dr. Horsley grew up in the Atlanta area and went to Furman University for her undergraduate work. She received her Ph.D. from Emory University in 2003 where she studied muscle regeneration with Grace Pavlath. Dr. Horsley did her postdoctoral work in Elaine Fuchs’ laboratory and joined Yale’s faculty in 2009 in the department of Molecular, Cellular and Developmental Biology. She is currently an associate professor and a member of the Dermatology department, the Yale Stem Cell Center and Yale Cancer Center.

3:55 pm  MICRO-NEEDLES, DEVICES & THE SKIN
Mark Prausnitz, PhD

Dr. Prausnitz earned his B.S. from Stanford University and his PhD from the Massachusetts Institute of Technology. In collaboration with Emory University, the Centers for Disease Control and Prevention and other organizations, Dr. Prausnitz’s group is advancing microneedles from device design and fabrication through pharmaceutical formulation and pre-clinical animal studies through studies in human subjects. In addition to developing a self-administered influenza vaccine using microneedles, Dr. Prausnitz is translating microneedles technology especially to make vaccination in developing countries more effective.

4:20 pm  BIOMATERIALS & TISSUES
Themis Kyriakides, PhD

Dr. Kyriakides received his B.Sc. and Ph.D. from Washington State University. In 1997, Dr. Kyriakides joined the University of Washington Engineered Biomaterials ERC, a NSF-funded center and held the position of Acting Instructor and Research Assistant Professor. In 2004, Dr. Kyriakides joined Yale University as a member of the Vascular Biology Program with appointments in Pathology and Biomedical Engineering. Currently, he holds the rank of Associate Professor and has split appointment between Pathology and Biomedical Engineering. His current research is primarily focused on cell-matrix and cell-biomaterial interactions in the foreign body response and wound healing.

4:45 pm  WRAP-UP
Andrew Kowalczyk, PhD
State-of-the-Art Plenary Lecture 1

Basic Mechanisms and Dynamics of Skin Regeneration

Wednesday, May 6, 2015       5:00 pm – 5:30 pm       Grand Ballroom, Hilton Atlanta

Introduction by: Paul Nghiem, MD/PhD

Valentina Greco, PhD
Yale University
New Haven, CT

Dr. Greco was born in Palermo, Italy. She did her undergraduate in Molecular Biology at the University of Palermo, Italy. Valentina did her PhD with Suzanne Eaton at the EMBL / MPI-CBG (Germany) (1998-2002) and a post-doc with Elaine Fuchs at the Rockefeller University (2003-2009). Dr. Greco is currently an Assistant Professor in the Genetics and Dermatology Department, and a member of the Yale Stem Cell Center and Yale Cancer Center at Yale University (2009-present).

NOTES
State-of-the-Art Plenary Lecture 2
Two Sides of a Coin: Hair Keratins in Teeth

Wednesday, May 6, 2015     5:30 pm – 6:00 pm     Grand Ballroom, Hilton Atlanta

Introduction by: Victoria Werth, MD

Maria I. Morasso, PhD
NIH, NIAMS
Bethesda, MD

Dr. Morasso received her PhD in Biochemistry from the Venezuelan Institute of Scientific Investigations (IVIC). She started at the NIH as a post-doctoral fellow in the laboratory of Dr. Thomas Sargent in NICHD. In May 2000, she became a tenure-track investigator and headed the Developmental Skin Biology Unit. Since May 2008, Dr. Morasso is the Chief of the Developmental Skin Biology Section and the Laboratory of Skin Biology. She also serves as an adjunct investigator in the Center for Cancer Research, NCI.
Albert M. Kligman / Phillip Frost
Leadership Lecture
The Importance of Sticking Together

Wednesday, May 6, 2015       6:15 pm – 6:45 pm       Grand Ballroom, Hilton Atlanta

Introduction by: S. Wright Caughman, MD

Kathleen J. Green, PhD
Northwestern University
Chicago, Illinois

Dr. Kathleen Green is the Joseph L. Mayberry Professor of Pathology and Professor of Dermatology at Northwestern University Feinberg School of Medicine. Following her graduation with honors in Biology from Pomona College in Claremont California, Dr. Green obtained Ph.D. training in Cell and Developmental Biology at Washington University in St. Louis. She moved to Chicago to do postdoctoral research in Cell Biology at Northwestern University and joined the Pathology faculty in 1987. The Green laboratory has a longstanding interest and expertise in defining functions of the cadherin family of adhesion receptors in development and differentiation, particularly of the epithelium. These molecules and their associated proteins assemble into intercellular junctions where they play critical roles in mediating cell-cell adhesion. Beyond their structural roles, cadherins mediate cross talk with signaling pathways including growth factor receptor tyrosine kinases to regulate tissue morphogenesis, differentiation and pathogenesis. Her work was instrumental in the discovery of the plakin gene family, members which link the cytoskeleton to cell junctions, and facilitated the identification of human diseases resulting from mutations in desmoplakin. Dr. Green is active in the leadership of several scientific societies and recently served as President of the Society for Investigative Dermatology. She is currently Secretary of the American Society for Cell Biology. In addition to having been a member and Chair of multiple peer review committees, Dr. Green served on the Advisory Council for the National Institute of Arthritis, Musculoskeletal and Skin Disease from 2007-10. She is consulting Editor for the Journal of Clinical Investigation, Associate Editor for the Journal of Investigative Dermatology and Deputy Editor in Chief of the Journal of Cell Science.

LECTURESHIP HISTORY
Established in 2007 by Dr. Phillip Frost, the lectureship is intended to honor Dr. Albert M. Kligman, whose great commitment to dermatology and numerous contributions to the specialty has inspired generations of researchers and practitioners. The award is made to an individual in acknowledgment of significant contributions in the past five years to the understanding of structure and function of skin.

ASSOCIATE MEETINGS

WEDNESDAY, MAY 6, 2015

International Pachyonychia Congenita Consortium (IPCC) Symposium
7:15 am – 12:00 pm
Salon C, Hilton Atlanta

Dermatology Resident Retreat for Future Academicians
7:00 am – 3:00 pm
Salon D, Hilton Atlanta
By Invitation only

PhD Retreat for Future Investigators
7:00 am – 3:00 pm
Salon E, Hilton Atlanta
By Invitation only

SID Board of Director's Meeting
7:00 am – 2:00 pm
Crystal Ballroom, Hilton Atlanta

NOTES
American Skin Association (ASA) Research Achievement Awards

Wednesday, May 6, 2015       6:45 pm – 6:55 pm     Grand Ballroom, Hilton Atlanta

Instituted in 1989 to identify established scientists in investigative dermatology and cutaneous biology, ASA's Research Achievement Awards recognize those who have greatly advanced work related to autoimmune and inflammatory skin diseases, melanoma and non-melanoma skin cancer, psoriasis, public policy and medical education, and vitiligo and pigment cell disorders.

American Skin Association is delighted to present its 2015 Research Achievement Awards to:

Mark C. Udey, MD/PhD
National Cancer Institute
*Autoimmune and Inflammatory Skin Disorders Research*

Alain H. Rook, MD
University of Pennsylvania
*Melanoma and Skin Cancer Research*

David J. Margolis, MD/PhD
University of Pennsylvania
*Psoriasis Research*

Mayumi Ito, PhD
New York University
*Vitiligo and Pigment Cell Biology Research*

Alexa Boer Kimball, MD/MPH
Massachusetts General Hospital
*Public Policy and Medical Education*
ASA/David Martin Carter Mentor Award

Wednesday, May 6, 2015 6:55 pm – 7:00 pm  Grand Ballroom, Hilton Atlanta

ASA’s David Martin Carter Mentor Award honors a member of the dermatology community who embodies the characteristics of the late David Martin Carter, MD, PhD that made him an inspiration to many dermatologists/investigators, colleagues and medical students throughout the world.

American Skin Association is delighted to present its 2015 David Martin Carter Mentor Award to:

Howard P. Baden, MD  
Massachusetts General Hospital

ASSOCIATE MEETINGS

WEDNESDAY, MAY 6, 2015

International Pachyonychia Congenita Consortium (IPCC) Symposium
7:15 am – 12:00 pm  
Salon C, Hilton Atlanta

Dermatology Resident Retreat for Future Academicians
7:00 am – 3:00 pm  
Salon D, Hilton Atlanta  
By Invitation only

PhD Retreat for Future Investigators
7:00 am – 3:00 pm  
Salon E, Hilton Atlanta  
By Invitation only

SID Board of Director’s Meeting
7:00 am – 2:00 pm  
Crystal Ballroom, Hilton Atlanta

NOTES
Welcome Reception

Wednesday, May 6, 2015            7:00 pm – 9:00 pm      Pool/Tennis Deck 3rd Floor (weather permitting) or Grand Ballroom/Salon Foyers, Hilton Atlanta

Join us for a Welcome Reception to kick off the 2015 SID Annual Meeting!

All attendees are invited, free of charge, to gather for drinks and hors d’oeuvres and mingle with colleagues at the Pool/Tennis Deck on the third floor immediately following the last session of the evening. In the event of inclement weather, the reception will be held in the Grand Ballroom/Salon Foyers.

(Beverage tokens will be distributed in meeting registration packets.).
### Thursday Sessions

<table>
<thead>
<tr>
<th>PAGE</th>
<th>TITLE</th>
</tr>
</thead>
<tbody>
<tr>
<td>22</td>
<td>Meeting-at-a-Glance</td>
</tr>
<tr>
<td>23</td>
<td>Pediatric Dermatology Research Alliance/Society for Pediatric Dermatology Session</td>
</tr>
<tr>
<td>24</td>
<td>Plenary Session 1</td>
</tr>
<tr>
<td>25</td>
<td>Eugene M. Farber Lecture</td>
</tr>
<tr>
<td>26</td>
<td>Naomi M. Kanof Lecture</td>
</tr>
<tr>
<td>27</td>
<td>Clinical Scholars Program Session 1</td>
</tr>
<tr>
<td>28</td>
<td>Satellite Symposium: Academic-Industry Partnership Project (AIPP)</td>
</tr>
<tr>
<td>29</td>
<td>American DermatoEpidemiology Network (ADEN) Meeting</td>
</tr>
<tr>
<td>31</td>
<td>International Society for Cutaneous Lymphomas / Cutaneous T-Cell Lymphoma (ISCL/CTCL) Symposium</td>
</tr>
<tr>
<td>32</td>
<td>Concurrent Mini-Symposium 1: Auto Immunity</td>
</tr>
<tr>
<td>33</td>
<td>Concurrent Mini-Symposium 2: Carcinogenesis &amp; Cancer Genetics</td>
</tr>
<tr>
<td>34</td>
<td>Concurrent Mini-Symposium 3: Epidemiology</td>
</tr>
<tr>
<td>35</td>
<td>Concurrent Mini-Symposium 4: Gene Therapy &amp; Clinical Therapeutics</td>
</tr>
<tr>
<td>36</td>
<td>Concurrent Mini-Symposium 5: Skin &amp; Hair Developmental Biology</td>
</tr>
<tr>
<td>37</td>
<td>Mini-Symposia Mixers</td>
</tr>
<tr>
<td>38</td>
<td>Social Event</td>
</tr>
</tbody>
</table>
### THURSDAY, MAY 7, 2015

<table>
<thead>
<tr>
<th><strong>Meeting-At-A-Glance</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Pediatric Dermatology Research Alliance/Society for Pediatric Dermatology Session</strong></td>
</tr>
<tr>
<td>7:00 am – 8:00 am</td>
</tr>
<tr>
<td>Rooms 204-207, Hilton Atlanta</td>
</tr>
<tr>
<td><strong>Registration</strong></td>
</tr>
<tr>
<td>7:30 am – 5:00 pm</td>
</tr>
<tr>
<td>Convention Registration Area, First Floor, Hilton Atlanta</td>
</tr>
<tr>
<td><strong>Plenary Session I</strong></td>
</tr>
<tr>
<td>8:00 am – 9:00 am</td>
</tr>
<tr>
<td>Grand Ballroom, Hilton Atlanta</td>
</tr>
<tr>
<td><strong>Eugene M. Farber Lecture</strong></td>
</tr>
<tr>
<td>9:00 am – 9:30 am</td>
</tr>
<tr>
<td><em>A Natural History of Psoriasis</em></td>
</tr>
<tr>
<td>Christopher E.M. Griffiths, MD, FRCP, FMedSci</td>
</tr>
<tr>
<td>Grand Ballroom, Hilton Atlanta</td>
</tr>
<tr>
<td><strong>Naomi M. Kanof Lecture</strong></td>
</tr>
<tr>
<td>9:30 am – 10:00 am</td>
</tr>
<tr>
<td><em>Silencing the Sézary Cell – Past, Present, &amp; Future</em></td>
</tr>
<tr>
<td>Madeleine Duvic, MD</td>
</tr>
<tr>
<td>Grand Ballroom, Hilton Atlanta</td>
</tr>
<tr>
<td><strong>Clinical Scholars Program Session 1</strong></td>
</tr>
<tr>
<td>10:00 am – 12:00 pm</td>
</tr>
<tr>
<td><em>Co-Morbidities: Skin &amp; Systemic Disease</em></td>
</tr>
<tr>
<td>Grand Ballroom, Hilton Atlanta</td>
</tr>
<tr>
<td><strong>Poster Session I</strong></td>
</tr>
<tr>
<td>10:00 am – 12:00 pm</td>
</tr>
<tr>
<td>Poster #’s 001-245 Odd &amp; #’s 246-490 Even</td>
</tr>
<tr>
<td>Galleria Exhibit Hall, Hilton Atlanta</td>
</tr>
<tr>
<td><strong>American Dermato-Epidemiology Network (ADEN) Meeting</strong></td>
</tr>
<tr>
<td>12:00 pm - 1:45 pm</td>
</tr>
<tr>
<td>Salon C, Hilton Atlanta</td>
</tr>
<tr>
<td><strong>American Acne and Rosacea Society (AARS) Scientific 4th Annual Scientific Symposium</strong></td>
</tr>
<tr>
<td>12:00 pm – 1:45 pm</td>
</tr>
<tr>
<td>Grand Ballroom, Hilton Atlanta</td>
</tr>
<tr>
<td><strong>Satellite Symposium</strong></td>
</tr>
<tr>
<td>12:00 pm – 12:45 pm</td>
</tr>
<tr>
<td><em>Academic-Industry Partnership Project</em></td>
</tr>
<tr>
<td>Panel Discussion</td>
</tr>
<tr>
<td>12:00 pm - 12:45 pm</td>
</tr>
<tr>
<td>Salon A/B, Hilton Atlanta</td>
</tr>
<tr>
<td>Individual Meetings (set up in advance by the SID) – Room 203, Hilton Atlanta</td>
</tr>
<tr>
<td>12:30 pm - 1:45 pm</td>
</tr>
<tr>
<td><strong>National Rosacea Society Research Workshop</strong></td>
</tr>
<tr>
<td>12:00 pm – 1:45 pm</td>
</tr>
<tr>
<td>Salon D, Hilton Atlanta</td>
</tr>
<tr>
<td><strong>International Society for Cutaneous Lymphomas/Cutaneous T-Cell Lymphoma Symposium (ISCL/CTCL)</strong></td>
</tr>
<tr>
<td>12:00 pm – 2:00 pm</td>
</tr>
<tr>
<td>Room 204-207, Hilton Atlanta</td>
</tr>
<tr>
<td><strong>Concurrent Mini-Symposia</strong></td>
</tr>
<tr>
<td>2:00 pm – 5:00 pm</td>
</tr>
<tr>
<td><strong>Mini-Symposia Mixers</strong></td>
</tr>
<tr>
<td>5:00 pm – 6:00 pm</td>
</tr>
<tr>
<td>Individual Concurrent Meeting Rooms</td>
</tr>
<tr>
<td><strong>The National Eczema Association Reception – The Decade of Eczema!</strong></td>
</tr>
<tr>
<td>5:00 pm – 6:30 pm</td>
</tr>
<tr>
<td>Crystal Ballroom, Hilton Atlanta</td>
</tr>
</tbody>
</table>

**NOTES**

Buses depart from the Hilton Atlanta beginning at 6:00 pm. Buses will begin shuttling guests back to the hotel beginning at 8:30 pm.
**PEDIATRIC DERMATOLOGY RESEARCH ALLIANCE/SOCIETY FOR PEDIATRIC DERMATOLOGY SESSION**

**Thursday, May 7, 2015**
7:00 am - 8:00 am  
Rooms 204-207, Hilton Atlanta  
(COFFEE WILL BE SERVED)

**7:00 am**  
Welcome/Overview I: Pediatric Dermatology at SID  
Megha Tollefson, Mayo Clinic

**7:15 am**  
Special Presentation: Inflammation and Immunity in Skin: Learning from Acne  
Jenny Kim, University of California, Los Angeles

**7:40 am**  
Abstract Presentation #036  
Pediatric atopic dermatitis is characterized by increased T-cell activation with aberrant T-cell development. Hitokazu Esaki et al. Mt. Sinai School of Medicine, New York and Northwestern University, Chicago

**7:50 am - 7:55 am**  
Discussion and Concluding Remarks

Special thanks to the Pediatric Dermatology Research Alliance and the Society for Pediatric Dermatology for supporting these sessions.

NOTES

___________________________________________________
___________________________________________________
___________________________________________________
___________________________________________________
___________________________________________________
___________________________________________________
___________________________________________________
___________________________________________________
___________________________________________________
___________________________________________________
___________________________________________________
___________________________________________________
___________________________________________________
___________________________________________________
___________________________________________________
___________________________________________________
___________________________________________________
___________________________________________________
___________________________________________________

(COFFEE WILL BE SERVED)
PLENARY SESSION I
Presiders: Richard L. Gallo, MD/PhD and Alice Pentland, MD

Thursday, May 7, 2015 8:00 am - 9:00 am Grand Ballroom, Hilton Atlanta

1. Functional characterization of AHR promoter polymorphism that contributes to reduced vitiligo risk. Xiaowen Wang, Kai Li, Ling Liu, Zhe Jian, Gang Wang, Chunying Li and Tianwen Gao. Xi’an, China. 8:00 am, Poster #319

2. A wave of regulatory T cells into neonatal skin mediates tolerance to commensal microbes. Tiffany C. Scharschmidt, Kimberly S. Vasquez, Hong-An Truong, Sofia V. Gearty, Mariela L. Pauli, Audrey Nosbaum, Michael Otto, James J. Moon, Abul K. Abbas, Michael A. Fischbach and Michael D. Rosenblum. San Francisco, CA; Bethesda, MD and Charlestown, MA. 8:12 am, Poster #011


4. Cutaneous neoplasms undergo a dynamic immunoediting process. Dennis R. Roop and Bradley J. Kubick. Aurora, CO. 8:36 am, Poster #114

5. The microbiome of patients with atopic dermatitis has deficient antimicrobial function. Teruaki Nakatsuji, Tissa Hata, Aimee Two, Kimberly Chun, Paul Kotol, Amina Bouslimani, Haythem Latif, Alexandre Lockhart, Keli Artis, Gloria David, Patricia Taylor, Joanne Strieb, Peter Dorrestein, Karsten Zengler, Donald Leung and Richard L. Gallo. San Diego, CA; Chapel Hill, NC and Denver, CO. 8:48 am, Poster #193

NOTES

ASSOCIATE MEETINGS

THURSDAY, MAY 7, 2015

Pediatric Dermatology Research Alliance/Society for Pediatric Dermatology Session
7:00 am – 8:00 am
Room 204-207, Hilton Atlanta

American Dermato-Epidemiology Network Symposium (ADEN)
12:00 pm – 1:45 pm
Salon C, Hilton Atlanta

American Acne and Rosacea Society (AARS)
Scientific 4th Annual Scientific Symposium
12:00 pm – 1:45 pm
Grand Ballroom, Hilton Atlanta

Academic/Industry Session
Panel Discussion
12:00 pm – 12:45 pm
Individual Meetings (set up in advance by the SID) – Room 203, Hilton Atlanta 12:00 pm - 1:45 pm

International Society for Cutaneous Lymphomas/Cutaneous T-Cell Lymphoma Symposium (ISCL/CTCL)
12:00 pm – 2:00 pm
Room 204-207 – Hilton Atlanta

National Rosacea Society Research Workshop
12:00 pm – 1:45 pm
Salon D, Hilton Atlanta

The National Eczema Association Reception–The Decade of Eczema!
5:00 pm – 6:30 pm
Crystal Ballroom, Hilton Atlanta

NOTES
EUGENE M. FARBER LECTURE

A Natural History of Psoriasis

Thursday, May 7, 2015      9:00 am - 9:30 am      Grand Ballroom, Hilton Atlanta

Introduction by: Nicole L. Ward, PhD

Christopher E.M. Griffiths MD, FRCP, FMedSci
University of Manchester
Manchester, UK

LECTURER BIO
Dr. Griffiths gained a 1st Class Hons BSc in Anatomy and qualified in Medicine from
St Thomas’ Hospital Medical School, London University. He trained in Dermatology at St Mary’s
Hospital, London, and at the University of Michigan. He was appointed to the Foundation Chair in
Dermatology at the University of Manchester in 1994 and is an honorary consultant dermatologist at
Salford Royal NHS Foundation Trust. At the University of Manchester he has served variously as: Head
of Medicine and Neuroscience; Head of the School of Translational Medicine; Research Dean and;
Director of the Manchester Academic Health Science Centre.

LECTURESHIP HISTORY
The Eugene M. Farber endowment was established by the family of Eugene M.
Farber, MD, who devoted his scientific career to understanding the pathogenesis
of psoriasis. In 2007, the SID Board of Directors voted to create the Eugene M.
Farber Endowed Lecture. It is presented at the Society’s Annual Meeting by an
investigator whose work is relevant to expanding our insights into the pathophys-
ology and treatment of psoriasis.
Introduction by: Mark Udey, MD/PhD

Madeleine Duvic, MD
The University of Texas,
MD Anderson Cancer Center
Houston, TX

LECTURER BIO
Dr. Duvic is Professor of Internal Medicine and Dermatology and Deputy Chairman of the Department of Dermatology at The University of Texas, MD Anderson Cancer Center in Houston, Texas. She attended Rice University and Duke University Medical School, completing residencies in internal medicine and dermatology, and fellowships in molecular biology and geriatrics. She joined the faculty at Duke and University of Texas Medical School and Cancer Center where she established a translational molecular biology laboratory and a busy cutaneous lymphoma clinic (CTCL) focused on understanding the pathogenesis and developing new drugs for CTCL.

LECTURESHIP HISTORY
Established in 1988, this award was established to honor the memory of Naomi Kanof, MD. The Naomi M. Kanof Lectureship honors an individual making significant contributions to the improvement of health through clinical research. Clinical research is broadly defined as any scientific endeavor with a direct application to improving the prevention, diagnosis or treatment of clinical disease. This investigative work can be based in the laboratory and should be implemented or just ready to be implemented in clinical practice.

NOTES

ASSOCIATE MEETINGS

THURSDAY, MAY 7, 2015

Pediatric Dermatology Research Alliance/Society for Pediatric Dermatology Session
7:00 am – 8:00 am
Room 204-207, Hilton Atlanta

American Dermato-Epidemiology Network Symposium (ADEN)
12:00 pm – 1:45 pm
Salon C, Hilton Atlanta

American Acne and Rosacea Society (AARS) Scientific 4th Annual Scientific Symposium
12:00 pm – 1:45 pm
Grand Ballroom, Hilton Atlanta

Academic/Industry Session
Panel Discussion
12:00 pm – 12:45 pm
Individual Meetings (set up in advance by the SID) – Room 203, Hilton Atlanta
12:00 pm - 1:45 pm

International Society for Cutaneous Lymphomas/Cutaneous T-Cell Lymphoma Symposium (ISCL/CTCL)
12:00 pm – 2:00 pm
Room 204-207 – Hilton Atlanta

National Rosacea Society Research Workshop
12:00 pm – 1:45 pm
Salon D, Hilton Atlanta

The National Eczema Association Reception– The Decade of Eczema!
5:00 pm – 6:30 pm
Crystal Ballroom, Hilton Atlanta

NOTES
Thursday, May 7, 2015  10:00 am – 12:00 pm  Grand Ballroom, Hilton Atlanta

10:00 am  **Co-Morbidities: Skin and Systemic Disease**
Overview
Richard Weller, MD, FRCP

Dr. Weller is an academic dermatologist at the University of Edinburgh, UK. He trained in internal medicine in the UK and Australia, and in dermatology at the St John’s Institute of Dermatology, London, and in Scotland. Dr. Weller’s research training took place in Edinburgh, Dusseldorf, Germany and Pittsburgh USA. His major research interest is on NO mediated biology in the skin and cardiovascular system and how this is affected by UV radiation.

10:25 am  **Cutaneous Regulation of Blood Pressure**

Psoriasis severity is increased by alcohol abuse: An animal model of alcohol abuse and psoriasis. Rhonda M. Brand, Melissa Paglia, Louis D. Faló, Poster #402, Presented by Rhonda M. Brand, PhD

10:35 am  **Q&A**

10:45 am  **TCR sequencing provides superior diagnosis, staging and clinical assessment of patients with cutaneous T cell lymphoma**.
John Thomas O'Malley, Ilan Kirsch, Rei Watanabe, David Williamson, Laura Campbell, Chris Elco, Jessica Emberly Teague, Ahmed Gehad, Elizabeth Lowry, James G. Krueger, Harlan Robins, Thomas S. Kupper and Rachael Clark. Poster #225, Presented by John T. O'Malley, MD/PhD

10:55 am  **Q&A**

11:05 am  **Salt-sensitive Hypertension: A Skin Disease?**

Jens Titze, MD

11:20 am  **Q&A**

11:30 am  **PANEL DISCUSSION**

Richard Weller, MD, FRCP
Jens Titze, MD
Joel Gelfand, MD, MSCE

Dr. Gelfand is Associate Professor of Dermatology and Epidemiology (tenured) at the University of Pennsylvania's Perelman School of Medicine. He is principal investigator of three large NIH funded psoriasis projects. Dr. Gelfand is the author of over 100 scientific publications (cited over 8000 times, H index 18) which appear in journals such as JAMA, BMJ, European Heart Journal, Annals of Rheumatology, JAMA Dermatology, JAAD, and the JID. He is the recipient of the American Skin Association's Psoriasis Achievement Award, PENN's Marjorie Bowman Award, and is an elected member of the American Society for Investigative Dermatology's Eugene M. Farber lecture. He has received grant support from NIH (F32, K23, RC1, 3 R01's, K24), FDA (R01), the Dermatology Foundation, the American Skin Association, the National Psoriasis Foundation, and numerous pharmaceutical companies to support his independent research program.

Abrar Qureshi, MD

Dr. Qureshi is Chair of the Department of Dermatology at the Warren Alpert Medical School of Brown University and Dermatologist-in-Chief at Rhode Island Hospital. The Miriam Hospital and Hasbro Children’s Hospital in Providence. His major research interest is in population science, particularly the clinical and molecular epidemiology of skin diseases. Dr. Qureshi’s laboratory encompasses work in epidemiology, outcomes research, clinical trials and health services research. On the clinical front, he enjoys working in a multidisciplinary environment closely with his rheumatology colleagues, caring for patients with complex skin and musculoskeletal conditions. Helping care for some of the sickest medical dermatology patients has been an inspiration for his research.
# SATELLITE SYMPOSIUM

## Academic-Industry Partnership Project (AIPP)

<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
<th>Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>12:00 pm – 12:45 pm</td>
<td>Panel Session (open to all registered meeting attendees)</td>
<td>Room 203 – Speed-Dating Session</td>
</tr>
<tr>
<td>12:05 pm – 1:45 pm</td>
<td>Speed-Dating Session (pre-registration required)</td>
<td>Salon A/B – Panel Session</td>
</tr>
<tr>
<td>12:00 pm – 2:00 pm</td>
<td>Individual Meetings (set up in advance by the SID)</td>
<td>Room 203, Hilton Atlanta</td>
</tr>
<tr>
<td>12:00 pm</td>
<td><strong>Introductions</strong></td>
<td>Room 203, Hilton Atlanta</td>
</tr>
</tbody>
</table>

Dr. Kevin D. Cooper is the Professor and Chair of the Department of Dermatology at Case Western Reserve University (CWRU) and University Hospitals Case Medical Center (UHMC) in Cleveland, Ohio. He directs the NIH NIAMS Skin Diseases Research Center at CWRU and the UHMC Murdough Family Center for Psoriasis, and directed the first NIAMS Center of Research Translation focused on skin disease. He is co-inventor of the first biologic approved for psoriasis, has taken several lab-based projects into NIH-funded phase I clinical trials, and has participated in multiple industry-based pre-clinical and clinical translational therapeutic programs.

<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
<th>Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>12:05 pm</td>
<td><strong>Positive Licensing Experience</strong></td>
<td>Salon A/B – Panel Session</td>
</tr>
</tbody>
</table>

Dr. Woodley completed his undergraduate degree in English Literature at Washington University in St. Louis and his medical school education at the University of Missouri in Columbia, Missouri. He completed his dermatology residency training at the University of North Carolina in Chapel Hill, North Carolina. Dr. Woodley’s scientific interests include type VII collagen, keratinocyte motility, wound healing, keratinocyte-derived collagenases, autoimmune bullous diseases and hereditary dystrophic epidermolysis bullosa. He is the Co-Editor of a book entitled *The Biology of Skin* with Dr. Ruth Freinkel and serves as an Associate Editor of The Journal of the American Academy of Dermatology, The Archives of Dermatology, Clinical and Experimental Dermatology and Dermatopathology.

<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
<th>Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>12:15 pm</td>
<td><strong>Successful Leap to Working in Industry</strong></td>
<td>Room 203, Hilton Atlanta</td>
</tr>
</tbody>
</table>

Dr. Welgus has been Chief Medical Officer at Thesan Pharmaceuticals for the past 2 years. Before this, he served as CMO and VP and Head of R&D at Nycomed U.S. (Fougera / PharmaDerm). In this capacity, he directed the post-approval development of Solaraze®, Cultivate Lotion®, and Verenex®. Prior to Nycomed U.S., Dr. Welgus was VP and Head of the Inflammation and Dermatology Therapeutic Areas at Pfizer – Ann Arbor. During this time, his Dermatology team placed 10 new compounds into clinical development. He was also involved in developing Lyrica® for fibromyalgia and Xeljanz® for rheumatoid arthritis and psoriasis. The first half of Dr. Welgus’ career was spent in academics where he was Professor of Dermatology at Washington University School of Medicine. During this time, he published over 115 original scientific articles.

<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
<th>Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>12:25 pm</td>
<td><strong>Summary of March 2015 Dermatology Entrepreneurship Conference</strong></td>
<td>Room 203, Hilton Atlanta</td>
</tr>
</tbody>
</table>

Dr. Ju is a board-certified dermatologist and has over 20 years of biopharmaceutical experience in a wide variety of therapeutic areas, including dermatology. He is president and a founding trustee of Advancing Innovation in Dermatology, Inc. He has been president and chief executive officer of Follica, Inc. and chief operating officer at PTC Therapeutics, Inc. (PTCT). In addition, he has held executive positions at Pharmacia Corporation/Pfizer, Inc. Merck & Co., Inc., and Hoffmann La Roche, Inc. in a broad spectrum of product development functions. Dr. Ju served as project leader for SUTENT®, introduced CANCEO® into humans, and was part of the product development teams for CRIVANA® and TRANSNARNA®. He obtained his M.D. with Alpha Omega Alpha honors at the University of Pennsylvania School of Medicine and his A.B. with Phi Beta Kappa honors at Princeton University. Dr. Ju is a co-founder of Zoomi, Inc., currently serves as a member of the board of directors for Zoomi and for Brickell Biotech, Inc., and is a trustee of the Morristown Medical Center Foundation.

<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
<th>Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>12:35 pm</td>
<td>Q &amp; A</td>
<td>Salon D, Hilton Atlanta</td>
</tr>
</tbody>
</table>

---

# ASSOCIATE MEETINGS

**THURSDAY, MAY 7, 2015**

- **Pediatric Dermatology Research Alliance/Society for Pediatric Dermatology Session**
  - Time: 7:00 am – 8:00 am
  - Location: Room 204-207, Hilton Atlanta

- **American Dermato-Epidemiology Network Symposium (ADEN)**
  - Time: 12:00 pm – 1:45 pm
  - Location: Salon C, Hilton Atlanta

- **American Acne and Rosacea Society (AARS) Scientific 4th Annual Scientific Symposium**
  - Time: 12:00 pm – 1:45 pm
  - Location: Grand Ballroom, Hilton Atlanta

- **Academic/Industry Session**
  - Panel Discussion
  - Time: 12:00 pm – 12:45 pm
  - Location: Room 203, Hilton Atlanta

- **International Society for Cutaneous Lymphomas/Cutaneous T-Cell Lymphoma Symposium (ISCL/CTCL)**
  - Time: 12:00 pm – 2:00 pm
  - Location: Room 204-207 – Hilton Atlanta

- **National Rosacea Society Research Workshop**
  - Time: 12:00 pm – 1:45 pm
  - Location: Salon D, Hilton Atlanta

- **The National Eczema Association Reception – The Decade of Eczema!**
  - Time: 5:00 pm – 6:30 pm
  - Location: Crystal Ballroom, Hilton Atlanta

---

# NOTES
Quality of life is equivalent between atopic dermatitis patients managed through a direct-access online model compared to in-office care: A randomized controlled trial. April W. Armstrong, Mary Ann Johnson, Steven Lin, Caitlin Clark, Aleksandra G. Florek and Fu-Tong Liu. Aurora, CO and Sacramento, CA.

The impact of chocolate consumption on acne vulgaris. Jenifer Rae Lloyd, Gregory Raymond Delost, Jacqueline Selph, Maria Ermenia Delost and Rachael J Pohle-Krauza. Cleveland, OH; Erie, PA and Youngstown, OH.

Sustained reduction in skin biopsies after 5-Fu treatment. Joanna L Walker, Moniyka Sachar, Hyemin Pomerantz, Suephy C. Chen, Susan Swetter, Robert Dellavalle, George Stricklin and Martin A Weinstock. Providence, RI; Atlanta, GA; Palo Alto, CA; Denver, CO and Nashville, TN.

Pigmentary traits and indoor tanning bed use among women in the United States. Wen-Qing Li, Eunyoung Cho, Shaowei Wu and Abrar A. Qureshi. Providence, RI.

Childhood eczema is associated with anemia in 18 US population-based studies. Jonathan Silverberg, Kerry E Drury. Chicago, IL.
**AMERICAN ACNE AND ROSACEA SOCIETY (AARS) 4TH ANNUAL SCIENTIFIC SYMPOSIUM**

**Thursday, May 7, 2015**

12:00 pm  **Welcome and Red Hot 2015 Updates from AARS**
Diane Thiboutot, AARS Past-President, Penn State University, Hershey, PA, USA

12:10 pm  **Acne Vaccines Targeting Secretory CAMP Factor of Propionibacterium Acnes**
Chun-Ming Eric Huang, Division of Dermatology, University of California, San Diego, San Diego, CA, USA; Mentor: Richard Gallo

12:25 pm  **Improving Pediatric Acne Management: A Prospective Multicenter Study of Case-Based Guideline Education**
Lawrence Eichenfield, Dermatology, University of California, San Diego, San Diego, CA; Pediatric Dermatology, Rady Children's Hospital, San Diego, CA, USA

12:40 pm  **A Meta-Analysis of Laboratory Monitoring During Treatment with Isotretinoin**
Joslyn Kirby, College of Medicine, Penn State Hershey Medical Center, Hershey, PA, USA; Mentor: Diane Thiboutot

12:55 pm  **Pentobra: A Novel Antimicrobial Compound with Lytic Activity Against Propionibacterium Acnes**
Stephanie Kao, Department of Medicine, Division of Dermatology, David Geffen School of Medicine, UCLA, Los Angeles, CA, USA; Mentor: Jenny Kim

1:10 pm  **Nitric Oxide Releasing Nanoparticles Effectively Prevent P. Acnes-Induced Inflammation by Both Clearing the Organism and Inhibiting Microbial Stimulation of the Innate Immune Response**
Gabrielle Wei, Department of Medicine, Division of Dermatology, David Geffen School of Medicine, UCLA, Los Angeles, CA, USA; Mentor: Jenny Kim

1:25 pm  **Skin Microbiome Characterizations are Biased by Sequencing Approach**
Jacquelyn Meisel, Department of Dermatology, University of Pennsylvania, Philadelphia, PA, USA; Mentor: Elizabeth Grice

1:40 pm  **Closing Comments**
Diane Thiboutot, AARS Past-President, Penn State University, Hershey, PA, USA

Visit www.acneandrosacea.org for more information about the AARS and its membership!
Thursday, May 7, 2015 12:00 pm – 2:00 pm  Room 204-207, Hilton Atlanta

12:00 pm  ISCL Announcements with deli lunch

8 minutes for presentation + 2 minutes for Q&A and change of speaker

1.  12:15 pm  Cutaneous Lymphoma Foundation's Young Investigator's Award

2.  12:25 pm  Targeting tumor-associated macrophages with anti-CSF-1R antibodies as a strategy for inhibiting T cell lymphoma tumorigenesis.  Sam Hwang, Xuesong Wu, Yasutomo Imai.  Poster #534


4.  12:45 pm  Slow-cycling cells in cutaneous T-cell lymphoma: A dynamic subpopulation with reduced chemosensitivity and increased tumorigenic potential.  Wasakorn T. Kittipongdaja, Xuesong Wu, Stefan M. Schieke.  Poster #117

5.  12:55 pm  VEGF-A and PlGF are involved in progression of cutaneous T-cell lymphoma.  Tomomitsu Miyagaki, Makoto Sugaya, Tomonori Oka, Naomi Takahashi, Makiko Kawaguchi, Hiraku Suga, Hideki Fujita, Shinichi Sato.  Poster #188

6.  1:05 pm  Rapamycin alters the metabolic phenotype in human cutaneous T-cell lymphoma.  Wasakorn T. Kittipongdaja, Xuesong Wu, Sam Hwang, Stefan M. Schieke.  Poster #126

7.  1:15 pm  Circulating cell-free DNA is increased in sera of Sézary syndrome patients.  Zuolin Ying, Timothy Langridge, Madeleine Duvic, Xiao Ni.  Poster #101

8.  1:25 pm  Adolescent and young adult cutaneous lymphomas: Clinical spectrum and autoimmunity.  Gregory R. Delost, Jacqueline Selph, Ritva Vyas, Kord Honda, Kevin D. Cooper.  Poster #332

9.  1:35 pm  Low dose irradiation kills malignant T cells, spares benign T cells and is a potentially curative therapy for mycosis fungoides.  Elizabeth Lowry, Tiago R. Matos, Victor Huang, Rei Watamabe, Ahmed Gehad, Jessica E. Teague, Phillip Devlin, Thomas S. Kupper, Rachael Clark.  Poster #415

10.  1:45 pm  Whole genome sequencing reveals oncogenic mutations in mycosis fungoides.  Laura Y. McGuirt, Pelin Jia, Devin Baerenwald, Robert J. Duszynski, John A. Zic, Jeffrey Zwerner, Zhongming Zhao, Christine M. Eischen.  Poster #138
CONCURRENT MINI-SYMPOSIUM 1

AUTO-IMMUNITY

Thursday, May 7, 2015 2:00 pm – 5:00 pm Salon E, Hilton Atlanta

Presidens: Kyoshi Ariizumi, PhD and Jan Dutz, MD


2. IL-13 receptor alpha 1 downregulation as a protective mechanism and therapeutic target in pemphigus. Kristina Seiffert-Sinha, Elizabeth Z. Welch, Rama Dey-Rao and Animesh A. Sinha. Buffalo, NY. 2:12 pm, Poster #069

3. Pemphigus foliaceus patients have IgG4 antibodies that recognize Amb a 1, a component from short ragweed pollen allergen. Ye Oian, Joseph S. Jeong and Luis A. Diaz. Chapel Hill, NC. 2:24 pm, Poster #092


5. Collagen XVII autoantibodies are present in Parkinson’s Disease patients and co-localize with tyrosine hydroxylase in the substantia nigra. Kelly Messingham, Nandakumar Narayanan, Samantha Aust, Joseph Helfenberger, Martin Cassell, Stephanie Alberico and Janet A. Fairley. Iowa City, IA. 2:48 pm, Poster #084

6. IL-7 blockade prevents the onset of alopecia areata. Zhenpeng Dai, Luzhou Xing, Ali Jabbari, Raphael Clynys and Angela Christiano. New York, NY. 3:00 pm, Poster #089

7. Alopecia areata skin transcriptome correlates with disease severity and response to treatment. Ali Jabbari, Jane E. Cerise, Julian Mackay-Wiggan, Madeleine Duvic, Maria Hordinsky, Vera H. Price, David Norris, Raphael Clynys and Angela Christiano. New York, NY; Houston, TX; Minneapolis, MN; San Francisco, CA and Denver, CO. 3:12 pm, Poster #079

8. Essential requirement for IRF7 in the production of autoantibodies in murine lupus. Fumi Miyagawa and Hideo Asada. Kashiwara, Japan. 3:24 pm, Poster #054


10. T-bet-deficient mice are protected from imiquimod-induced psoriasis-like dermatitis due to the protective IL-4 producing NKt cells. Dinghong Wu, Ling Han, Jingwen Deng, Li Zhou, Chuan-jian Lu and Qing-Sheng Mi. Guangzhou, China and Detroit, MI. 3:48 pm, Poster #093

11. A pathogenic role for IL-9 in psoriasis: IL-9 producing T cells are frequent in human psoriasis and IL-9 enhances dermatitis in two IL-17 dependent mouse models of psoriasiform dermatitis. Ahmed Gehad, Christoph Schlaphbach, Tiago R. Matos, Jessica E. Teague, Victor Huang, Elizabeth Lowry, Thomas S. Kupper and Rachael Clark. Boston, MA and Bern, Switzerland. 4:00 pm, Poster #072

12. Skin-homing and systemic T-cell subsets show higher activation in atopic dermatitis versus psoriasis. Tali Czarnowicki, Juana Gonzalez, Avner Shemer, Mayte Suarez-Farinas, James Krueger and Emma Guttmann-Yassky. New York, NY and Tel Aviv, Israel. 4:12 pm, Poster #055

NOTES
CONCURRENT MINI-SYMPOSIUM 2
CARCINOGENESIS & CANCER GENETICS

Thursday, May 7, 2015  2:00 pm – 5:00 pm  Grand Ballroom, Hilton Atlanta

Presiders:    Kenneth Tsai, MD/PhD and Xiao-Jing Wang, MD/PhD

1. Lack of resistant SMO mutations and decreased mutational load of Gorlin-associated basal cell cancers explain marked response to smoothened inhibitors.  
Kavita Sarin, Melika Rezaee, Prajakta Jaju, Anne Lynn S. Chang, Anthony Oro, Ervin Epstein and Jean Tang.  Stanford, CA and Oakland, CA.  2:00 pm, Poster #135

2. Smoothened (SMO) resistance is driven by PI3K–Akt signaling in a subset of murine ASZ001 BCC cells displaying tumor-initiating cell (TIC)-like characteristics.  
Guang C. Jin, Yucui Zhu, Arianna Kim and David R. Bickers.  New York, NY.  2:12 pm, Poster #115

3. Epidermal differentiation protects against Hedgehog pathway-driven tumorigenesis.  
KL Harms, M. Grachtchouk, A. Ermilov, K. Pais, A. Photenhauer, D. Wilbert, D. Metzger, P. Chambon and AA Dlugosz.  Ann Arbor, MI and Illkirch, France.  2:24 pm, Poster #155

4. Tumor-intrinsic PD-1 signaling promotes Merkel cell carcinoma growth.  

5. Upregulation of pro-oncogenic Fbxw7 substrates in Merkel cell carcinoma.  
Monique E. Verhaegen, Doris Mangelberger, Ehab Nazzal, Kristin Rybski, Jack Weick, Tracy Vozheiko, Dawn Wilbert and Andrzej Dlugosz.  Ann Arbor, MI.  2:48 pm, Poster #124

6. Identification of a pre-programmed metastasis-associated homozygous deletion in Chr2q37.3 in human melanoma.  
Kasey L. Couts, Ichiro Nakachi, Yuchun Luo, Hieu Van, Akihiro Fujisawa, Steven Robinson, William Robinson, Mark Geraci and Mayumi Fujita.  Aurora, CO and Denver, CO.  3:00 pm, Poster #106

7. Mutation burden is associated with gender and survival in metastatic melanoma.  
Sameer Gupta, Mykyta Artov, William Goggins, Mark Daly and Hensin Tsao.  Boston, MA and Shatin, Hong Kong.  3:12 pm, Poster #134

8. Periostin is a key niche component for melanoma wound metastasis.  
Keitaro Fukuda, Eiji Sugihara, Shoichiro Ohta, Kenji Izuwara, Takeru Funakoshi, Masayuki Amagai and Hideyuki Saya.  Tokyo, Japan and Saga, Japan.  3:24 pm, Poster #098

9. Neurofibroma development is dependent on the presence of peripheral neurons in the tumor microenvironment.  
Chung-Ping Liao, Sanjay Pradhan, Zhiguo Chen, Amish J. Patel, Chiachi Liu, Reid C. Booker and Lu Q. Le.  Dallas, TX.  3:36 pm, Poster #108

10. A counter-intuitive role for caspase 3 in promoting genetic instability and skin carcinogenesis.  
Xinjian Liu.  Durham, NC.  3:48 pm, Poster #128

11. Identification of the KNSTRN proteome by APEX2 targeting.  
Carolyn Lee, Angela Mah, Christie Nguyen and Paul Khavari.  Stanford, CA and Palo Alto, CA.  4:00 pm, Poster #145

12. Evidence for reciprocal interaction between bone marrow and cutaneous epithelial cells.  
Rebecca J. Morris, Kelly Johnson, Kelsey Boland, Nyssa Readio, Heuijoon Park, Derek Gordon and Douglas Londono.  Austin, MN and Piscataway, NJ.  4:12 pm, Poster #118
CONCURRENT MINI-SYMPOSIUM 3

EPIEMIOLOGY

Thursday, May 7, 2015
2:00 pm – 5:00 pm
Salon C, Hilton Atlanta

Presidents: Joel Gelfand, MD and Robert Kirsner, MD/PhD

1. Melanoma screening consequences. Martin A. Weinstock, Laura Ferris, Melissa Saul, Alan Geller, Patriaca Risica, Francis Solano, John Lagnese and John Kirkwood. Providence, RI; Pittsburgh, PA and Boston, MA. 2:00 pm, Poster #322

2. Duration of oral antibiotic therapy for the treatment of adult acne: A retrospective analysis investigating adherence to guideline recommendations and opportunities for cost-savings. Chelsea S. Straight, Young S. Lee, Guodong S. Liu and Josllyn Kirby. Hershey, PA. 2:12 pm, Poster #296

3. Air pollution is associated with increased eczema prevalence and severity. Paul Kathuria and Jonathan Silverberg. Chicago, IL. 2:24 pm, Poster #327

4. Ozone exposure and extrinsic skin aging: Results from the SALIA cohort. Anke Hüls, Tamara Schikowski, Ursula Krämer, Dorothée Surgier, Sabine Stolz, Andrea Vierkoetter and Jean Krutmann. Düsseldorf, Germany and Basel, Switzerland. 2:36 pm, Poster #286


7. Long-term efficacy of topical 5-fluorouracil 5% cream in treating actinic keratosis. Hyemin Pomerantz, Daniel Hogan, David Eilers, Susan Swetter, Suephy C. Chen, Sharon Jacob, Erin M. Warshaw, George Stricklin, Robert Dellavalle, Navjeet Sidhu-Mallik, Nellie Konnikov, Victoria Werth, Junette Keri, Robert Lew and Martin Weinstock. Providence, RI; Bay Fines, FL; Hines, IL; Palo Alto, CA; Atlanta, GA; San Diego, CA; Minneapolis, MN; Nashville, TN; Denver, CO; Durham, NC; Boston, MA; Philadelphia, PA and Miami, FL. 3:12 pm, Poster #291

8. A large cohort study of lithium use and melanoma incidence and progression. Maryam M. Asgari, Zheng Zhu, E. Margaret Warton, Charles Quesenberry, Bruce Fireman and Andy Chien. Oakland, CA and Seattle, WA. 3:24 pm, Poster #305

9. Childhood versus adulthood sun exposure and skin cancer risk in Caucasian post-menopausal women in the Women’s Health Initiative. Katherine J. Ransohoff, Mina S. Ally, Marcia Stefanick, Elizabeth Keiser, Katrina Spahnhurst, Kristopher Kapphahn, Sherry Pagoto, Catherine Messina, Haley Hedlin, JoAnn E. Manson and Jean Y. Tang. Redwood City, CA; Stanford, CA; San Diego, CA; Cleveland, OH; Boston, MA and Stony Brook, NY. 3:36 pm, Poster #315

10. Incidence and survival of sebaceous carcinoma in the United States. Raghav Tripathi, Zhengyi Chen, Li Li and Jeremy Bordeaux. Cleveland, OH. 3:48 pm, Poster #334

11. Disparities in sunburns, photoprotection, indoor tanning, and skin cancer screening among U.S. men and women in same- and opposite-sex relationships. Howa Yeung and Suephy C. Chen. Atlanta, GA. 4:00 pm, Poster #284


NOTES

____________________________
____________________________
____________________________
____________________________

ASSOCIATE MEETINGS

THURSDAY, MAY 7, 2015

Pediatric Dermatology Research Alliance/Society for Pediatric Dermatology Session
7:00 am – 8:00 am
Room 204-207, Hilton Atlanta

American Dermato-Epidemiology Network Symposium (ADEN)
12:00 pm – 1:45 pm
Salon C, Hilton Atlanta

American Acne and Rosacea Society (AARS) Scientific 4th Annual Scientific Symposium
12:00 pm – 1:45 pm
Grand Ballroom, Hilton Atlanta

Academic/Industry Session
Panel Discussion
12:00 pm – 12:45 pm
Individual Meetings (set up in advance by the SID) – Room 203, Hilton Atlanta
12:00 pm – 1:45 pm

International Society for Cutaneous Lymphomas/Cutaneous T-Cell Lymphoma Symposium (ISCL/CTCL)
12:00 pm – 2:00 pm
Room 204-207 – Hilton Atlanta

National Rosacea Society Research Workshop
12:00 pm – 1:45 pm
Salon D, Hilton Atlanta

The National Eczema Association Reception – The Decade of Eczema!
5:00 pm – 6:30 pm
Crystal Ballroom, Hilton Atlanta
CONCURRENT MINI-SYMPOSIUM 4
GENE THERAPY & CLINICAL THERAPEUTICS

Thursday, May 7, 2015 2:00 pm – 5:00 pm Salon A/B, Hilton Atlanta

Presiders: Mei Chen, PhD and M. Joyce Rico, MD/MBA

1. Phase 1 clinical trial for recessive dystrophic epidermolysis bullosa using genetically corrected autologous keratinocytes. Zurab Sirapishvili, Nguyen T. Nguyen, Emily Corell, Kylie Loutit, Phuong Khuu, Louise K. Furukawa, H P. Lorenz, Thomas H. Leung, Douglas R. Keene, Paul Khavari, Alfred Lane, Jean Y. Tang and M. Peter Marinkovich. Stanford, CA; Portland, OR and Palo Alto, CA. 2:00 pm, Poster #418


3. Autologous fibroblasts therapy for recessive dystrophic epidermolysis bullosa. Joanna Jackow, Matthias Titoux, Soelì Charbonnier and Alain Hovnanian. Paris, France. 2:24 pm, Poster #405

4. Assessment of amlexanox, an antagonist of nonsense mediated mRNA decay (NMD), for the treatment of RDEB. Velina Atanasova, Q. Jiang, J. Uitto and Andrew P. South. Philadelphia, PA. 2:36 pm, Poster #426

5. Hematopoietic cell transplantation (HCT) for recessive dystrophic epidermolysis bullosa (RDEB): Reduced intensity conditioning (RIC) has a better outcome than myeloablative conditioning (MAC). Jakub Tolar, John McGrath, Mark J. Osborn, Douglas R. Keene, Kristen Hook, Maria Hordinsky, David T. Woodley, Mei Chen, Alain Hovnanian, Katsuto Tamai, Bruce Blazar and John Wagner. Minneapolis, MN; London, United Kingdom; Portland, OR; Los Angeles, CA; Paris, France; Minneapolis, MN and Osaka, Japan. 2:48 pm, Poster #408

6. Investigation into the safety and efficacy of human ES/iPS-derived keratinocytes for therapeutic reprogramming. Hanson Zhen, Elizaveta Bashkirova, Sandra Melo, Lingjie Li, Jessica Torkelson, Eric Liaw and Anthony Oro. Stanford, CA. 3:00 pm, Poster #428


9. Topically delivered spherical nucleic acid nanoconjugates targeting TNF improve the psoriatic phenotype. Katherine Lewandowski, Weston Daniel, Richard Kang, David Giljohann, Chad Mirkin and Amy S. Pallister. Chicago, IL; Skokie, IL and Evanston, IL. 3:36 pm, Poster #413


11. A novel therapeutic inhibits Rac1 mediated invasion and metastasis in a newly described in vivo model of human melanoma. M. C. Winge, Joanna Kovalski, Ngon T. Nguyen, Diane Wu, Ashley Zehnder, Paul Khavari and M. Peter Marinkovich. Stanford, CA. 4:00 pm, Poster #412

## Concurrent Mini-Symposium 5

### Skin & Hair Developmental Biology

**Thursday, May 7, 2015**

<table>
<thead>
<tr>
<th>Time</th>
<th>Location</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>2:00 pm – 5:00 pm</td>
<td>Salon D, Hilton Atlanta</td>
<td><strong>Presiders:</strong> Valentina Greco, PhD and Bruce Morgan, PhD</td>
</tr>
</tbody>
</table>

1. Polycomb repressive complex maintains epidermal progenitors by repressing key Merkel cell differentiation genes. Evan Bardot, Carolina Perdigoto and Elena Ezhkova. New York, NY. 2:00 pm, Poster #680

2. Hdac1 and hdac2 are required for maintenance and survival of embryonic and adult epidermal stem cells. Matthew LeBoeuf, Fang Liu, Xinyi Zhao, Eric Olson and Sarah Millar. Philadelphia, PA and Dallas, TX. 2:12 pm, Poster #668


6. Gorab is essential for dermal papilla cells to respond to hedgehog signals during hair follicle formation. Ying Liu, Elizabeth R. Snedecor, Yeun Ja Choi, Ning Yang, Xu Zhang, Yuhuan Xu, Yunlin Han, Evan C. Jones, Kenneth R. Shroyer, Richard A. Clark, Lianfeng Zhang, Chuan Qin and Jiang Chen. Beijing, China and Stony Brook, NY. 3:00 pm, Poster #687


8. Serum response factor (SRF) regulates the development and cyclic regeneration of the hair follicle, and functions in epidermal development in a stage-specific manner. Congxing Lin, Aaron Koppel, Alexi Kiss, Liang Ma and Tatiana Efimova. St. Louis, MO. 3:24 pm, Poster #681

9. Rapid hair cycle pattern breakdown during mouse development revealed with the aid of mathematical modeling. Ji Won Oh, Qixuan Wang, Qing Nie and Maxim Plikus. Irvine, CA. 3:36 pm, Poster #695

10. The LINC complex promotes keratinocyte cell-cell adhesion and hair follicle structure. Rachel Stewart, Amanda Zubek, Kathryn A. Rosowski, Megan King and Valerie Horsley. New Haven, CT. 3:48 pm, Poster #694

11. Studying hair cycle clock with the aid of multi-scale diffusion-based mathematical modeling. Ji Won Oh, Qixuan Wang, Qing Nie and Maxim Plikus. Irvine, CA. 4:00 pm, Poster #693


---

**ASSOCIATE MEETINGS**

**THURSDAY, MAY 7, 2015**

**Pediatric Dermatology Research Alliance/Society for Pediatric Dermatology Session**

- **7:00 am – 8:00 am**
- **Room 204-207, Hilton Atlanta**

**American Dermato-Epidemiology Network Symposium (ADEN)**

- **12:00 pm – 1:45 pm**
- **Salon C, Hilton Atlanta**

**American Acne and Rosacea Society (AARS) Scientific 4th Annual Scientific Symposium**

- **12:00 pm – 1:45 pm**
- **Grand Ballroom, Hilton Atlanta**

**Academic/Industry Session**

- **Panel Discussion**
  - **12:00 pm – 12:45 pm**
- **Individual Meetings (set up in advance by the SID) – Room 203, Hilton Atlanta**
  - **12:00 pm - 1:45 pm**

**International Society for Cutaneous Lymphomas/Cutaneous T-Cell Lymphoma Symposium (ISCL/CTCL)**

- **12:00 pm – 2:00 pm**
- **Room 204-207 – Hilton Atlanta**

**National Rosacea Society Research Workshop**

- **12:00 pm – 1:45 pm**
- **Salon D, Hilton Atlanta**

**The National Eczema Association Reception– The Decade of Eczema!**

- **5:00 pm – 6:30 pm**
- **Crystal Ballroom, Hilton Atlanta**

---

**NOTES**
MINI-SYMPPOSIA MIXERS

Thursday, May 7, 2015  5:00 pm – 6:00 pm  Individual Concurrent Meeting Rooms, Hilton Atlanta

Immediately following the afternoon Concurrent Minisymposia Sessions, a 45-minute mixer will be held. Presenters, moderators and attendees will be able to interact as they enjoy light refreshments and snacks. These mixers are designed to encourage informal discussion, mingling and networking among SID meeting attendees.
ASSOCIATE
MEETINGS

THURSDAY, MAY 7, 2015

Pediatric Dermatology Research Alliance/
Society for Pediatric Dermatology Session
7:00 am – 8:00 am
Room 204-207, Hilton Atlanta

American Dermato-Epidemiology Network
Symposium (ADEN)
12:00 pm – 1:45 pm
Salon C, Hilton Atlanta

American Acne and Rosacea Society (AARS)
Scientific 4th Annual Scientific Symposium
12:00 pm – 1:45 pm
Grand Ballroom, Hilton Atlanta

Academic/Industry Session
Panel Discussion
12:00 pm – 12:45 pm

Individual Meetings (set up in advance
by the SID) – Room 203, Hilton Atlanta
12:00 pm - 1:45 pm

International Society for Cutaneous
Lymphomas/Cutaneous T-Cell
Lymphoma Symposium (ISCL/CTCL)
12:00 pm – 2:00 pm
Room 204-207 – Hilton Atlanta

National Rosacea Society Research
Workshop
12:00 pm – 1:45 pm
Salon D, Hilton Atlanta

The National Eczema Association
Reception– The Decade of Eczema!
5:00 pm – 6:30 pm
Crystal Ballroom, Hilton Atlanta

NOTES

__________________________________
__________________________________
__________________________________
__________________________________
__________________________________
__________________________________

SOCIAL EVENT

Thursday, May 7, 2015 6:30 pm – 10:30 pm Georgia Aquarium

Join us on Thursday, May 7, 2015 from 6:30 p.m. – 10:30 p.m. for the annual SID Social Event, this year at the Georgia Aquarium. Featuring more animals than any other aquarium in more than ten million gallons of water and through a path of more than 60 exhibits, the Georgia Aquarium entertains, engages and educates. It is a leading facility for aquatic animal conservation and research and is the only integration of an aquarium and a veterinarian teaching hospital. Come see for yourself!

The SID is pleased to announce that the Social Event will take place throughout the entire venue.

TICKETED EVENT: PRE-REGISTRATION REQUIRED

Buses depart from the Hilton Atlanta beginning at 6:00 pm. Buses will begin shuttling guests back to the hotel beginning at 8:30 pm.
## Friday Sessions

<table>
<thead>
<tr>
<th>PAGE</th>
<th>TITLE</th>
</tr>
</thead>
<tbody>
<tr>
<td>38-39</td>
<td>Meeting-at-a-Glance</td>
</tr>
<tr>
<td>40</td>
<td>Pediatric Dermatology Research Alliance/Society for Pediatric Dermatology Session</td>
</tr>
<tr>
<td>41</td>
<td>Business Meeting for Members</td>
</tr>
<tr>
<td>42</td>
<td>Plenary Session II</td>
</tr>
<tr>
<td>43</td>
<td>Stephen Rothman Memorial Award</td>
</tr>
<tr>
<td>44</td>
<td>Herman Beerman Lecture</td>
</tr>
<tr>
<td>45</td>
<td>State-of-the-Art Plenary Lecture 3</td>
</tr>
<tr>
<td>46</td>
<td>State-of-the-Art Plenary Lecture 4</td>
</tr>
<tr>
<td>47</td>
<td>National Institute Of Allergy and Infectious Diseases (NIAID) Symposium</td>
</tr>
<tr>
<td>48</td>
<td>Research in Cutaneous Surgery (RCS) Symposium</td>
</tr>
<tr>
<td></td>
<td>Women’s Dermatologic Society Luncheon</td>
</tr>
<tr>
<td>49</td>
<td>Concurrent Mini-Symposium 6: Clinical Research (Observations, Pathophysiology &amp; Outcomes)</td>
</tr>
<tr>
<td>50</td>
<td>Concurrent Mini-Symposium 7: Epidermal Function &amp; Barrier Function</td>
</tr>
<tr>
<td>51</td>
<td>Concurrent Mini-Symposium 8: Genetic Disease &amp; Gene Regulation</td>
</tr>
<tr>
<td>52</td>
<td>Concurrent Mini-Symposium 9: Innate Immunity, Inflammation &amp; Microbiology</td>
</tr>
<tr>
<td>53</td>
<td>Concurrent Mini-Symposium 10: Pigmentation &amp; Melanoma</td>
</tr>
<tr>
<td>54</td>
<td>Concurrent Mini-Symposium 11: Interdisciplinary Spotlight: Skin Cancer</td>
</tr>
<tr>
<td>55</td>
<td>Mini-Symposia Mixers</td>
</tr>
<tr>
<td>56-57</td>
<td>North American Hair Research Society (NAHRS) Scientific Session and Annual Business Meeting</td>
</tr>
<tr>
<td></td>
<td>National Psoriasis Foundation (NPF) Scientific Advisory Board Meeting</td>
</tr>
<tr>
<td></td>
<td>National Alopecia Areata Foundation (NAAF) Reception</td>
</tr>
<tr>
<td>58</td>
<td>Trainee Dinner</td>
</tr>
</tbody>
</table>
FRIDAY, MAY 8, 2015

Pediatric Dermatology Research Alliance/Society for Pediatric Dermatology Session
Room 204-207, Hilton Atlanta
7:00 am – 8:00 am

Registration
Convention Registration Area, First Floor, Hilton Atlanta
7:30 am – 4:00 pm

Business Meeting for Members
Grand Ballroom, Hilton Atlanta
7:45 am – 8:30 am

Plenary Session II
Grand Ballroom, Hilton Atlanta
8:30 am – 9:30 am

Stephen Rothman Memorial Award
Presented to Ervin H. Epstein, Jr., MD
Grand Ballroom, Hilton Atlanta
9:30 am – 9:45 am

Herman Beerman Lecture
Cancer immunotherapy via blockade of the PD 1 pathway
Drew M. Pardoll, MD/PhD
Grand Ballroom, Hilton Atlanta
9:45 am – 10:15 am

State-of-the-Art Plenary Lecture 3
Translational Research in Vitiligo: Launching a New Era of Targeted Treatment
John E. Harris, MD/PhD
Grand Ballroom, Hilton Atlanta
10:15 am – 10:45 am

State-of-the-Art Plenary Lecture 4
Mitochondria as Signaling Organelles
Navdeep S. Chandel, PhD
Grand Ballroom, Hilton Atlanta
10:45 am – 11:15 am

Poster Session II
Poster #’s 002 - 244 Even & #’s 491 – 735 Odd
Galleria Exhibit Hall, Hilton Atlanta
11:15 am – 1:15 pm

Research in Cutaneous Surgery (RCS) Symposium
Salon A/B, Hilton Atlanta
12:00 pm – 1:45 pm

Women’s Dermatologic Society Luncheon
Crystal Ballroom, Hilton Atlanta
12:00 pm – 1:45 pm

NIH Symposium
Understanding Host Defense In Atopic Dermatitis
Grand Ballroom, Hilton Atlanta
12:00 pm – 1:45 pm

Concurrent Mini-Symposia
Clinical Research (Observations, Pathophysiology & Outcomes)
Salon D, Hilton Atlanta
2:00 pm – 5:00 pm

Epidermal Structure & Barrier Function
Salon C, Hilton Atlanta

Genetic Diseases & Gene Regulation
Rooms 204-207, Hilton Atlanta

Innate Immunity, Inflammation & Microbiology
Salon E, Hilton Atlanta
Pigmentation & Melanoma
Salon A/B, Hilton Atlanta

Interdisciplinary Spotlight: Skin Cancer
Grand Ballroom, Hilton Atlanta

Mini-Symposia Mixers
Individual Concurrent Meeting Rooms
5:00 pm – 6:00 pm
# Meeting-At-A-Glance

## FRIDAY, MAY 8, 2015

<table>
<thead>
<tr>
<th>Event</th>
<th>Time</th>
<th>Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>North American Hair Research Society-Scientific Session and Annual Business Meeting</td>
<td>6:00 pm – 9:30 pm</td>
<td>Grand Ballroom, Hilton Atlanta</td>
</tr>
<tr>
<td>National Psoriasis Foundation Scientific Advisory Board Meeting</td>
<td>6:00 pm – 9:30 pm</td>
<td>Room 203, Hilton Atlanta</td>
</tr>
<tr>
<td>National Alopecia Areata Foundation (NAAF) Reception</td>
<td>6:00 pm – 9:30 pm</td>
<td>Room 206 &amp; 207, Hilton Atlanta</td>
</tr>
<tr>
<td>Trainee Dinner</td>
<td>7:00 pm - 9:00 pm</td>
<td>Crystal Ballroom, Hilton Atlanta</td>
</tr>
</tbody>
</table>

Ticketed event: pre-registration required
ASSOCIATE MEETINGS

FRIDAY, MAY 8, 2015

Pediatric Dermatology Research Alliance/Society for Pediatric Dermatology Session
7:00 am – 8:00 am
Room 204-207, Hilton Atlanta

NIAID Symposium
12:00 pm – 1:45 pm
Grand Ballroom, Hilton Atlanta

Research in Cutaneous Surgery (RCS) Symposium
12:00 pm – 1:45 pm
Salon A/B, Hilton Atlanta

Women’s Dermatologic Society (WDS) Luncheon
12:00 pm – 1:45 pm
Crystal Ballroom, Hilton Atlanta

North American Hair Research Society (NAHRS)-Scientific Session and Annual Business Meeting
6:00 pm – 9:30 pm
Grand Ballroom, Hilton Atlanta

National Psoriasis Foundation (NPF)
Scientific Advisory Board Meeting
6:00 pm – 9:30 pm
Room 203, Hilton Atlanta

National Alopecia Areata Foundation (NAAF) Reception
6:00 pm – 9:30 pm
Room 206-207, Hilton Atlanta

NOTES

___________________________________________________
___________________________________________________
___________________________________________________
___________________________________________________
___________________________________________________
___________________________________________________
___________________________________________________
___________________________________________________
___________________________________________________
___________________________________________________
___________________________________________________
___________________________________________________
___________________________________________________
___________________________________________________
___________________________________________________
___________________________________________________
___________________________________________________

PEDIATRIC DERMATOLOGY
AT THE SOCIETY FOR INVESTIGATIVE DERMATOLOGY

Friday, May 8, 2015
7:00 am - 8:00 am
(COFFEE WILL BE SERVED)
Rooms 204-207, Hilton Atlanta

7:00 am
Introduction and Welcome
Amy Paller, MD/MS, Northwestern University

7:05 am
Abstracts #90, 272, and 459: IFN-γ pathway blockade and use of oral ruxolitinib to induce hair regrowth in alopecia areata, Angela Christiano et al, Columbia University, New York

7:15 am
Special Presentation:
Ectodermal dysplasias: new approaches to disease modeling and treatment design
Maranke Koster PhD, University of Colorado

7:40 am
Abstract #255
Epicutaneous sensitization to peanuts and other food allergens by patch testing promotes Th2 polarization with increased IL-33.
Benjamin Ungar et al., Rockefeller University, New York

7:50 am
Discussion and Concluding Remarks

Special thanks to the Pediatric Dermatology Research Alliance and the Society for Pediatric Dermatology for supporting these sessions.
Honorary Membership is one of the highest honors the Society for Investigative Dermatology (SID) bestows. Each of the following SID Members has made sustained and important contributions to the research base in cutaneous biology and has contributed to the organizational success of the SID. Each has also excelled in their role as a mentor to numerous individuals over the course of their academic career.

Congratulations to Richard A. Clark, Shinji Shimada, and Stuart H. Yuspa on their appointment to SID Honorary Membership!

Richard A. Clark, MD  
SUNY Stony Brook  
Stony Brook, New York

Dr. Clark has demonstrated outstanding service to the Society as a former SID President and Board Member, along with service on multiple Standing and ad hoc Committees. He has made major scientific contributions to the understanding of connective tissue biomechanics and wound healing and regenerative medicine as well as animal models to advance these areas of investigation.

Shinji Shimada, MD/PhD  
University of Yamanashi  
Yamanashi, Japan

Dr. Shimada has made significant contributions to fostering global research collaborations in Dermatology. He was the Secretary-Treasurer and President of the Japanese Society for Investigative Dermatology (JSID), and lead organizer of the 2008 International Investigative Dermatology (IID) meeting in Kyoto. His leadership helped set the stage for the development of what is now the International Societies for Investigative Dermatology (ISID). Dr. Shimada has made major scientific contributions to the understanding of cutaneous immune systems clarifying the role of innate and acquired immunity against melanoma and viral infections in the skin.

Stuart H. Yuspa, MD  
National Cancer Institute, NIH  
Bethesda, Maryland

Dr. Yuspa has been an SID Member for three decades. During this time and throughout his career at the National Cancer Institute, he has mentored countless numbers of young investigators, many of whom are now in leadership positions worldwide. He has made major scientific contributions to current understanding of the mechanisms of the pre-metastatic stages of cancer pathogenesis. By employing skin carcinogenesis as a model, Dr. Yuspa’s work has delineated the signaling pathways associated with oncogenic RAS-induced benign squamous neoplasia and the multistep progression to squamous cell carcinoma.
PLENARY SESSION II
Presiders: Anthony Gaspari, MD and My Mahoney, PhD

Friday, May 8, 2015  8:30 am - 9:30 am  Grand Ballroom, Hilton Atlanta

1. NuMA/microtubule interactions are critical for asymmetric cell divisions and epidermal morphogenesis. Lindsey Seldin and Terry Lechler. Durham, NC.  8:30 am, Poster #371

2. Inducing hair follicle neogenesis with 3 protein factors. Sabrina Mai-Yi Fan, Chien-Mei Yen, Szu-Hua Pan, Yu-Ju Chen and Sung-Jan Lin. Taipei, Taiwan.  8:42 am, Poster #671

3. Silymarin mediated DNA repair is a mechanism for suppression of UVB induced Treg cells and prevention of photocarcinogenesis. Hui Li, Donggou He, Tripti Singh, Ram Prasad, Santosh K. Katiyar and Hui Xu. Birmingham, AL.  8:54 am, Poster #591


5. Site-specific genome editing using CRISPR/Cas9 and TALENs for correction of iPS cells derived from dominant dystrophic epidermolysis bullosa. Satoru Shinkuma, Zongyou Guo and Angela Christiano. New York, NY.  9:18 am, Poster #419

NOTES

________________________________________________________________________________________
________________________________________________________________________________________
________________________________________________________________________________________
________________________________________________________________________________________
________________________________________________________________________________________
________________________________________________________________________________________
________________________________________________________________________________________
________________________________________________________________________________________
________________________________________________________________________________________
________________________________________________________________________________________
________________________________________________________________________________________
________________________________________________________________________________________
________________________________________________________________________________________
________________________________________________________________________________________
________________________________________________________________________________________
________________________________________________________________________________________
________________________________________________________________________________________

ASSOCIATE MEETINGS

FRIDAY, MAY 8, 2015

Pediatric Dermatology Research Alliance/Society for Pediatric Dermatology Session
7:00 am – 8:00 am  Room 204-207, Hilton Atlanta

NIAID Symposium
12:00 pm – 1:45 pm  Grand Ballroom, Hilton Atlanta

Research in Cutaneous Surgery (RCS) Symposium
12:00 pm – 1:45 pm  Salon A/B, Hilton Atlanta

Women’s Dermatologic Society (WDS) Luncheon
12:00 pm – 1:45 pm  Crystal Ballroom, Hilton Atlanta

North American Hair Research Society (NAHRS)-Scientific Session and Annual Business Meeting
6:00 pm – 9:30 pm  Grand Ballroom, Hilton Atlanta

National Psoriasis Foundation (NPF) Scientific Advisory Board Meeting
6:00 pm – 9:30 pm  Room 203, Hilton Atlanta

NOTES

________________________________________________________________________________________
________________________________________________________________________________________
________________________________________________________________________________________
________________________________________________________________________________________
________________________________________________________________________________________
________________________________________________________________________________________
________________________________________________________________________________________
________________________________________________________________________________________
________________________________________________________________________________________
________________________________________________________________________________________
________________________________________________________________________________________
________________________________________________________________________________________
________________________________________________________________________________________
________________________________________________________________________________________
________________________________________________________________________________________
________________________________________________________________________________________
________________________________________________________________________________________
Ervin Epstein, MD, joined CHORI in May, 2007 after 35 years at UCSF. He graduated from Harvard College, UCSF Medical School, and received his subsequent clinical dermatology and research training at Washington University of St Louis, Harvard, New York University, and the National Institutes of Health. Since 1972 he has divided his time between independent private practice of Dermatology in Oakland and Lafayette and independent research into the molecular bases of skin diseases. He has authored more than 100 published papers and, among other organizational posts, has been the President of the Society for Investigative Dermatology, the world’s largest organization devoted to investigation of the skin and its diseases. He has delivered numerous named award lectureships including those honoring Sulzberger (the American Academy of Dermatology) and Dohi (the Japanese Dermatologic Association) and was the 2005 recipient of a Lifetime Achievement Award from the American Skin Association.

His current NIH-funded research focuses on non-melanoma skin cancers, in particular the commonest human cancer - basal cell carcinomas. He and others identified a crucial molecular abnormality driving the development and maintenance of these tumors a decade ago and subsequently has focused on adopting this new information into therapies that someday might make surgical extirpation obsolete. In addition his lab is investigating the cell of origin of these tumors, characterizing the cancer stem cells that perpetuate their growth, determining why some people are so much more susceptible to their growth than are others, even if of the same skin coloration, the role of the immune system in inhibiting their growth, and the development not only of new treatments but also of effective preventive approaches.

AWARD HISTORY
The Stephen Rothman Memorial Award is presented annually for distinguished service to investigative cutaneous medicine. The recipient of this award has made major scientific achievements and excelled as a teacher and recruiter of outstanding dermatologists. The recipient is an individual who has distinctly altered the course and image of dermatology or its allied fields. It is the Society’s highest award.
HERMAN BEERMAN LECTURE

Cancer immunotherapy via blockade of the PD 1 pathway

Friday, May 8, 2015  9:45 am - 10:15 am  Grand Ballroom, Hilton Atlanta

Introduction by: S. Wright Caughman, MD

Drew M. Pardoll, MD/PhD
Johns Hopkins University School of Medicine
Baltimore, MD

LECTURER BIO
Dr. Pardoll holds the Abeloff Professorship in the Department of Oncology of Johns Hopkins University School of Medicine. Dr. Pardoll’s interest includes a focus on the regulation of antigen-specific T cell responses and studies approaches to modify these responses from immunotherapy.

LECTURESHIP HISTORY
This award is given in recognition of Dr. Herman Beerman’s long and devoted service to the SID and his efforts to secure for it a position of respect in the scientific community. The Herman Beerman Lecture is given by a distinguished medical scholar at a scientific session of the Society’s Annual Meeting. Traditionally, lecturers from fields other than dermatology are chosen in order to give meeting attendees the opportunity to learn about scientific advances in other fields.

NOTES
State-of-the-Art Plenary Lecture 3

Translational Research in Vitiligo: Launching a New Era of Targeted Treatment

Friday, May 8, 2015        10:15 am - 10:45 am        Grand Ballroom, Hilton Atlanta

Introduction by: Daniel Kaplan, MD/PhD

John E. Harris, MD/PhD
University of Massachusetts Medical School
Worcester, MA

LECTURER BIO
Dr. Harris is a tenure-track Assistant Professor in the Dermatology Division, Department of Medicine at the University of Massachusetts Medical School (UMMS) in Worcester, MA. Dr. Harris directs the Vitiligo Clinic and Research Center at UMMS, which incorporates a specialty clinic for the diagnosis and treatment of patients with vitiligo, as well as a vitiligo research laboratory. He uses basic, translational, and clinical research approaches to better understand autoimmunity in vitiligo, with a particular focus on developing more effective treatments. He earned his MD and PhD degrees at UMMS, and his PhD thesis was focused on the loss of autoimmune tolerance in juvenile diabetes. He entered a combined research/residency program in dermatology at the University of Pennsylvania in Philadelphia, PA, and his post-doctoral research focused on the development of a mouse model of vitiligo with epidermal depigmentation. He now advises multiple graduate students, MD/PhD students, and post-doctoral fellows in his research laboratory at UMMS, and teaches medical students and residents in his vitiligo clinic.
State-of-the-Art Plenary Lecture 4
Mitochondria as Signaling Organelles

Friday, May 8, 2015 10:45 am - 11:15 am  Grand Ballroom, Hilton Atlanta

Introduction by: Ethan Lerner, MD/PhD

Navdeep S. Chandel, PhD
Northwestern University
Chicago, Illinois

LECTURER BIO
Navdeep Chandel, the David W. Cugell Professor of Medicine at Northwestern University, received a B.A. in mathematics and PhD in Cell Physiology at University of Chicago. He also did his post-doctoral work at University of Chicago. In 2000, he established his lab at Northwestern University focusing on the role of mitochondria as signaling organelles. Historically, mitochondria have been primarily viewed as biosynthetic and bioenergetic organelles. His work has elucidated that mitochondria participate in signaling by releasing reactive oxygen species which regulate distinct biological outcomes including differentiation, proliferation, and adaptation to stress.

Dr. Chandel’s research focuses on the mitochondria as signaling organelles. The major function of mitochondria in cellular homeostasis has historically been the generation of energy through oxidative phosphorylation. However, Dr. Chandel and others have demonstrated that mitochondria can serve as a signaling organelle. The projects in Dr. Chandel’s lab are driven by the hypothesis that when cells encounter stress the mitochondria serve as key regulators of biological outcomes that include the induction of adaptive genes, cellular proliferation, senescence and death.

NOTES

ASSOCIATE MEETINGS

FRIDAY, MAY 8, 2015

Pediatric Dermatology Research Alliance/Society for Pediatric Dermatology Session
7:00 am – 8:00 am
Room 204-207, Hilton Atlanta

NIAID Symposium
12:00 pm – 1:45 pm
Grand Ballroom, Hilton Atlanta

Research in Cutaneous Surgery (RCS) Symposium
12:00 pm – 1:45 pm
Salon A/B, Hilton Atlanta

Women’s Dermatologic Society (WDS) Luncheon
12:00 pm – 1:45 pm
Crystal Ballroom, Hilton Atlanta

North American Hair Research Society (NAHRS)-Scientific Session and Annual Business Meeting
6:00 pm – 9:30 pm
Grand Ballroom, Hilton Atlanta

National Psoriasis Foundation (NPF) Scientific Advisory Board Meeting
6:00 pm – 9:30 pm
Room 203, Hilton Atlanta

National Alopecia Areata Foundation (NAAAF) Reception
6:00 pm – 9:30 pm
Room 206-207, Hilton Atlanta

NOTES

___________________________________________________
___________________________________________________
___________________________________________________
___________________________________________________
___________________________________________________
___________________________________________________
___________________________________________________
___________________________________________________
___________________________________________________
___________________________________________________
___________________________________________________
___________________________________________________
___________________________________________________
___________________________________________________
___________________________________________________
___________________________________________________
___________________________________________________
___________________________________________________
___________________________________________________
___________________________________________________
___________________________________________________
___________________________________________________
___________________________________________________
___________________________________________________
___________________________________________________
___________________________________________________
___________________________________________________
___________________________________________________
___________________________________________________

CME CREDIT: .5

OPEN TO ALL MEETING ATTENDEES
National Institute Of Allergy And Infectious Diseases (NIAID)–Symposium
Understanding Host Defense In Atopic Dermatitis

Friday, May 8, 2015  12:00 pm – 1:45 pm  Grand Ballroom, Hilton Atlanta

12:00 pm  The Role Of The Microbiome In Atopic Dermatitis
Richard Gallo, MD/PhD
University of California-San Diego

12:25 pm  Adaptive Immunity in Atopic Dermatitis and Implications for Management of Recurrent Infections
Donald Leung, MD/PhD
National Jewish Health

12:50 pm  Skin Barrier Defects in Atopic Dermatitis: Prospects for Disease Prevention
Eric Simpson, MD
Oregon Health & Sciences University,

1:15 pm  Innate Immune Responses in Atopic Dermatitis
Lisa Beck, MD
University of Rochester

1:40 pm  Q&A with All Presenters

CME CREDIT: 2
OPEN TO ALL MEETING ATTENDEES
NOTES
The Research in Cutaneous Surgery (RCS) Symposium is a forum for clinically relevant, patient-directed research in dermatologic surgery, including cancer surgery, laser surgery, and cosmetic surgery. With a primary emphasis on clinical research, the symposium aims to highlight clinical trials on procedure safety and effectiveness, as well as epidemiologic investigations. As research in cutaneous surgery is a growing field, the symposium also serves to bring together investigators to facilitate future collaborations. Pilot studies and early work are appropriate for submission.

#338  Microneedle-mediated delivery of vismodegib across skin. Hiep Xuan Nguyen, Ajay K Banga. Atlanta, GA.

#270  University tort liability for allowing college debit card purchasing of indoor UV tanning. Konstantin Grigoryan, Arthur Best and Robert Dellavalle. Cincinnati, OH and Denver, CO.

#234  Geographically adjusted tool to estimate self-reported cumulative ultraviolet exposure and associated skin cancer risk. Inhar Raber, Gefei Zhu, Shufeng Li, Sukolsak Sakshuwong, Angela Li, Caroline Z Tan and Anne Lynn Su Chang. Redwood City, CA.

#223  Photodynamic therapy for benign neurofibromas. Edit B Olasz, Ashley M Schock, Nathan Duncan, Zelmira Lazarova, Suresh Kumar, Brendan Quirk and Harry Whelan. Milwaukee, WI.

#210  Photodynamic therapy using a white-light LED source is as effective and well-tolerated as daylight photodynamic therapy for the treatment of actinic keratoses, a randomised, single-blinded, prospective study. Susan M O’Gorman, Julianne Clowry, Michael Manley, Jackie McCavana, Linda Gray, Aoife Lally and Paul Collins. Dublin, Ireland.

#183  Non-invasive imaging technologies for the delineation of basal cell carcinomas. Syril Keena Que. Farmington, CT.


#105  Immunosuppression and ethnicity influence keratinocyte differentiation in kidney transplant recipients. Jodi L Johnson, Kathleen J Green, John J. Friedewald and June Robinson. Chicago, IL.

CONCURRENT MINI-SYMPOSIUM 6
CLINICAL RESEARCH (OBSERVATIONS, PATHOPHYSIOLOGY & OUTCOMES)

Friday, May 8, 2015  2:00 pm – 5:00 pm  Salon D, Hilton Atlanta

Presiders:  Sewon Kang, Md And Stephen Tyring, Md/Phd

1. Emollient therapy alters skin barrier and microbes in infants at risk for developing atopic dermatitis.  Martin Glatz, Eric C. Polley, Eric L. Simpson and Heidi H. Kong.  Bethesda, MD and Portland, OR.  2:00 pm, Poster #180

2. Early pediatric atopic dermatitis shows only a CLA+ Th2/Th1 imbalance, while adults acquire CLA+ Th22 activation.  Hitokazu Esaki, Tali Czarnowicki, Juana Gonzalez, Dama Malajani Sreyta Talasia, Adam Berry, Jayla Gray, Shinji Noda, James Krueger, Amy S. Paller and Emma Guttman-Yassky.  New York, NY and Chicago, IL.  2:12 pm, Poster #165


4. Psoriasis area severity index score positively associates with vascular inflammation by FDG PET/CT.  Haley B. Naik, Balaji Natarajan, Tafufi Salahuddin, Qimin Ng, Julia Dovee, Martin Playford, Benjamin Lockshin, Mariana Kaplan, Joel Gelfand and Nehal N. Mehta.  Bethesda, MD; Silver Spring, MD and Philadelphia, PA.  2:36 pm, Poster #203

5. The association between aspirin and NSAIDs with the risk of psoriasis in a population-based cohort.  Brandon Cohen, Kathryn J. Martires and Roger Ho.  New York, NY.  2:48 pm, Poster #211

6. Shared inflammatory signatures between atherosclerotic plaques and psoriasis skin.  William R. Swindell, Andrew Johnston, Santhi Ganesh, Katherine Gallagher, Nicole L. Ward, Xiangying Xing, Mrinal K. Sarkar, Rajan P. Nair, James T. Elder and Johann E. Gudjonsson.  Ann Arbor, MI and Cleveland, OH.  3:00 pm, Poster #263

7. Decreased IL-21 expression in skin and blood contributes to progression of mycosis fungoides.  Miyoko Kabasawa, Makoto Sugaya, Tomonori Oka, Naomi Takahashi, Makiko Kawaguchi, Hiraku Suga, Tomomitsu Miyagaki, Hideki Fujita, Yoshhide Asano, Yayoi Tada, Takaumi Kadono and Shinichi Sato.  Tokyo, Japan.  3:12 pm, Poster #177


9. Detection of IFN-γ response induced by infiltrated plasmacytoid dendritic cells and keratinocytes via LL37 in the lesional skin of DIHS/DRESS.  Pawinee Rerknimitr, Saeko Nakajima, Akihiko Kitoh, Yoshihi Miyachi and Kenji Kabashima.  Kyoto, Japan and Bangkok, Thailand.  3:36 pm, Poster #206

10. Comparisons between ultraviolet B radiation and oral vitamin D supplementation for the treatment of vitamin D deficiency.  Dong Ioo Kim, Jaehwan Kim, Jamie L. Harden, Mary Sullivan-Whalen, Patricia Gilletteaudeau, Joel M. Corrêa da Rosa, Mayte Suarez-Farinas, Jan Breslow, James Krueger, Michelle Lowes and Manish Ponda.  New York, NY; Stony Brook, NY and Bronx, NY.  3:48 pm, Poster #190

11. Identification of two salivary proteins associated with early-stage oral chronic graft-versus-host disease.  Richard Presland, Wedad Alshehri, Melody Missaghi, Mark Schubert and Michele Lloyd.  Seattle, WA.  4:00 pm, Poster #173

12. Assessment of the genetic basis of rosacea by genome-wide association study.  Anne Lynn S. Chang, Inbar Raber, Jin Xu, Rui Li, Robert Spitale, Julia Chen, Amy Kiefer, Chao Tian, Nicholas Eriksson, David Hinds and Joyce Tung.  Redwood City, CA; Irvine, CA and Mountainview, CA.  4:12 pm, Poster #244
CONCURRENT MINI-SYMPOSIUM 7
EPIDERMAL STRUCTURE & BARRIER FUNCTION

Friday, May 8, 2015  2:00 pm – 5:00 pm  Salon C, Hilton Atlanta

Presiders: Maria I. Morasso, PhD and Terry Lechler, PhD

1. **Novel insights in the mechanisms of epidermal maintenance by in vivo imaging.** Panteleimon Rompolas and Valentina Greco. New Haven, CT. 2:00 pm, Poster #404

2. **Regulation and disruption of the site-specific skin gene KRT9.** Dongwon Kim, M. Zulfiquer Hossain, Ashley Nieves, Lihong Gu, Nicole Yang, Seung Mi Oh, Seunghyun Han, Ji Qi, Janis M. Taube, Sewon Kang and Luis A. Garza. Baltimore, MD. 2:12 pm, Poster #365

3. **Network analysis identifies MPZL3 as an essential regulator of epidermal differentiation that binds FDXR to induce reactive oxygen species.** Aparna Bhaduri, Alexander Ungewickell and Paul Khavari. Stanford, CA. 2:24 pm, Poster #341

4. **Calmodulin-like 5 interacts with 14-3-3-σ/stratifin to regulate late epidermal differentiation.** Bryan Sun, Julia Ramshoff, Kun Qu, Vanessa Lopez-Pajares, Lisa D. Boxer and Paul Khavari. Stanford, CA. 2:36 pm, Poster #391

5. **Regulation of protein synthesis during keratinocyte differentiation.** Annie F. Collier, Ronald C. Wek and Dan F. Spandau. Indianapolis, IN. 2:48 pm, Poster #398

6. **A reinnervated skin model: A new tool to study link between innervation and aging.** Christine Jeanmaire, Carine Tedeschi, Manasi Chavan, Laurent Misery and Nicolas Lebonvallet. Essey les Nancy, France and Brest, France. 3:00 pm, Poster #336

7. **Tight junction barrier dysfunction induced by epidermis-specific claudin-1 ablation is sufficient to cause dermatitis in mice.** Akiharu Kubo, Takashige Hirano, Mariko Yokouchi, Hiroshi Kawasaki, Toru Atsugi and Masayuki Amagai. Tokyo, Japan and Kyoto, Japan. 3:12 pm, Poster #352

8. **Histamine impairs keratinocyte barrier function.** Anna De Benedetto, Takeshi Yoshida, Sade Fridy, Joo-Eun S. Park and Lisa A. Beck. Rochester, NY. 3:24 pm, Poster #346

9. **Epidermal SIRT1 loss disrupts skin barrier integrity and sensitizes mice to epicutaneous allergen challenge.** Mei Ming, Baozhong Zhao, Christopher R. Shea, Shah Palak, Lei Qiang, Steven R. White, Diane Sims and Yu-Ying He. Chicago, IL. 3:36 pm, Poster #347

10. **The role of TGF-β signaling-mediated miR-486-3p on the inhibition of keratin 17 in the pathogenesis of psoriasis.** Man Jiang, Zhongbin Sun, Lin Gao and Gang Wang. X‘ian, China and Urumqi, China. 3:48 pm, Poster #348

11. **Topoisomerase 2β impacts gene-length bias in psoriasis through altered epidermal differentiation.** Mrinal K. Sarkar, Andrew Johnston, William R. Swindell, Xianying Xing, Ariel Finkelsztein, Spiro Getios and Johann E. Gudjonsson. Ann Arbor, MI and Chicago, IL. 4:00 pm, Poster #399

12. **X-ray crystal structure of the keratin 1–keratin 10 heterodimer reveals a molecular basis for associated keratinopathies.** Christopher G. Bunick. New Haven, CT. 4:12 pm, Poster #349
CONCURRENT MINI-SYMPOSIUM 8
GENETIC DISEASE & GENE REGULATION

Friday, May 8, 2015  2:00 pm – 5:00 pm  Room 204-207, Hilton Atlanta

Presiders: Amy Paller, MD/MS and Eli Sprecher, MD/PhD

1. DDX6 orchestrates human epidermal progenitor function through the mRNA degradation and translation pathways. George Sen, Ying Wang and Yifang Chen. La Jolla, CA.  2:00 pm, Poster #430

2. Gasdermin A3 targets mitochondria to mediate keratinocyte necrosis and skin inflammation. Pei-Husan Lin, Hsien-Yi Lin, Shu-Hui Wu, Cheng-Chin Kuo and Liang-Tung Yang. Zhunan, Taiwan and Taichung, Taiwan.  2:12 pm, Poster #437

3. The BAF/SWI/SNF complex controls genome accessibility to p63 during epidermal differentiation. Xiaomin Bao, Adam Rubin, Kun Qu, Jiajieg Zhang, Paul Giresi, Howard Chang and Paul Khavari. Stanford, CA and Palo Alto, CA.  2:24 pm, Poster #451


7. MCP-1 is overexpressed by Tsc2-null skin fibroblasts in a mouse model of tuberous sclerosis with targeted disruption of Tsc2. Shaowei Li, Peter Klover, Rajesh L. Thangapazham, Ji-an Wang, Joel Moss and Thomas N. Darling. Bethesda, MD.  3:12 pm, Poster #441


9. Onychodystrophy, Palmoplantar keratoderma, and Amelogenesis imperfecta (OPA) syndrome caused by a homozygous mutation in CNBD2. YC Metzger, O. Sarig, R. Bochner, D. Vodo, N Malchin, O. Isakov, N. Erez, A. Gat, I. Goldberg, N. Shamron, M. Schwartz, WHI Mclean, FJD Smith, FB Rihani and E. Sprecher. Tel Aviv, Israel; Dundee, United Kingdom; Salt Lake City, UT and Irbid, Jordan.  3:36 pm, Poster #450

10. The lncRNA FLJ46906 alters expression of aging-associated proteins through binding to AP-1 and NF-κB. Kazuyuki Yo and Thomas M. Ruenger. Providence, RI and Yokohama, Japan.  3:48 pm, Poster #434

11. Novel regulatory variants identified in adult atopic dermatitis by targeted deep sequencing alter enhancer function. Ashley Quiggle, Twinkal Marfatia, Kara J. Gulewicz, Avner Shemer, Zane Goodwin, Wendell Jones, Emma Gutman-Yassky and Cristina de Guzman Strong. St. Louis, MO; Tel-Aviv, Israel and New York, NY.  4:00 pm, Poster #452

12. Trans-ethnic genome-wide meta-analysis identifies multiple novel associations and reveals ethnic heterogeneity of psoriasis susceptibility. Xianyong Yin, Hui Qi Low, Mark Seielstad, Wilson Liao, Mona Ståhle, Andre Franke, Xuejun Zhang and Jianjun Liu. Singapore, Singapore; San Francisco, CA; Stockholm, Sweden; Kiel, Germany and Hefei, China.  4:12 pm, Poster #431
Presiders: Lloyd Miller, MD/PhD and Anna Di Nardo, MD/PhD

1. Spatial expression of RGD-binding integrins on keratinocytes control homeostatic and UV-induced Langerhans cell migration by activating latent TGFβ. Javed Mohammed, Aleh Bobr, Brian Astry, Alina G. Bridges and Daniel Kaplan. Minneapolis, MN and Rochester, MN. 2:00 pm, Poster #557


3. Dysbiotic microbiota drives atopic inflammation in Adam17â€Sox9-Cre mice. Tetsuro Kobayashi, Martijn Glatz, Keisuke Horiuchi, Thomas Doebel, Daniel Kaplan, Heidi H. Kong, Masayuki Amagai and Keisuke Nagao. Tokyo, Japan; Bethesda, MD and Minneapolis, MN. 2:24 pm, Poster #508

4. Nociceptive sensory fibers drive IL-23 from CD301b+ dermal DC and provide protection from cutaneous C. albicans infection. Sakeen W. Kashem and Daniel Kaplan. Minneapolis, MN. 2:36 pm, Poster #521

5. TLR4 acts as a death receptor for ultraviolet radiation (UVR) in antigen presenting cells. Hua Zhou, Erin Harberts, Rita Fishelevich, Stefanie Vogel and Anthony Gaspari. Baltimore, MD. 2:48 pm, Poster #524


9. IL-1 and IL-36 are the dominant cytokines in generalized pustular psoriasis. Andrew Johnston, Xianying Xing, Liza Wolterink, Drew H. Barnes, William R. Swindell, Mrinal K. Sarkar, J M. Kahnberg, Paul W. Harms and Johann E. Gudjonsson. Ann Arbor, MI. 3:36 pm, Poster #552

10. Angiogenic peptide-30 (AG-30) activates primary human keratinocytes to produce cytokines/chemokines via MrgX receptors. Chanisa Kiatsurayanon, Francois Niyonsaba, Hiroko Ushio, Shigaku Ikeda, Ko Okumura and Hideoki Ogawa. Tokyo, Japan. 3:48 pm, Poster #526

11. PD-1 regulates iniquimod-induced psoriasiform dermatitis through inhibition of innate IL-17A expression by γδ T Cells. Yasutomo Imai, Xuesong Wu, Natarajan Ayithan, Li Wang and Sam Hwang. Milwaukee, WI. 4:00 pm, Poster #544

12. LTA from commensal bacteria modulates keratinocyte SCF production to maintain mast cells in the skin. Zhenping Wang, Xiaojun Sun and Anna Di Nardo. La Jolla, CA. 4:12 pm, Poster #560

NOTES

\[ \text{\textcopyright Open to All Meeting Attendees} \]

\[ \text{CME Credit: 3} \]

\[ \text{ASSOCIATE MEETINGS} \]

\[ \text{FRIDAY, MAY 8, 2015} \]

\[ \text{Pediatric Dermatology Research Alliance/Society for Pediatric Dermatology Session} \]

7:00 am – 8:00 am 
Room 204-207, Hilton Atlanta

\[ \text{NIAID Symposium} \]

12:00 pm – 1:45 pm 
Grand Ballroom, Hilton Atlanta

\[ \text{Research in Cutaneous Surgery (RCS) Symposium} \]

12:00 pm – 1:45 pm 
Salon A/B, Hilton Atlanta

\[ \text{Women’s Dermatologic Society (WDS) Luncheon} \]

12:00 pm – 1:45 pm 
Crystal Ballroom, Hilton Atlanta

\[ \text{North American Hair Research Society (NAHRS)-Scientific Session and Annual Business Meeting} \]

6:00 pm – 9:30 pm 
Grand Ballroom, Hilton Atlanta

\[ \text{National Psoriasis Foundation (NPF) Scientific Advisory Board Meeting} \]

6:00 pm – 9:30 pm 
Room 203, Hilton Atlanta

\[ \text{National Alopecia Areata Foundation (NAAF) Reception} \]

6:00 pm – 9:30 pm 
Room 206-207, Hilton Atlanta

\[ \text{Concurrent Mini-Symposium 9} \]

\[ \text{INNATE IMMUNITY, INFLAMMATION & MICROBIOLOGY} \]

Friday, May 8, 2015 2:00 pm – 5:00 pm Salon E, Hilton Atlanta
**CONCURRENT MINI-SYMPOSIUM 10**

**PIGMENTATION & MELANOMA**

**Friday, May 8, 2015**  
**2:00 pm – 5:00 pm**  
**Salon A/B, Hilton Atlanta**

**Presiders:** Brian Pollack, MD/PhD and Andrej T. Slominski, MD/PhD

1. **Deregulation of chemotactic signals, leukocyte recruitment, and immunity in segmental vitiligo.**  
   **2:00 pm, Poster #652**

2. **CD4, IL-17, and COX-2 are associated with inflammation in melasma.**  
   Adriana Rodríguez-Arámbula, Juan P. Castanedo-Cázares, Diego Cortés-García, Bertha Torres-Álvarez and Karla I. Martínez-Rosales. San Luis Potosi, Mexico.  
   **2:12 pm, Poster #615**

3. **Delayed cyclobutane pyrimidine dimers induced by chemiexcited melanin derivatives long after UV exposure.**  
   Sanjay Premi, Silvia Wallisch, Camila Mano, Adam Weiner, Antonella Bacchiocchi, Kazumasa Wakamatsu, Etelvino Bechara, Ruth Halaban, Thierry Douki and Douglas E. Brash. New Haven, CT; Sao Paulo, Brazil; Toyoake, Japan and Grenoble, France.  
   **2:24 pm, Poster #635**

4. **Y chromosome encoded TSPY proto-oncogene drives increased melanoma cell aggressiveness.**  
   Zhi-ming Huang, Yunmin Li, Tatsuo Kido, Iwei Yeh, Kavari Korgavkar, Adi Nosrati, John Livingstone, Jillian W. Wong, Glynis Scott, Chris Lau and Maria L. Wei. San Francisco, CA and Rochester, NY.  
   **2:36 pm, Poster #622**

5. **Sex steroids regulate human pigmentation through non-classical receptors.**  
   Christopher Natale and Todd W. Ridky. Philadelphia, PA.  
   **2:48 pm, Poster #637**

6. **MSX1-induced neural crest-like reprogramming promotes melanoma progression.**  
   Mizuho Fukunaga-Kalabis, Markus Heppt, Joshua Wang, Denitsa Hristova, Zhi Wei, Martin Irmler, Carola Berking, Robert Besch, Johannes Beckers, Frank J. Rauscher, David E. Fisher and Meenhard Herlyn. Philadelphia, PA; Munich, Germany; Newark, NJ; Neuherberg, Germany and Boston, MA.  
   **3:00 pm, Poster #646**

7. **Multigene epigenetic signature is a prognostic marker in melanoma.**  
   Goran Micevic, Viswanathan Muthusamy, Richard Sclyyer and Marcus Bosenberg. New Haven, CT and Sydney, Australia.  
   **3:12 pm, Poster #634**

8. **Oncogene starvation via selective CDK7 inhibition: A novel approach for targeting traditionally undruggable oncogenic molecules in melanoma.**  
   Philip Eliades, David M. Miller, Michael Taylor, Raj Kumar, Nicholas Kwiatkowski, Tinghui Zhang, Richard A. Young, Nathanael S. Gray and Hensin Tsao. Boston, MA and Cambridge, MA.  
   **3:24 pm, Poster #636**

9. **IL-23 prevents melanoma development through multiple mechanisms.**  
   Tahseen H. Nasti, Mohammad Athar, Laura Timares and Craig Elmets. Birmingham, AL.  
   **3:36 pm, Poster #651**

10. **CDK1 enhances tumor initiation and stemness by interacting with stem cell genes in human cancers.**  
    Yuchun Luo, John J. Arcaroli, Nicholas Nguyen, Sucai Liu, Lekha Kutty, Stacey Bagby, Steven Robinson, William Robinson, David Norris, Wells Messersmith and Mayumi Fujita. Aurora, CO and Denver, CO.  
    **3:48 pm, Poster #624**

11. **MT19c resensitizes metastatic melanoma cells to vemurafenib, decreases tumor growth, and increases survival in a vemurafenib-resistant metastatic melanoma model.**  
    Alex Han, Michael Vezeredis, Rakesh Singh, Leslie Robinson-Bostom, Martin Weinstock and Richard Moore. Providence, RI.  
    **4:00 pm, Poster #617**

12. **Inhibition of histone deacetylase 3 overcomes BRAF-inhibitor resistance.**  
    Xiao-Qi Wang, Antonio Velez, Chelsea St. Claire and Amy S. Paller. Chicago, IL.  
    **4:12 pm, Poster #644**
CONCURRENT MINI-SYMPOSIUM 11
INTERDISCIPLINARY SPOTLIGHT: SKIN CANCER

Friday, May 8, 2015  2:00 pm – 5:00 pm  Grand Ballroom, Hilton Atlanta

Presiders: Paul Khavari, MD/PhD and Andrew South, PhD

1. The role of dermal Wnt activation in hair follicle development and carcinogenesis. Peggy Myung, Thomas Yang, Panteleimon Rompolas and Valentina Greco. New Haven, CT. 2:00 pm, Poster #674

2. Drinking green tea inhibits photocarcinogenesis in mice by upregulating the levels of miRNA-29 and subsequently inhibition of DNA hypermethylation in tumors. Santosh K. Kativar, Tripti Singh and Ram Prasad. Birmingham, AL. 2:12 pm, Poster #579

3. miR-30 is downregulated in human squamous cell carcinoma and UVB exposed keratinocytes. Deeba N. Syed, Rahul K. Lall, Nosheen Akhtar, Jack Longley and Hasan Mukhtar. Madison, WI. 2:24 pm, Poster #598

4. Fibulin-4 is down-regulated in malignant head and neck SCC. Kathleen P. McGuinn, Takako Sasaki, Mon Li Chu and My G. Mahoney. Philadelphia, PA and Oita, Japan. 2:36 pm, Poster #502

5. Differential requirement for HB-EGF vs. amphiregulin for survival of malignant vs. normal epithelial cells. Stefan W. Stoll and James T. Elder. Ann Arbor, MI. 2:48 pm, Poster #489

6. Rolling the genetic dice: Neutral and deleterious SMO mutations in drug-resistant basal cell carcinoma. Scott Atwood, Kavita Sarin, Jiang Li, Catherine Yao, Nicole M. Urman, Anne Lynn S. Chang, Jean Y. Tang and Anthony Oro. Stanford, CA. 3:00 pm, Poster #120

7. Basal cell carcinoma originates from multiple stem cell lineages within hair follicle and mechanosensory touch dome epithelia. Shelby C. Peterson, Andrzej Dlugosz and Sunny Wong. Ann Arbor, MI. 3:12 pm, Poster #111


9. Alcohol consumption and risk of cutaneous basal cell carcinoma in women and men. Shaowei Wu, Wen-Qing Li, Abrar A. Qureshi and Eunyoung Cho. Providence, RI. 3:36 pm, Poster #323


12. Non-melanoma skin cancers are associated with blood expansion of DC-HIL⁺ myeloid-derived suppressor cells (MDSC). Andrew P. Ward, Jin-Sung Chung, Travis Vandergriff, David B. Harker, Kiyoshi Anizumi and Ponciano D. Cruz. Dallas, TX. 4:12 pm, Poster #199

ASSOCIATE MEETINGS

FRIDAY, MAY 8, 2015

Pediatric Dermatology Research Alliance/Society for Pediatric Dermatology Session
7:00 am – 8:00 am
Room 204-207, Hilton Atlanta

NIAID Symposium
12:00 pm – 1:45 pm
Grand Ballroom, Hilton Atlanta

Research in Cutaneous Surgery (RCS) Symposium
12:00 pm – 1:45 pm
Salon A/B, Hilton Atlanta

Women’s Dermatologic Society (WDS) Luncheon
12:00 pm – 1:45 pm
Crystal Ballroom, Hilton Atlanta

North American Hair Research Society (NAHRS)-Scientific Session and Annual Business Meeting
6:00 pm – 9:30 pm
Grand Ballroom, Hilton Atlanta

National Psoriasis Foundation (NPF) Scientific Advisory Board Meeting
6:00 pm – 9:30 pm
Room 203, Hilton Atlanta

National Alopecia Areata Foundation (NAAF) Reception
6:00 pm – 9:30 pm
Room 206-207, Hilton Atlanta

NOTES

________________________________________________________
________________________________________________________
________________________________________________________
________________________________________________________
________________________________________________________
________________________________________________________
MINI-SYMPOSIA MIXERS

Friday, May 8, 2015   5:00 pm – 6:00 pm   Individual Concurrent Meeting Rooms
Hilton Atlanta

Immediately following the afternoon Concurrent Minisymposia Sessions (Thursday and Friday only), a 45-minute mixer will be held. Presenters, moderators and attendees will be able to interact as they enjoy light refreshments and snacks. These mixers are designed to encourage informal discussion, mingling and networking among SID meeting attendees.
**NORTH AMERICAN HAIR RESEARCH SOCIETY**

**SCIENTIFIC MEETING**

**FRIDAY, MAY 8, 2015**

6:00 pm – 9:30 pm  
Grand Ballroom, Hilton Atlanta

---

**6:00 pm  Poster Viewing & Reception**

1. **Subcutaneous abatacept in the treatment of moderate to severe alopecia areata.** Julian Mackay-Wiggin, Nhan M. Nguyen, Charlotte Clark, Ali Jabbari, Grace Ulerio, Megan Furniss, Raphael Clynis, Angela Christiano. *Poster #238*

2. **Characterization of gene expression biomarker signatures in cross-sectional and longitudinal studies for use as an Alopecia Areata Disease Activity Index (ALADIN).** Jane E. Cerise, Ali Jabbari, Madeleine Duvic, Maria Hordinsky, David Norris, Vera H. Price, Julian Mackay-Wiggin, Raphael Clynis, Angela Christiano. *Poster #264*

3. **Lymphatic vessel endothelial hyaluronan receptor-1 (LYVE-1) expression is similar in normal human parietal and occipital scalp.** Brooke Hanson, Melissa Weber-Sanders, James Hodges, Heather Bemmels, Maria Hordinsky, Marna Ericson. *Poster #277*

4. **Multiple facial vellus hair cysts, ear pits, lipomas, macrocephaly, joint laxity and cardiac defects: A novel genodermatosis?** Marisa Grace G. Ponzo, Margot Van Allen, Magdalena Martinska, Jan P. Dutz. *Poster #449*

5. **Low-level laser treatment of chemotherapy-induced alopecia: A preclinical study in rats.** Assuan Lens, Keyvan Nouri, Joaquin Jimenez, Tongyu C. Wikramanayake. *Poster #610*

6. **Knockdown of Sulf2 causes hair loss in obese mice fed a fast food diet.** Jeannette M. Olazagasti, Catherine D. Moser, Tae H. Kim, Anuradha Krishnan, Lewis R. Roberts. *Poster #658*

7. **Alterations of vitamin A metabolism and signaling in central, centrifugal, cicatricial alopecia patients.** Live Sun, Wilma F. Bergfeld, Natasha Mesinkovska, Helen B. Everts. *Poster #665*

8. **Preventing radiation-induced hair loss by augmenting spontaneous anagen repair through modulating Wnt signaling.** Wen-Yen Huang, Hsien-Yi Chiu, Chih-Chieh Chan, Sung-Jan Lin. *Poster #670*

9. **Novel diagnostic test predicts mean change in hair counts in female androgenetic alopecia patients treated with topical minoxidil.** John McCoy, Andy Goren, Janet Roberts, Nisha Desai. *Poster #672*

10. **Enhancing hair follicle regeneration by microthermal injury.** Yueh-Feng Wu, Sabrina Mai-Yi Fan, Sung-Jan Lin. *Poster #676*

11. **Apoptotic signals increase during catagen-like changes in hair follicles confirming follicle organ culture’s exciting new potential as a human in vitro catagen model.** Heero N. Rahman, Nilofar Farjo, Bessam Farjo, Valerie Randall. *Poster #677*

12. **Prostaglandin D2 (PGD2) enhances testosterone metabolism in primary human keratinocytes possibly via upregulation of aldo-keto reductase 1C3 (AKR1C3) expression.** Alon Mantel, Alice P. Pentland, Meena Kattadare. *Poster #684*

*Continued on Next Page*
Continued

North American Hair Research Society Scientific Meeting

6:45 pm  Keynote Speaker

Wnt/beta-catenin signaling regulates proliferation but not survival of hair follicle progenitor cells
Sarah E. Millar, PhD
Professor, Departments of Dermatology and Cell & Developmental Biology,
Director of Research,
Department of Dermatology, University of Pennsylvania

7:15 pm  Keynote Speaker

Genetics and Immunology of Alopecia Areata
Angela M. Christiano, PhD
Professor of Dermatology and Genetics & Development, Columbia University

7:45 pm  Oral Presentations

12 minutes for presentation + 3 minutes for Q&A and change of speaker

1.  7:45 pm
Oral ruxolitinib induces hair regrowth in moderate to severe alopecia areata.
Julian Mackay-Wiggan, Nhan M. Nguyen, Charlotte Clark, Ali Jabbari, Grace Ulerio, Megan Furniss, Raphael Clynes, Angela Christiano. Poster #272

2.  8:00 pm
IFN-γ pathway blockade prevents the onset of alopecia areata.
Raphael Clynes, Zhen-peng Dai, Luzhou Xing, Ali Jabbari, Angela Christiano. Poster #090

3.  8:15 pm
Expression of a novel immunoglobulin protein in the skin and other epithelia.
Hunter Mitchell, Tongyu C. Wikramanayake. Poster #370

4.  8:30 pm
Human hair follicle epithelial stem cells undergo epithelial-mesenchymal transition (EMT) in primary cicatricial alopecia: Lessons from lichen planopilaris.
Hisayoshi Imanishi, David Ansell, Matthew Harries, Norbert Sepp, Tamas Biro, Daisuke Tsuruta, Christopher M. Ward, Ralf Paus. Poster #666

8:45 pm  NAHRS Updates and Announcements

NOTES
ASSOCIATE MEETINGS

FRIDAY, MAY 8, 2015

Pediatric Dermatology Research Alliance/Society for Pediatric Dermatology Session
7:00 am – 8:00 am
Room 204-207, Hilton Atlanta

NIH Symposium 12:00 pm – 1:45 pm
Grand Ballroom, Hilton Atlanta

Research in Cutaneous Surgery (RCS) Symposium
12:00 pm – 1:45 pm
Salon A/B, Hilton Atlanta

Women’s Dermatologic Society (WDS) Luncheon
12:00 pm – 1:45 pm
Crystal Ballroom, Hilton Atlanta

North American Hair Research Society (NAHRS)-Scientific Session and Annual Business Meeting
6:00 pm – 9:30 pm
Grand Ballroom, Hilton Atlanta

National Psoriasis Foundation (NPF) Scientific Advisory Board Meeting
6:00 pm – 9:30 pm
Room 203, Hilton Atlanta

National Alopecia Areata Foundation (NAAF) Reception
6:00 pm – 9:30 pm
Room 206-207, Hilton Atlanta

NOTES

___________________________________________________
___________________________________________________
___________________________________________________
___________________________________________________
___________________________________________________
___________________________________________________
___________________________________________________
___________________________________________________
___________________________________________________
___________________________________________________
___________________________________________________
___________________________________________________
___________________________________________________
___________________________________________________
___________________________________________________
___________________________________________________
___________________________________________________
___________________________________________________
___________________________________________________
___________________________________________________
___________________________________________________
___________________________________________________
___________________________________________________
___________________________________________________
___________________________________________________

TRAINEE DINNER

Friday, May 8, 2015 7:00 pm – 9:00 pm Crystal Ballroom, Hilton Atlanta

TICKETED EVENT; PRE-REGISTRATION IS REQUIRED

Throughout the years, the SID has encouraged meetings between Residents and Post-Doc Fellows. To continue its promotion of collegiality, the SID presents a Trainee Dinner – small group meetings in which senior and junior scientists and a group of four to six residents and post-doc fellows – discuss issues over dinner. These sessions provide an opportunity to talk informally about subject matter of interest including research opportunities in dermatology, life in academia or how to combine clinical work with research.

NOTES
## Saturday Sessions

<table>
<thead>
<tr>
<th>PAGE</th>
<th>TITLE</th>
</tr>
</thead>
<tbody>
<tr>
<td>60</td>
<td>Meeting-at-a-Glance</td>
</tr>
<tr>
<td>61</td>
<td>Plenary Session III</td>
</tr>
<tr>
<td>62</td>
<td>William Montagna Lecture</td>
</tr>
<tr>
<td>63</td>
<td>Julius Stone Lecture</td>
</tr>
<tr>
<td>64</td>
<td>Clinical Scholars Program Session II</td>
</tr>
<tr>
<td>65</td>
<td>Concurrent Mini-Symposium 12: Adaptive Immunity &amp; Vaccination</td>
</tr>
<tr>
<td>66</td>
<td>Concurrent Mini-Symposium 13: Growth Factors, Cell Adhesion &amp; Matrix Biology</td>
</tr>
<tr>
<td>67</td>
<td>Concurrent Mini-Symposium 14: Photobiology</td>
</tr>
<tr>
<td>68</td>
<td>Concurrent Mini-Symposium 15: Tissue Regeneration &amp; Wound Healing</td>
</tr>
</tbody>
</table>

International Societies for Investigative Dermatology (ISID) Informational Meeting
ASSOCIATE MEETINGS

SATURDAY, MAY 9, 2015

International Societies for Investigative Dermatology (ISID) Informational Meeting
2:00 pm – 3:30 pm
Crystal Ballroom, Hilton Atlanta

NOTES

______________________________________________________________

______________________________________________________________

______________________________________________________________
PLENARY SESSION III
Presiders: Sam Hwang, MD/PhD and Sarah Millar, PhD

Saturday, May 9, 2015  8:00 am - 9:00 am  Grand Ballroom, Hilton Atlanta

1. Psoriasis drug development and GWAS interpretation through in silico analysis of transcription factor binding sites. William R. Swindell, Mrinal K. Sarkar, Philip E. Stuart, John J. Voorhees, James T. Elder, Andrew Johnston and Johann E. Gudjonsson. Ann Arbor, MI. 8:00 am, Poster #446

2. Narrow band UVB treatment of human vitiligo is associated with induction of stem cell genes for melanocyte repopulation in the hair follicle and epidermis. Nathaniel B. Goldstein, Maranke I. Koster, Laura Hoaglin, Bifeng Gao, Kenneth Jones, Dennis R. Roop, David Norris and Stanca A. Birlea. Aurora, CO. 8:12 am, Poster #641

3. IL-17C, TNFα and IL-36 compensate for loss of IL-6 and identify novel signals facilitating the transition between uninvolved and involved psoriasis skin. Philip Klenotic, Andrew Johnston, Thomas McCormick and Nicole L. Ward. Cleveland, OH and Ann Arbor, MI. 8:24 am, Poster #530

4. Integrin αv is necessary for skin tissue generation and SCC tumor invasion, but is dispensable for epidermal maintenance. Elizabeth K. Duperret and Todd W. Ridky. Philadelphia, PA. 8:36 am, Poster #474

5. Characterization of lipoprotein composition and function in pediatric psoriasis reveals a more atherogenic profile. Wynnis Tom, Lawrence F. Eichenfield, Martin Playford, Shehla Admani, Balaji Natarajan and Nehal N. Mehta. San Diego, CA and Bethesda, MD. 8:48 am, Poster #219

NOTES
William Montagna Lecture
Therapeutic Target Practice in Melanoma

Saturday, May 9, 2015       9:00 am – 9:30 am       Grand Ballroom, Hilton Atlanta

Introduction by: Anthony Gaspari, MD

Hensin Tsao, MD/PhD
Massachusetts General Hospital
Boston, MA

Dr. Hensin Tsao is Professor of Dermatology at Harvard Medical School and serves as the Director of both the MGH Melanoma and Pigmented Lesion Center and the MGH Melanoma Genetics Program. He is also the Head of the Skin Cancer Genetics Laboratory in the Wellman Center for Photomedicine at MGH where he oversees a research program in melanoma genetics and therapeutics. Dr. Tsao graduated Magna Cum Laude and Phi Beta Kappa from Brown University with a degree in Biochemistry and English. In 1993, he graduated Alpha Omega Alpha from the Columbia University College of Physicians and Surgeons with an MD degree and Columbia University Graduate School of Arts of Sciences with a PhD degree in Biophysics/Biochemistry.

LECTURESHIP HISTORY
The William Montagna Lecture is given annually at the Society’s Annual Meeting. This award is intended to honor and reward young active investigators. Primary emphasis is given to researchers in skin biology.
Julius Stone Lecture

The Multifaceted Immunoregulatory Functions of the PD-1 pathway

Saturday, May 9, 2015      9:30 am – 10:00 am      Grand Ballroom, Hilton Atlanta

Introduction by: My Mahoney, PhD

Arlene H. Sharpe, MD/PhD
Harvard Medical School
Boston, MA

Dr. Sharpe is the George Fabyan Professor of Comparative Pathology, Department of Microbiology and Immunobiology, Harvard Medical School. Her research is focused on understanding the role of costimulatory molecules in T cell activation in vivo.

LECTURESHIP HISTORY

The Julius Stone Lectureship is intended to promote the advancement of knowledge in immunology as it relates to the skin and skin disease. The Lectureship is intended to honor Dr. Julius Stone, whose great commitment to the application of new principles of immunology to the benefit of patients with skin disorders is recognized by this award.
CLINICAL SCHOLARS PROGRAM – SESSION II

Saturday, May 9, 2015  10:15 am – 12:15 pm  Grand Ballroom, Hilton Atlanta

Topic: “Infectious Skin Diseases”

10:15 am  "Combinatorial targeting of Akt1 and SMO synergistically suppresses the growth of UV-induced BCCs in a murine model of basal cell nevus syndrome.”

Arianna L. Kim, Yucui Zhu, Nathan P. Yardley, Mohammad Athar, David R. Bickers.
Poster #150, Presented by Arianna L. Kim, PhD

10:30 am  Q&A

10:45 am  Plenary Presentation
Edward Cowen, MD/MHSc
“New Primary Immunodeficiencies”

Edward W. Cowen, MD, MHSc is Senior Clinician and Head of the Dermatology Consultation Service in the Dermatology Branch, Center for Cancer Research, National Institutes of Health. His research interests include primary immunodeficiency, autoinflammatory skin disease, and chronic graft-versus-host disease.

11:00 am  Q&A

11:15 am  Plenary Presentation
Donald Leung, MD/PhD
"Staphylococcal Infections in Atopic Dermatitis"

Dr. Leung has been the principal investigator on over 30 NIH research grants and federal contracts involving studies on immune mechanisms and treatment of atopic dermatitis over the past 25 years. He has been particularly interested in the role of S. aureus skin infections and their virulence factors in the pathobiology of atopic dermatitis. He has over 600 publications, many of them dealing with the immunology, causes and infectious complications of skin diseases, particularly atopic dermatitis.

11:30 am  Q&A

11:45 am  Open Discussion
1. Individual naïve T cells give rise to both T<sub>reg</sub> and T<sub>cm</sub> during immune responses in vivo. Olivier Gaide, Ryan O. Emerson, Xiaodong Jiang, Rachael Clark and Thomas S. Kupper. Boston, MA and Seattle, WA. 12:30 pm, Poster #039

2. Contributions of skin resident and recirculating memory T cells to depigmentation in vitiligo. Jillian Richmond, Mehdi Rashighi, Priti Agarwal and John E. Harris. Worcester, MA. 12:42 pm, Poster #013

3. Vitiligo T cell receptor SILv44 imparts a Tc17 profile and anti-tumor reactivity on host T cells. Jonathan Eby, Jared Klarquist, Mingli Li, Derek Wainwright, Stephanie Watkins, Wiete Westerhof, Cheryl Paulos, Shikhar Mehrotra, Elizabeth Garrett-Mayer, Rosalie Luiten, Michael Nishimura and Caroline Le Poole. Maywood, IL; Amsterdam, Netherlands and Charleston, SC. 12:54 pm, Poster #047

4. Human skin is protected by four functionally and phenotypically discrete populations of resident and recirculating memory T cells. Rei Watanabe, Ahmed Gehad, Chao Yang, Laura Campbell, Jessica E. Teague, Victor Huang, Tiago R. Matos, Thomas S. Kupper and Rachael Clark. Boston, MA. 1:06 pm, Poster #026


6. GILT-mediated processing of a self and melanoma antigen in thymic epithelial cells promotes deletion and regulatory T cells. Matthew Rausch, Todd C. Metzger, Michael Waterfield, Jessica Cortez, Mark S. Anderson and Karen T. Hastings. Phoenix, AZ and San Francisco, CA. 1:30 pm, Poster #028


8. Next generation T cell receptor sequencing reveals complex T cell dynamics in Alopecia Areata. Annemieke de Jong, Luzhou Xing, Ali Jabbari, Zhenpeng Dai, Vera H. Price, Madeleine Duvic, David Norris, Maria Hordinsky, Julian Mackay-Wiggan, Raphael Clynes and Angela Christiano. New York, NY; San Francisco, CA; Houston, TX; Denver, CO and Minneapolis, MN. 1:54 pm, Poster #019


10. CCL17 attenuates tumor immunity by increasing regulatory T cells and Th2 cells while decreasing myeloid-derived suppressor cells in tumor microenvironment. Soshibi Morimoto, Makoto Sugaya, Tomonori Oka, Hiraku Suga, Tomomitsu Miyagaki, Yuichiro Tsunemi, Yoshihide Asano, Yayoi Tada, Takaumi Kadono and Shinichi Sato. Tokyo, Japan. 2:18 pm, Poster #009


12. Blockade for CD155-TIGIT interaction is an effective therapy for melanoma. Takashi Inozume, Tomonori Yaguchi, Yutaka Kawakami and Shinji Shimada. Yamanashi, Japan and Tokyo, Japan. 2:42 pm, Poster #002
CONCURRENT MINI-SYMPOSIUM 13
GROWTH FACTORS, CELL ADHESION & MATRIX BIOLOGY

Saturday, May 9, 2015  12:30 pm – 3:30 pm  Salon A/B, Hilton Atlanta

Presiders:  C. Michael DiPersio, PhD and James K. Wahl, III, PhD

1. TGFβ release by fibroblasts requires regulated secretion via autophagosomes. Julian Nuechel, Katrin Blumbach, Katrin Schoenborn, Jan-Niklas Schulz, Alexandra Zuk, Gerhard Sengle, Georg Brunner, Thomas Krieg, Markus Plomann and Beate Eckes. Cologne, Germany and Muenster, Germany. 12:30 pm, Poster #484

2. EphA2 negatively regulates EGFR to promote keratinocyte differentiation. Bethany E. Perez, White, Paul Thomas, Joshua Rappoport and Spiro Getios. Chicago, IL. 12:42 pm, Poster #473

3. Exclusion of insulin and IGF-1 receptors from caveolar domains by ganglioside GM3 mediates insulin resistance. Duncan Hieu M. Dam, June J. Park, Betty Kong, Xiao-Qi Wang and Amy S. Paller. Chicago, IL. 12:54 pm, Poster #480

4. Role of integrin-linked kinase in keratinocyte survival. Lina Dagnino and Michelle Im. London, ON, Canada. 1:06 pm, Poster #496

5. RDEB fibroblast-derived periostin promotes the invasion of squamous cell carcinoma. Xinyi Wang, Yingping Hou, Jon Cogan, Olivia Lai, Weihuang Ning, David T. Woodley and Mei Chen. Los Angeles, CA. 1:18 pm, Poster #490

6. Lysyl hydroxylase 3 localizes to epidermal basement membrane and is reduced in patients with recessive dystrophic epidermolysis bullosa. Stephen Watt, Jashani Dayal, Sheila Wright, Celine Pourreyron, James McMillan, Megan Riddle, Irwin McLean, Irene Leigh, John McGrath, Julio Salas-Alanis, Jakub Tolar and Andrew P. South. Dundee, United Kingdom; London, United Kingdom; Minneapolis, MN; Monterrey, Mexico and Philadelphia, PA. 1:30 pm, Poster #486

7. The role of the hemidesmosomal protein BP180 in granulopoiesis. Lin Lin, Bin-Jin Hwang, Ning Li, Luis A. Diaz and Zhi Liu. Chapel Hill, NC. 1:42 pm, Poster #494

8. Rapamycin modulates the glucocorticoid receptor functions, blocks atrophogene REDD1 expression, and protects skin against steroid-induced atrophy. Ekaterina Lesovaya, Elena Vinokour, Gleb Baida, Pankaj Bhalla, Kirill Kisranov, Marianna Yakubovskaya, Leonidas Plataniatis, Ben Readhead, Joel Dudley and Irina Budunova. Chicago, IL; Moscow, Russian Federation and New York, NY. 1:54 pm, Poster #491


10. Palmitoylation of the desmosomal cadherins is important for protein stability and assembly dynamics. Brett J. Roberts, Robert Svoboda, Keith Johnson and James K. Wahl. Lincoln, NE. 2:18 pm, Poster #488

11. Desmosomal mediated mechanotransduction regulates cell adhesion and signaling. Joshua A. Broussard and Kathleen J. Green. Chicago, IL. 2:30 pm, Poster #475

CONCURRENT MINI-SYMPOSIUM 14
PHOTOBIOLOGY

Saturday, May 9, 2015 12:30 pm – 3:30 pm  Salon C, Hilton Atlanta

Presiders: Santosh Katiyar, PhD and Jeffrey Travers, MD/PhD

1. Platelet-activating factor receptor agonists generated by radiation therapy thwart host anti-tumor immunity. Ravi Sahu, Raymond L. Konger and Jeffrey B. Travers. Indianapolis, IN. 12:30 pm, Poster #593

2. The tumor suppressor p27kip1 in keratinocytes is regulated via an autocrine mechanism involving the aryl hydrocarbon receptor (AHR). Marius Pollet, Jean Krutmann and Thomas Haarmann-Stemmann. Düsseldorf, Germany. 12:42 pm, Poster #589

3. Lipid oxidation patterns and kinetics in keratinocytes undergoing senescence-promoting stress or replicative senescence. Marie S. Narzt, Ionela M. Nagelreiter, Susanne Karner, Johannes Grillari, Katarzyna Figlak, Manuel Filzwieser, Valery Bochkov, Erwin Tschachler and Florian Graber. Vienna, Austria and Steiermark, Austria. 12:54 pm, Poster #594

4. Alternative keratin 17 expression variation is induced by different doses of narrow-band ultraviolet B in keratinocytes via Erk1/2-dependent mechanism. Chang-xu Han, Liang Jin, Er-le Dang and Gang Wang. Xi’an, China. 1:06 pm, Poster #587

5. Circadian rhythm and skin inflammation. Amanda K. Suggs, Jacqueline Selph, Minh Lam and Elma D. Baron. Cleveland, OH. 1:18 pm, Poster #584

6. UVA and UVB induce different sets of long non-coding RNAs. Thomas M. Ruenger and Kazuyuki Yo. Providence, RI and Yokohama, Japan. 1:30 pm, Poster #595


8. UVB induces mast cell dermal recruitment and activation through S1P production from human keratinocyte. Matthieu Vanderberghe, Zhenping Wang and Anna Di Nardo. La Jolla, CA. 1:54 pm, Poster #608


11. Ultraviolet radiation, both UVA and UVB, influences the composition of the skin microbiome. Erin M. Burns, Abdullah Shaheen, Anum Muzaffar, Camli Al-Sadek, Thompson Foy, Mohammad Abdelgawwad, Sumeira Huda, Prescilla N. Iseedeh, Ranjit Kumar, Travis Pacey, Henry W. Lim, Illefat H. Hamzavi, Casey D. Morrow, Craig A. Elmets and Nabiha Yusuf. Birmingham, AL and Detroit, MI. 2:30 pm, Poster #582

CONCURRENT MINI-SYMPOSIUM 15
TISSUE REGENERATION & WOUND HEALING

Saturday, May 9, 2015
12:30 pm – 3:30 pm
Salon E, Hilton Atlanta

Presiders: Vladimir Botchkarev, MD/PhD and Marie Tuttle, MD

1. Epigenetic regulation of the wound healing: the role of Polycomb Cbx4 gene in the epithelial regeneration. Andrei Mardaryev, Ahmar Aziz, Krzysztof Peterlowicz, Tatyana Y. Sharova, Guoliang Xu, Vladimir A. Botchkarev and Andrew Sharov. Bradford, United Kingdom; Boston, MA and Shanghai, China. 12:30 pm, Poster #709

2. Reconstitution of three-dimensional skin composed of keratinocytes, fibroblasts and melanocytes induced from Muse human pluripotent stem cell. Takeshi Yamauchi, Kenichihiro Tsuchiyama, Saaya Koike, Mai Inoue and Setsuya Alba. Sendai, Japan. 12:42 pm, Poster #700

3. Cadherin endocytosis, adhesion, and cytoskeletal linkage cooperatively regulate collective cell migration. Chantel Cadwell, Benjamin A. Nanes, Daniel Conway and Andrew Kowalczyk. Atlanta, GA and Richmond, VA. 12:54 pm, Poster #704

4. IRF1 protein levels depend on microRNA mir-31 and reduced levels of IRF1 inhibit keratinocyte migration. Chase Taylor, Claudia D. Andl and Thomas Andl. Nashville, TN. 1:06 pm, Poster #711

5. Ephrin-A ligand loss enhances keratinocyte migration via ligand-independent EphA2 action. Nihal Kaplan, Bethany E. Perez White, Ji Zheng, Paul Hoover, Rosa Ventrella, William R. Swindell, Johann E. Gudjonsson, Bingchong Wang and Spiro Getsios. Chicago, IL; Cleveland, OH and Ann Arbor, MI. 1:18 pm, Poster #723

6. Collagen XVII regulates actin dynamics and traction forces in motile keratinocytes. Sho Hiroyasu, Zachary Colburn and Jonathan Jones. Pullman, WA. 1:30 pm, Poster #703

7. Repair versus regeneration: Msx2 is required for epidermal competency during wound induced follicular neogenesis. Michael W. Hughes, Ting-Xin Jiang, Gary Lai, Christopher Schafer, Robert Maxson, Randal Widelitz and Cheng-Ming Chuong. Los Angeles, CA and Tainan, Taiwan. 1:42 pm, Poster #717


10. Inhibition of Apoptosis signal-regulating kinase 1 alters differentiation of the wound epithelium to enhance tissue regeneration. Theresa A. Freeman, Natalie Chernenet, Deepa Kupard and My G. Mahoney. Philadelphia, PA. 2:18 pm, Poster #721

11. CAGE sequencing reveals MAFB as an early VEGF-C induced transcription factor that mediates cutaneous lymphatic vessel differentiation and development. Lothar Dieterich, Sarah Klein, Anthony Matheliez, Young-Kwon Hong, Wyeth Wasserman and Michael Detmar. Zurich, Switzerland; Vancouver, BC, Canada and Los Angeles, CA. 2:30 pm, Poster #734

12. Estrogen receptor alpha-mediated control of growth factor production from nipple fibroblasts. Hsin-Jung Wu, Dan F. Spandau, Sunil S. Tholpady and John G. Foley. Bloomington, IN and Indianapolis, IN. 2:42 pm, Poster #736

ASSOCIATE MEETINGS

SATURDAY, MAY 9, 2015

International Societies for Investigative Dermatology (ISID) Informational Meeting
2:00 pm – 3:30 pm
Crystal Ballroom, Hilton Atlanta
## Abstracts

<table>
<thead>
<tr>
<th>PAGE</th>
<th>TITLE</th>
</tr>
</thead>
<tbody>
<tr>
<td>70</td>
<td>Abstract Presentation Information</td>
</tr>
<tr>
<td>71</td>
<td>2015 Abstract Categories And Definitions</td>
</tr>
<tr>
<td>72-97</td>
<td>Poster Presentations / Abstract Titles</td>
</tr>
<tr>
<td>98-118</td>
<td>Author Index</td>
</tr>
<tr>
<td>119-122</td>
<td>Keyword Index</td>
</tr>
<tr>
<td>123-125</td>
<td>SID Governance</td>
</tr>
</tbody>
</table>
**ORAL PRESENTATIONS**

Oral presentations and lectures will take place at the Hilton Atlanta. Minisymposium and Plenary oral presentations are scheduled at the rate of five (5) per hour. This allows ten (10) minutes for presentation and two (2) minutes for discussion. In order to coordinate sessions, the time limit will be strictly adhered to, and you will be asked to terminate your presentation by the session moderators. LCD projectors will be available in each lecture hall. There will be resources to display only with IBM-compatible PowerPoint MS Office 2013 or earlier versions. 35mm projectors will not be available. Computer technicians will be able to download ZIP and CD files. All oral presentations must also be presented in poster format. All presentations must be uploaded to a common storage device at least six (6) hours prior to your presentation. Uploads may be completed in the Speaker Ready Room (Room 201, Hilton Atlanta).

**POSTER PRESENTATIONS**

All posters will be displayed until Saturday, May 9th at 12:00 pm in the Galleria Exhibit Hall. Posters will be viewed in three sessions as outlined below. Presenters should be at their posters for the entire discussion session. Posters may not be removed early. The SID is not responsible for posters left unclaimed as of 1:00 pm on Saturday, May 9. Unclaimed posters will not be returned.

**INSTALL ALL POSTERS**

Wednesday, May 6, 2015 8:00 am – 4:00 pm

**POSTER SESSION I**

Odd Poster numbers 001-245 &
Even Poster numbers 246-490
Thursday May 7, 2015 10:00 am – 12:00 pm

**POSTER SESSION II**

Even Poster numbers 002-244 &
Odd Poster numbers 491-735
Friday, May 8, 2015 11:15 am – 1:15 pm

**POSTER SESSION III**

Odd Poster numbers 247-489 &
Even Poster numbers 492-736
Saturday, May 9, 2015 10:00 am – 12:00 pm

**DISMANTLE ALL POSTERS**

Saturday, May 9, 2015 12:15 pm – 1:00 pm

**CONFLICT OF INTEREST**

Due to CME Guidelines, ALL oral presentations must include a disclosure slide at the beginning of your presentation. If there is a real or perceived conflict of interest pertaining to your work, an announcement must be made prior to your oral presentation and also displayed on your poster.

**SPEAKER READY ROOM**

Room 201, Hilton Atlanta will be available to all presenters during the following hours.

Wednesday, May 6, 2015 7:00 am – 8:00 pm
Thursday, May 7, 2015 7:00 am – 5:00 pm
Friday, May 8, 2015 7:00 am – 5:00 pm
Saturday, May 9, 2015 7:00 am – 3:00 pm
ADAPTIVE IMMUNITY & VACCINATION
Studies of adaptive immune responses in both skin and lymphoid tissues during homeostasis, inflammation, and infection involving T and B lymphocytes, antigen presenting cells, dendritic cells, and the mechanisms and factors that control these processes.

AUTO-IMMUNITY
Studies of clinical disease states involving autoimmunity.

CARCINOGENESIS & CANCER GENETICS
Studies on the development, maintenance and metastasis of cancer as well as the genetic basis of skin cancer.

CLINICAL RESEARCH (OBSERVATIONS, PATHOPHYSIOLOGY & OUTCOMES)
Studies involving human subjects and not preclinical animal model studies. This session will focus on pathophysiologic studies, observations of patients with skin diseases, as well as outcome studies. Experimental studies submitted to this category that do not involve human subjects will be moved to a more appropriate category by Abstract Reviewers.

EPIDEMIOLOGY
Studies, typically observational, involving the evaluation of health or disease with respect to the skin in populations.

EPIDERMAL STRUCTURE & BARRIER FUNCTION
Research on the components or regulation of keratinocyte proliferation, terminal differentiation, and/or epidermal barrier function.

GENE THERAPY & CLINICAL THERAPEUTICS
Studies involving human subjects that include gene therapy, small or large molecules or other therapeutic approaches.

GENETIC DISEASE & GENE REGULATION
Studies on cutaneous gene expression and genetically-based diseases. Cancer-related genetic studies are more appropriate for “Carcinogenesis and Cancer Genetics.”

GROWTH FACTORS, CELL ADHESION, & MATRIX BIOLOGY
Studies on growth factors and the interactions of cells with their local cellular and extracellular environment that affect signaling, adhesion, migration and development.

INNATE IMMUNITY, INFLAMMATION & MICROBIOLOGY
Studies of innate immunity, including cells, receptors and effector molecules of the innate immune response. Studies of innate responses to skin microbes and infectious processes of the skin.

PHOTOBIOLOGY
Studies on biological, biochemical, and molecular responses to ultraviolet radiation in cultured cells or animals.

PIGMENTATION & MELANOMA
Studies on all aspects of cutaneous or extracutaneous pigmentation; and molecular, cellular, and biological facets of melanoma. Genetic studies on melanoma should be considered for the category “carcinogens and Cancer Genetics”.

SKIN & HAIR DEVELOPMENTAL BIOLOGY
Studies on the hair follicle, sebaceous gland, and other skin appendages; developmental biology of skin and hair, including studies of the role of stem cells in normal development and postnatal growth.

TISSUE REGENERATION & WOUND HEALING
Wound healing and regeneration studies and studies that involve processes/signaling that affect vascular development and angiogenesis.
Adaptive Immunity & Vaccination

All orals [designated with an asterisk (*)] listed below are presented in the Adaptive Immunity & Vaccination Minisymposium on Saturday, May 9, 2015, from 12:30-3:30 pm in Salon D, Hilton Atlanta. Orals designated by two asterisks (**) will be presented during a plenary session. Orals designated by three asterisks (***) will be presented during the Interdisciplinary Spotlight: Skin Cancer Minisymposium on Friday, May 8, 2015, from 2:00 – 5:00 pm in the Grand Ballroom, Hilton Atlanta.

002* Blockade for CD155-TIGIT interaction is an effective therapy for melanoma. Takashi Inozume, Tomonori Naguchi, Yutaka Kawakami and Shinji Shimada. Chuo, Japan and Shinjuku, Japan.
003 Migratory DC temper subcutaneous immunity through key tolerance pathways. Nirosnaha Anandasabapathy, Christopher Nirschl, Yong Liu, Shamin Mollah, Rachel E. Feder, Pinru Wu, Peter Sage and Arlene H Sharpe. Boston, MA and New York, NY.
004 Rationale and design of a novel dendritic cell targeted vaccine for basal cell carcinoma. Karyn Hartz, Steven R Barthel, Yong Liu, Christopher Nirschl, Ervin Epstein and Nirosnaha Anandasabapathy. Boston, MA and Oakland, CA.
005 An ex vivo skin model that combines topical skin penetration and Th17 stimulation. Mary Bedard, Steven Cook, Leandro Santos, Jessica Neil, Carlos Eduardo Peredo, Susan H Smith, Javier Cote-Sierra and Jon Lenn. Research Triangle Park, NC.
007 Phenotypic analysis of dendritic cells infiltrating a spontaneous model of basal cell carcinoma. Christopher Nirschl, Yong Liu, Pinru Wu, Karyn Hartz and Nirosnaha Anandasabapathy. Boston, MA.
008 Potential mechanisms for loss of hair follicle immune privilege in patients with alopecia areata following hepatitis B vaccination. Christopher Richardson, Elaine Gilmore and Brian Poligone. Rochester, NY.
009* CCL17 attenuates tumor immunity by increasing regulatory T cells and TH2 cells while decreasing myeloid-derived suppressor cells in tumor microenvironment. Makoto Sugaya, Sohshi Morimura, Tomonori Oka, Hiraku Suga, Tomoimtsu Miyagaki, Yuichiro Tsunemi, Yoshihide Asano, Yayoi Tada, Takafumi Kadono and Shinichi Sato. Tokyo, Japan.
010 Distinctive downmodulation of plasmacytoid dendritic cell by vitamin D analog in its interferon-γ production and chemotactic activity. Takahiro Suzuki, Yosohi Tokura. Hamamatsu, Japan.
012 Keratin 17 enhances the chemotaxis of neutrophils through regulating chemokine CXCL1 secretion in keratinocytes via PI3K/AKT/NF-κB pathway. Er-Le Dang, Liang Jin, Chang-xu Han, Bing Li, Man Jiang and Gang Wang. Xi’an, China.
013* Contributions of skin resident and recirculating memory T cells to depegmentation in vitiligo. Jillian Richmond, Mehdi Rashighi, Priti Agarwal and John E Harris. Worcester, MA.
014 Acne vaccines targeting secretory CAMP factor of Propionibacterium acnes. Chun-Ming Huang. San Diego, CA.
018* Shared VH1-46 antibody gene usage in pemphigus vulgaris predicts antibody cross-reactivity to desmoglein 3 and rotavirus VP6. Michael Jeffrey Tejada Cho, Christoph Ellebrecht, Christoph Matthias Hammers, Gopal Sapparapu, James Crowe and Aimee S Payne. Philadelphia, PA and Nashville, TN.
019* Next generation T cell receptor sequencing reveals complex T cell dynamics in Alopecia Areata. Annemieke de Jong, Luzzho Xing, Ali Jabbari, Zhenpeng Dai, Vera H Price, Madeleine Duivic, David Norris, Maria Hordinska, Julian Mackay-Wiggan, Raphael Clynes and Angela Christiano. New York, NY; San Francisco, CA; Houston, TX; Denver, CO and Minneapolis, MN.
020 Calcitonin gene-related peptide (CGRP) induces endothelial cells (EC) to bias Langerhans cells (LC) antigen presentation towards a Th17 response through induction of soluble mediators. Wanhong Ding, Lori L Stohl, John A Wagner, Lanhui Xu and Richard David Granstein. New York, NY.
021* Elevated thymic stromal lymphopoietin expression in the skin blocks breast carcinogenesis. Shadmehr Demehri, Trevor J Cunningham, Sindhu Manivasagam, Melissa Meyer, David Denardo, Raphael Kopan and Wayne Yokoyama. St. Louis, MO and Cincinnati, OH.
023 CD8+T cells contribute to lichen planus independence of LAMP1-mediated degradation. Bing li, Xiwen Sun and Gang Wang. Xin, China.
024 Immunomodulatory effects of nanoparticles on the contact hypersensitivity response in C57BL/6 hairless mice. Samreen Jatana, Brian C Palmer and Lisa A DeLouise. Rochester, NY.
025 Capturing functional conservation between human skin and mouse DC systems for generating better vaccines. Eynav Klechovsky. Saint Louis, MO.
026* Human skin is protected by four functionally and phenotypically discrete populations of resident and recirculating memory T cells. Rej Watanabe, Ahmed Gehad, Chao Yang, Laura Campbell, Jessica Emberley Teague, Victor Huang, Tiago R Matos, Thomas S. Kupper and Rachael Clark. Boston, MA.
027 Novel STAT3 inhibitor LLL12 significantly reduces IL-17, IL-22, and IFN-gamma mRNA expression in psoriatic PBMCs. Justin G Hastings, Xiaoli Zhang, Jiayu Lin, Chenglong Li and Henry K Wong. Columbus, OH.

Notes:


033 CCR2 presence is nonessential for acute and chronic psoriasisform skin inflammation. Junming Li, Yi Fritz, Jackelyn B Golden, Doina Diaconu, Maya Camhi, Thomas McCormick and Nicole L Ward. Cleveland, OH.


035 Induction of skin resident and systemic T cell immunity by cutaneous immunization using dissolvable microneedle arrays. Blake Elizabeth Friedman, Cara Carey and Louis D. Fal. Pittsburgh, PA.

036 Pediatric atopic dermatitis is characterized by increased T-cell activation with aberrant T-cell development. Tali Czarnowicki, Hitokazu Esaki, Juana Gonzalez, Dana Malajian, Sreyal Tulasia, Adam Berry, Jayla Gray, Shini Noda, James G. Krueger, Emma Guttman-Yassky and Amy S. Paller. New York, NY and Chicago, IL.

037 Skin-mediated promotion of thrombosis is abrogated following IL-23/IL-17 inhibition or IL-6 deletion in mouse models of psoriasis. Nicole L Ward, Jackelyn B Golden, Yi Fritz, Junming Li, Yunmei Wang, Daniel I Simon and Thomas D. Springer. Cleveland, OH.

038 Effect of enteric viral infection on graft-versus-host disease severity. Kyle Fash, Matthew Cooper, Timothy Nice and John F DiPersio. Saint Louis, MO.

039** Individual naive T cells give rise to both T helpers and T cytotoxic cells during immune responses in vivo. Olivier Gaide, Ryan O’Emerson, Xiaodong Jiang, Rachael Clark and Thomas S. Kupper. Boston, MA and Seattle, WA.

040 ENTPD1 and PD-1/PD-1 ligands are highly expressed by skin-resident immune cells in subsets of human SCC. Amanda S MacLeod, Christina McCray, Jonathan Cook, Robert Streilein, Simone Degan, Wendy Havran and Jennifer Y Zhan. Durham, NC.

041 Two populations of skin CD4 memory T cells with distinct migratory properties after C. albicans infection. Chang Oak Park, Rachael Clark, Robert C. Fuhligbre, Xiaodong Jiang, Tian Tian, Charles Lin, Xiujun Fu, Rui Watanabe and Thomas S. Kupper. Boston, MA.

042 Dust mite is a strong activator of IL-23 pathway genes and is distinct from the atopic dermatitis skin phenotype. Sandra Garret, Benjamin Ungar, Avner Shemer, James G Krueger and Emma Guttman-Yassky. New York, NY and Tel-Aviv, Israel.

043 Global screening for skin homing program genes in CD8+ T cells after live viral immunization. Youdong Pan, Tian Tian, Chang Oak Park, Serena Lofflus, Sherrie J. Divo, Robert C. Fuhlbrigge and Thomas S. Kupper. Boston, MA.

044 The proteasome inhibitor Bortezomib inhibits the function of peripheral dendritic cells and induces apoptosis. Zhongbin Lai, Thomas M. Ruenger. Providence, RI.

045 Topical application of an epidermal growth factor receptor kinase inhibitor enhances the response to influenza vaccination. Brian Paul Pollack, Joanna Soukountzou, Joanna A. Pult-Penaloza, Richard W. Compan, Bishu Sapkota and E. Stein Esser. Decatur, GA and Atlanta, GA.

046 Responses to influenza vaccine after rituximab therapy in patients with autoimmune blistering diseases. Alice Cho, Bridget Bradley, Lalita Priyamvada, Yeuengi Kovalenko, Ron J Feldman and Jens Wrammert. Atlanta, GA.

047* Vittiligo T cell receptor Silv44 imparts a Tc17 profile and anti-tumor reactivity on host T cells. Caroline Le Poole, Jonathan Eby, Jared Klarquist, Mingli Li, Derek Wainwright, Stephanie Watkins, Wiete Westerhof, Cheryl Paulos, Shikhar Mehrotra, Elizabeth Garrett-Mayer, Rosalie Luiten and Michael Nishimura. Maywood, IL, Amsterdam, Netherlands and Charleston, SC.


Auto-Immunity

All orals [designated with an asterisk (*)] listed below are presented in the Auto-Immunity Minisymposium on Thursday, May 7, 2015, from 2:00-5:00 pm in Salon E, Hilton Atlanta. Orals designated by two asterisks (**) will be presented during a Plenary Session. Orals designated by three asterisks (***) will be presented during the Interdisciplinary Spotlight: Skin Cancer Minisymposium on Friday, May 8, 2015, from 2:00 – 5:00 pm in the Grand Ballroom, Hilton Atlanta.

049 The tryptophan metabolism enzyme, L-kynureninase, is a novel inflammatory factor in psoriasis and other inflammatory diseases. Jamie Lynn Harden, Steven M Lewis, Samantha Lish, Mayte Suarez-Farinas, Daniel Gareau, Tim Lentini, Leanne Johnson-Huang, James G. Krueger and Michelle Lowes. New York, NY and Bronx, NY.

050 Predictors of skin disease outcome in rituximab-treated refractory dermatomyositis patients. Jeanette M. Olazagasti, Cynthia S. Crowson, Molly S. Hein, Consuelo Lopez de Padilla, Rohit Aggarwal, Chester V. Oddis and Ann M. Reed. Rochester, MN; Pittsburgh, PA and Durham, NC.

051 TNF-α antagonist induced cutaneous lupus, Emily C Milam, Sarika Ramachandran and Andrew G Franks. New York, NY.

052 Dermal vascular changes in the C3H/HeJ alopecia areata mouse model. Lloyd E. King, Kathleen A Silva, Victoria E Kennedy, Timothy M Stearns and John Paul Sundberg. Nashville, TN and Bar Harbor, ME.

053 Langerhans cells promote the development of imiquimod-induced psoriasis-like dermatitis by producing IL-23. Shuhong Sun, Chuxiong Xiao and Wei Li. Xi’An, China.


055* Skin-homing and systemic T-cell subsets show higher activation in atopic dermatitis versus psoriasis. Juana Gonzalez, Tali Czarnowicki, Avner Shemer, Mayte Suarez-Farinas, James G. Krueger and Emma Guttman-Yassky. New York, NY and Tel Aviv, Israel.


Notes:

058 Serum levels of soluble PD-1 and PD-L2 correlate with disease severity in systemic sclerosis. Ayumi Yoshizaki, Shinichi Sato. Tokyo, Japan.


060 Comparison of anti-desmoglein B cell repertoire and anti-desmoglein antibody repertoire in pemphigus patients. Jing Chen, Qi Zheng, Christoph Ellebrecht, Christoph Matthias Hammers, Hsin Yao Tang, Chenyan Lin, Lars Komorowski and John R Stanley. Philadelphia, PA; Lübeck, Germany and Luebeck, Germany.

061 B-cell profiling to predict clinical response following Rituximab therapy in patients with autoimmune blistering diseases. Sarah Booker, Bridget Bradley, Bridget Neary, Chunghwen Wei, Ignacio Sanz and Ron J Feldman. Atlanta, GA.


064 Activity of interferons beta and gamma in dermatomyositis skin is correlated with characteristic pathologic features. Hayley Wheeler, Kerri Rieger, Chung Lorinda, Kavita Sarin and David F Fiorentino. Redwood City, CA and Stanford, CA.

065 Treg expression and function in pemphigus. Ana Maria Roselino, Celina Albuquerque, Diego Luis Costa, Aline Turatti and Joao Santana Silva. Ribeirao Preto, Brazil.


068 Anti-thyroid peroxidase antibodies induce similar effects on keratinocyte cell signaling as antibodies directed against desmoglein 3. Thomas Sajda, Kristina Seiffert-Sinha and Animesh A. Sinha. Buffalo, NY.

069* IL-13 receptor alpha 1 downregulation as a protective mechanism and therapeutic target in pemphigus. Kristina Seiffert-Sinha, Elizabeth Zoe Welch, Rama Dey-Rao and Animesh A. Sinha. Buffalo, NY.

070 Comparative genomic analysis in autoimmune clusters with PV. Priya Sasankan, Sahar Y Naseer, Kristina Seiffert-Sinha and Animesh A. Sinha. Buffalo, NY.


072* A pathogenic role for IL-9 in psoriasis: IL-9 producing T cells are frequent in human psoriatic and IL-9 enhances dermatitis in two IL-17 dependent mouse models of psoriasis models. Ahmed Gehad, Christoph Schlapbach, Tiago R Matos, Jessica Emberley Teague, Victor Huang, Elizabeth Lowry, Thomas S. Kupper and Rachael Clark. Boston, MA and Bern, Switzerland.


074 Epigenetic studies of oral lichen planus as a model for inflammation-mediated cancer development via malignant reprogramming. Nasim Fazel, Clifford G. Tepper, Yoshihiro Izumiya, William Murphy and Parastoo Davari. Sacramento, CA.

075 Oxidative stress-induced calreticulin/gC1qR complex production may prevent cells from apoptosis: a new insight into the destruction of melanocytes. Jing Li, Pu Song, Jiafen Zhang, Chunying Li and Tianwen Gao. Xi’an, China.

076 Plumbagin was a potential therapeutic medicine for psoriasis by inhibiting the proliferation and secretion of inflammation cytokines of keratinocyte. Yuan Zhang, Gang Wang. Xi’an, China.

077 Defective complement inhibitory function of CD46 predisposes to bullous pemphigoid. Pei Gao, Gang Wang. Xi’an, China.

078 Increased expression of NLRP3 inflammasome in peripheral blood mononuclear cells in patients with bullous pemphigoid. Hui Fang, Gang Wang. Xi’an, China.

079* Alopecia areata skin transcriptome correlates with disease severity and response to treatment. Ali Jabbari, Jane E Cerise, Julian Mackay-Wiggan, Madeleine Duvic, Maria Hordinsky, Vera H Price, David Norris, Raphael Cynes and Angela Christiano. New York, NY; Houston, TX; Minneapolis, MN; San Francisco, CA and Denver, CO.


082* Expanded cβ T cell clones are present in the healed lesions of psoriasis and likely represent the autoreactive T cells of origin. Tiago R Matos, John Thomas O’Malley, Ahmed Gehad, Jessica Emberley Teague, Elizabeth Lowry, Harlan Robins, Thomas S. Kupper, James G Krueger and Rachael Clark. Boston, MA; Seattle, WA and New York, NY.

083 Bullous pemphigoid autoantibodies and complement are required for eosinophil localization to the dermal-epidermal junction. Kelly Messingham, Jeffery W Wang, Heather M Holahan, Rupasree Srikantha, Samantha Aust and Janet A Fairley. Iowa City, IA.

084* Collagen XVII autoantibodies are present in Parkinson’s Disease patients and co-localize with tyrosine hydroxylase in the substantia nigra. Janet A Fairley, Kelly Messingham, Nandakumar Narayan, Samantha Aust, Joseph Helfenberger, Martin Cassell and Stephanie Alberico. Iowa City, IA.

085 The Asian atopic dermatitis phenotype combines features of atopic dermatitis and psoriasis with increased Th17 polarization. Shinji Noda, Mayte Suarez-Farinas, Kwang Hoon Lee, Kenji Kabashima, James G Krueger and Emma Guttman-Yassky. New York, NY; Seoul, Korea (the Democratic People’s Republic of) and Tokyo, Japan.

086 Differing polarization of T cells following topical imiquimod associated with psoriasis or lupus-like disease in mice. Mehran Ghoureishi, Misha Zarabian and Jan Peter Dutz. Vancouver, Canada.

087 Visualizing in vivo cuticular (epionychial) hemosiderin-containing deposits in patients with autoimmune connective tissue diseases via Prussian blue and dermoscopy. Jeffrey Don McBride, Richard Sontheimer and Tracy Frech. Oklahoma City, OK and Salt Lake City, UT.

088 Epigenetic downregulation of SFRP4 contributes to epidermal hyperplasia in psoriasis. Honglin Wang, Jing Bai. Shanghai, China.

Carcinogenesis & Cancer Genetics

All oral presentations are listed below. Oral presentations are divided into three categories: **(1)*** for poster sessions, **(2)*** for plenary sessions, and **(3)*** for inter-disciplinary sessions.

**109** Lessons from melanoma applied to other cancers: DC-HIL is a potential biomarker and target treatment for breast and colon cancer. David B Harker, Jake E Turrentine, Jin-Sung Chung, Ponciano D Cruz and Kiyoshi Aritzumi. Dallas, TX.


**111** Peristin is a key niche component for melanoma wound metastasis. Keitaro Fukuda, Eiji Sugihara, Shoichiro Ohta, Kenji Izuhara, Takeru Funakoshi, Masayuki Amagai and Hideyuki Saya. Tokyo, Japan and Saga, Japan.

**112** A zebrafish model for investigating the role of SOX10 in invasive melanoma. Andrea L Suarez. New York, NY.


**114** Circulating cell-free DNA is increased in sera of Sézary syndrome patients. Zuolin Ying, Timothy Langridge, Madeleine Duvic and Xiao Ni. Houston, TX.

**115** Sphingosine-1-phosphate stimulating CAMP overexpression accelerates development of cutaneous SCC. Yoshikazu Uchida, Kyungbo Park, Young Il Kim, Anna Nielsen-Scott, Yong-Hoon Shin, Yong-Moon Lee, Walter M. Holleran, Sarah Arron, Theodora Mauro and Peter M Elia. San Francisco and Cheongju, Korea (the Republic of).
119 The role of perlecan in the path to malignancy. Kathleen Cook Suozzi, Giovanni Zito, Christine J. Ko, Don X Nyugen and Valentina Greco. New Haven, CT.

120*** Rolling the genetic dice: Neutral and deleterious SMO mutations in drug-resistant basal cell carcinoma. Scott Atwood, Kavita Sarin, Jianguo Li, Catherine Yao, Nicole M Urman, Anne Lynn Su Chang, Jean Y Tang and Anthony Oro. Stanford, CA.

121 Identification of a role for CSL and PDCD4 interaction in control of fibroblast cell senescence and cancer-associated fibroblast activation. Seungho Jo, Yang Su Brooks and Gian Paolootto. Charlotte, MA.

122 Loss of the autophagy repressor p8 in human dermal fibroblasts causes senescence and CAF activation. Sandro Garuppi, Gian Paolootto. Charlotte, MA and Lausanne, Switzerland.


125 Increased mutant p53 keratinocyte clonal expansion and intraepidermal levels of IL-22 and NOS2 in the presence of LC in chronically ultraviolet B (UVB) irradiated skin. Christina Bürgler, Julia Lewis and Michael Girardi. New Haven, CT.

126 Rapamycin alters the metabolic phenotype in human cutaneous T-cell lymphoma. Wasakten Kim Kitoopongdita, Xuesong Wu, Sam Hwang and Stefan M Schieke. Milwaukee, WI.

127 Complement C5a regulates squamous carcinogenesis. Terry R Medler, Alexandra M. Forsyth and Lisa M. Coussens. Portland, OR.

128* A counter-intuitive role for caspase 3 in promoting genetic instability and skin carcinogenesis. Xinian Liu, Durham, NC.


130 Serum exosomes from metastatic basal cell carcinoma patients confer increased metabolic activity in cultured primary human fibroblasts. Gefei Zhu, Travis Antes, Robert Spitalte and Anne Lynn Su Chang. Redwood City, CA; Mountainview, CA and Irvine, CA.


132 A new functional validation assay to measure resistance drivers in patient BCCs. Ramon Whiston, Scott Atwood, Kavita Sarin, Jianguo Li, Geurim Kim, Melika Rezaee, Mina Sarah Ally, Catherine Yao, Anne Lynn Su Chang, Jean Y Tang and Anthony Oro. Irvine, CA and Stanford, CA.

133 NOTCH1 inhibition disrupts formation of stratified epithelium in organotypic cell culture models of the skin. Lionel Brooks, Hayoumany Moslehi, Lauren Alyssa Ing and Sarah Arron. San Francisco, CA.

134* Mutation burden is associated with gender and survival in metastatic melanoma. Sameer Gupta, Mykyta Artomov, William Goggins, Mark Daly and Hensin Tsaio. Boston, MA and Shatin, Hong Kong.


137 Rapamycin is a chemopreventive and chemotherapeutic agent for RAS-driven epithelial squamous cell carcinoma: Evidence from mouse models. Christophe Cattiaux, Hiroshi Kitagawa, Christine Holland, Phillip A Dennis and Stuart H Yuspa. Bethesda, MD and Baltimore, MD.


141 Planar cell polarity effector gene INTU mediates the formation of basal cell carcinoma through orchestrating ciliogenesis and Hedgehog signaling. Ning Yang, Chengbao Liu, Li Li, James E Fitzpatrick, Evan C Jones, David Norris, Aimin Liu, Richard August Clark, Dennis R Roop, Kenneth R Shroyer and Jiang Chen. Stony Brook, NY; Beijing, China; Aurora, CO and University Park, PA.

142 Bmi-1 differentially regulates p16** and p19** in p63-overexpressing keratinocytes. Wendy C Weinberg, Rosalini Manel Ponnamperuma, Linan Ha, Devin Reilly and Steve Jay. Silver Spring, MD and Bethesda, MD.

143 A subpopulation of epidermal squamous cell carcinoma stem cells drives formation of rapidly-growing and highly-vascularized aggressive tumors. Richard Eckert, Gautam Adhikary, Dan Grun and Wen Xu. Baltimore, MD.

144 Keratin-dependent regulation of autoimmune regulator (Aire) and gene expression in skin tumor keratinocytes. Ryan Hobbis, Daryle DePianto, Justin Jacob, Minerva Han, Byung-Min Chung, Adriana Batazzi, Su-Fey Ong, Wenxin Zheng, Janis Marie Taube, Daniela Čiháková, Fengyi Wan and Pierre Coulombe. Baltimore, MD.


147 Non-migratory Candida albicans-specific CD4 T cells that produce abundant IL-17 are generated after cutaneous C. albicans infection. Thomas S. Kupper, Chang Ok Park, Ryan O Emerson, Xiaodong Jiang, Tian Tian, John Thomas O’Malley, Rachael Clark and Robert C. Fuhlbrigg. Boston, MA and Seattle, WA.

148 Dysregulation of soluble adenyly cyclase leads to melanocyte transformation. Charlédée Audrey Nardin, Michelle Park, Antonella Bacchiocchi, Ruth Halaban and Jonathan Hale Zippin. Besançon, France; New York, NY and New Haven, CT.


Notes:
Poster Presentations / Abstract Titles

150 Combinatorial targeting of Akt1 and SMO synergistically suppresses the growth of UV-induced BCCs in a murine model of basal cell nevus syndrome. Arianna Kim, Yucui Zhu, Nathan P Yardley, Mohammad Athar and David R Bickers. New York, NY and Birmingham, AL.

151 Response to MAL-based PDT in primary fibroblasts isolated from Xeroderma Pigmentosum (XP) and Gorlin Syndrome (GS) patients. Angeles Juarranz, Alicia Zamarrón, Silvia Lucena, Salvador Gonzalez, Yolanda Gilaberte, Marcela Del Rio and Fernando Larcher. Madrid, Spain and Huesca, Spain.

152 The role of the hemidesmosomal protein BP180 in melanoma progression in vivo. Bin-Jun Huang, Zhen Li, Jaime Brozowski, Lin Lin, Ning Li, Maureen Su, Nancy E Thomas, Luis A. Diaz and Zhi Liu. Chapel Hill, NC.

153 Comparative evaluation of gene expression induced by RAS oncogenic alleles in mouse and human keratinocytes. Ludovi Li, Christophe Cateaissn, Brittany Flowers, Aleksandra Michalowski and Stuart H Yuspa. Bethesda, MD.

154 Inhibition of the IGF-1R sensitizes human skin to UVB-induced alterations consistent with actinic keratosis. Dan F Spandau, Sunil S. Tholpady, Jonathan Weyerbacher, David H. Southern, Mathew Loesch and Jeffrey B. Travers. Indianapolis, IN.


Clinical Research (Observations, Pathophysiology & Outcomes)

All orals [designated with an asterisk (*)] listed below are presented in the Clinical Research (Observations, Pathophysiology & Outcomes) Minisymposium on Friday, May 8, 2015, from 2:00-5:00 pm in Salon D, Hilton Atlanta. Orals designated by two asterisks (**) will be presented during a Plenary Session. Orals designated by three asterisks (***) will be presented during the Interdisciplinary Spotlight: Skin Cancer Minisymposium on Friday, May 8, 2015, from 2:00 – 5:00 pm in the Grand Ballroom, Hilton Atlanta.

158 Sun protection education delivered by tablet personal computers: Effective with kidney transplant recipients with inadequate health literacy. June K Robinson, Mary Kwasy, John Friedewald, Amishi Desai and Elisa J. Gordon. Chicago, IL.

159 Living with atopic dermatitis: Patient priorities and needs expressed in social media fora. Korey L. Capozza. Salt Lake City, UT.


163 Different effect of oral cyclosporin therapy and oral anti-histaminergic therapy to serum high sensitivity-C reactive protein level and thymus and activation regulated chemokine level in patients with adulthood atopic dermatitis. Tsutomu Ohtsuka. Nasushibara, Japan.

164 Retrospective study comparing outcomes among patients receiving rituximab vs conventional adjuvant therapy for pemphigus vulgaris. Ashwin Agarwal, Russell P Hall and Adela Cardones. Durham, NC.

165* Early pediatric atopic dermatitis shows only a CLA+ Th2/Th1 imbalance, while adults acquire CLA~Th22 activation. Hitokazu Esaki, Tali Czarnowicki, Juana Gonzalez, Dana Malajian, Sreya Talasila, Adam Berry, Jayla Gray, Shinji Noda, James G Krueger, Amy S. Paller and Emma Gutman-Yassky. New York, NY and Chicago, IL.

166 Immune function in children with severe inflammatory skin disease: A retrospective analysis. Stephanie Frisch, Elaine Siegfried. Peoria, IL and Saint Louis, MO.

167 Validating the burden of disease in atopic eczema (BODE) tool as an instrument for measuring patient-reported quality of life in atopic dermatitis. Annie Wang, Julia Ding and Abrar Q. Qureshi. Providence, RI.


169 Dupilumab suppression of Th2 biomarkers correlates with reduction in transepidermal water loss (TEWL) and clinical improvements in adults with moderate-to-severe atopic dermatitis (AD). Jennifer Hamilton, Sara Haron, Usman Chaudhry, Eric L Simpson, Brian Swanson, Ming Liu, Haobo Ren, Neil Graham, Gianluca Pirozzi and Marius Ardeleanu. Tarrytown, NY; Portland, OR; Bridgewater, NJ and Basking Ridge, NJ.

170 Time-resolved laser induced fluorescence spectroscopy for the diagnosis of oral lichen planus. Parasuto Davari, Dimitris Gorpas, Julien Bec, Dinglong Ma, Gregory Farwell, Laura Marcu and Nasim Fazel. Davis, CA and Sacramento, CA.

171 Characteristics of patients with pseudocellulitis admitted to the hospital. Adam Raff, Qing Yu Weng, Priyanka Vedak, Daniela Kroshinsky and Arash Mostaghimi. Boston, MA.

172 Intravenous immunoglobulin for treatment of dermatomyositis-associated calcinosis. Fabrizio Galimberti, Anthony P Fernandez. Cleveland, OH.


175* Throat infections can cause substantial aggravation of chronic plaque psoriasis. Ragna Hlin Thorleifsdottir, Jennu Huld Eysteinsdottir, John H Olafsson, M I Sigurdsson, Andrew Johnston, Helgi Valdimarsson and Baldur Sigurgeirsson. Uppsala, Sweden; Reykjavik, Iceland and Ann Arbor, MI.

Notes:

** Increased IL-21 expression in skin and blood contributes to progression of mycosis fungoides. Mityoko Kabasawa, Makoto Sugaya, Tomonori Oka, Naomi Takahashi, Makiko Kawaguchi, Hiraku Suga, Tomomitsu Miyagaki, Hideki Fujita, Yoshihide Asano, Yayoi Tada, Takafumi Kadono and Shinichi Sato. Tokyo, Japan.

History of severe sunburns on different body sites and risk of skin cancers in women and men: Two prospective cohort studies. Shaowei Wu, Eunyoung Cho, Wen-Qing Li, Martin A Weinstock and Abrar A. Qureshi. Providence, RI.

CD4+ histocytosis in patients on statins for dyslipidemia mimics early mycosis fungoides. Chee Won Oh, Carlos Torres-Cabala and Madeleine Duvic. Houston, TX.

Emollient therapy alters skin barrier and microbes in infants at risk for developing atopic dermatitis. Heidi H Kong, Martin Glatz, Eric C Polley and Eric L Simpson. Bethesda, MD and Portland, OR.

Skin mapping for classification of morphea. Heidi Jacobo, Noelle Teske. Dallas, TX.

A 6-year retrospective analysis of treatment patterns and outcomes of epidermal superficial non melanoma skin cancer at an academic dermatologic surgery center. Ben Drew, Pritesh Karia, Ariana Mora, Christine Liang and Chrys Schmults. Boston, MA.

Non-invasive imaging technologies for the delineation of basal cell carcinomas. Syri Keena Que. Farmington, CT.


Topical application of RTA 408 lotion activates Nrf2 in human skin and is well-tolerated by healthy human volunteers. Scott A Reisman, Chun-Yue I. Lee, Colin J Cho, Joel Proksch and Keith Ward. Irving, TX.

Quality of life in discoid lupus patients. Noelle Teske, Zachary E Cardon, Xilong Li, Beverley Huet-Adams and Benjamin Franklin Chong. Dallas, TX.


Clinical and microbiological healing of onychomycosis after three sessions of 40% urea plus methyl-a-aminoalvulinate-photodynamic therapy (PDT) versus 40% urea plus placebo-PDT: A multicenter, randomized, controlled, phase 3 clinical trial. Yolanda Gilaberte, Pilar Robres, Carmen Aspíroz, María Pilar Frías, Jesús Vera-Alvarez, Ignacio García-Doval and Antonio Rezusta. Huesca, Spain; Zaragoza, Spain and Madrid, Spain.

** Comparisons between ultraviolet B radiation and oral vitamin D supplementation for the treatment of vitamin D deficiency. Dong Joo Kim, Jaehwan Kim, Jamie Lynn Harden, Mary Sullivan-Whalen, Patricia Gilleadeau, Joel M Corrêa da Rosa, Mayte Suarez-Farinas, Jan Breslow, James G Krueger, Michelle Lowes and Manish Ponda. New York, NY; Stony Brook, NY and Bronx, NY.


High-throughput sequencing of T cell receptors (TCRs) in human skin shows a polyclonal T cell response to diphenycyprone (DPCP). Nicholas Gulati, David Hamm, Jamie Lynn Harden and James G Krueger. New York, NY and Seattle, WA.

** The microbiome of patients with atopic dermatitis has deficient antimicrobial function. Terukazu Nakatsui, Tissa Hata, Aimee Two, Kimberly Chun, Paul Kotol, Amina Bouslimani, Hyatham Latif, Alexandre Lockhart, Keli Artis, Gloria David, Patricia Taylor, Joanne Strieib, Peter Dorrestein, Karsten Zengler, Donald Leung and Richard L Gallo. San Diego, CA; Chapel Hill, NC and Denver, CO.

Pembrolizumab treatment: Cutaneous adverse events and correlation with disease progression. Ioan Vuijs, Martina Sanlorenzo, Marin Vujic, Adil Daud, Alain Alzagi, Matthew Gubens, Sara Alcantara Luna, Kevin Lin, Pietro Quaglino, Klemens Rappersberger and Susana Ortiz-Urda. San Francisco, CA; Vienna, Austria and Turin, Italy.

Skin histopathology from patients with X-linked recessive ichthyosis and autosomal recessive congenital ichthyosis with transglutaminase 1 mutation. Catherine Yang, Hyemin Pomerantz, Jessica Corwin, Martin A Weinstock, Philip Fleckman, John D Girolomini and Melissa Robinson-Bostom. Providence, RI; Vacaville, CA; Seattle, WA and Bethesda, MD.

Improved survival among Merkel cell carcinoma patients with either an unknown primary lesion or viral oncoprotein antibodies. Christopher Wallace Lewis, Natalie Vandeven, Kelly G Paulson and Paul Nghiem. Seattle, WA.


Ethnic comparison study to understand spreading mechanism of psoriasis. Jaehwan Kim, Chi-Hwan Oh, Jiehyun Jeon, Yooang Baek, Jaewoo Ahn, Dong Joo Kim, Joel M Corrêa da Rosa, Mayte Suarez-Farinas, Michelle Lowes and James G Krueger. New York, NY; Seoul, Korea (the Republic of); Stony Brook, NY and Bronx, NY.

Non-melanoma skin cancers are associated with blood expansion of DC-HIL* myeloid-derived suppressor cells (MDSCs). Andrew W. Word, Jin-Sung Chung, Travis Vandergriff, David B Harker, Kiyoshi Ariizumi and Ponciano D Cruz. Dallas, TX.

Epidermolysis bullosa acquisita (EBA) mimicking dystrophic epidermolysis bullosa (EB): Importance of interrogation of potential splice site. Evelyn Lilly, Keith A. Choate and Mary Tomayko. New Haven, CT.

Improved survival in metastatic melanoma is associated with immune genes expressed at the site of disease. Ricardo Dante Lardone, Seema B Plaisier, Peter A Sieling and Delphine J Lee. Santa Monica, CA.

The incidence of herpes zoster in cutaneous lupus erythematosus (CLE), dermatomycositis (DM), pemphigus vulgaris (PV) and bullous pemphigoid (BP). Elizabeth S Robinson, Aimee Sue Payne, Lisa Pappas-Taffer, Rui Feng, Joyce Okawa and Victoria Werth. Phila, PA.

** Psoriasis area severity index score positively associates with vascular inflammation by FDG PET/CT. Haleb B Naik, Balaji Natarajan, Taufiq Salahuddin, Qimin Ng, Julia Doveikis, Martin Playford, Benjamin Locksin, Mariana Kaplan, Joel Gelfand and Nehal N. Mehta. Bethesda, MD; Silver Spring, MD and Philadelphia, PA.

** DERM0: An ontology for the description of dermatologic disease. John Paul Sundberg, Hannah M Fisher, Robert Hoehndorf, Soheil S Dadras, Lloyd E King, Georgios V Gkoutos and Paul N Schofield. Cambridge, United Kingdom; Thuwal, Saudi Arabia; Farmington, CT; Nashville, TN; Aberyswyyth, United Kingdom and Bar Harbor, ME.

Notes:

206* Detection of IFN-α response induced by infiltrated plasmacytoid dendritic cells and keratinocytes via LL37 in the lesional skin of DHIS/ DRESS. Pawinee Rerknimitr, Saeko Nakajima, Akihiko Kitoh, Yoshihide Miyachi and Kenji Kabashima. Kyoto, Japan and Bangkok, Thailand.


208 Circulating central memory T cells might be precursor of tissue resident memory T cells (TCM) in psoriasis. Emi Nishida, Saori Kasuya, Shinnosuke Muramatsu and Akiyoshi Morita. Nagoya, Japan.


211* The association between aspirin and NSAIDs with the risk of psoriasis in a population-based cohort. Brandon Cohen, Kathryn J. Martires and Roger Ho. New York, NY.

212 The effects of antibiotic use on Staphylococcus aureus carriage rates and resistance patterns in patients with acne vulgaris in a dermatology setting. Maria Ermenia Delost, Gregory Raymond Delost, James A Armile, Nancy Carty, Christopher C Keller and Jennifer Rae Lloyd. Youngstown, OH; Erie, PA and Cleveland, OH.

213 Bleach baths significantly reduce itch and severity of atopic dermatitis with no significant change in S. aureus colonization and only modest effects on skin barrier function. Melissa Perez-Nazario, Takeshi Yoshida, Sade Fridy, Anna De Benedetto and Lisa A Beck. Rochester, NY.

214 Does nutrition affect psoriasis severity? Sarah Churton, Hope Barkoukis, Sarah Debanne, Thomas McCormick, Kevin O Cooper and Neil Korman. Cleveland, OH.

215 Disease-specific changes in skin bacteriome and mycobiole in Atopic Dermatitis (AD) patients. Pranab K Mukherjee, Jyotsna Chandra, Margaret Hammond, Mauricio Retuerto, Mahmoud Gnannoum and Susan Nedorost. Cleveland, OH.


218 Anti-desmocollin IgG reactivity appears early in pemphigus vulgaris and is associated with milder disease. Steffan T Schmidt, R Eming, T Zeeli, O Sarig, M Herti and Ei Sprecher. Tel Aviv, Israel and Marburg, Germany.

219** Characterization of lipoprotein composition and function in pediatric psoriasis reveals a more atherogenic profile. Wynnis Tom, Lawrence F. Eichenfield, Martin Playford, Shehla Admani, Balaji Natarajan and Nehal N. Mehta. San Diego, CA and Bethesda, MD.

220 The change in serum concentration of S100A7 correlated to the change in PASI score during the treatment with adalimumab. Akimasa Adachi, Mayumi Komine, Nobuki Maki, Masaru Karakawa, Satoru Murata and Mamtaro Ohtsuki. Shimotsuke, Japan.

221 Predominance of inflammatory and immune regulatory proteins in lesional skin – Insights into hidradenitis suppurativa pathology. Matt Devalaraja, Hitesh Sangane, Sally Price, Sanna Eketjall, Chris Morehouse, Chris Ward, Lorraine Webber, Susanna Korolevich, Brandon Higgs, Kim Lehmann, Zsofia Berke and Errol Prens. Alderley Park, United Kingdom; Gaithersburg, MD and Rotterdam, Netherlands.

222 Utility of T-cell receptor Vβ chain restriction and consideration for changes in B, staging in the assessment of blood involvement in CTCL. Juliet F Gibson, Jing Huang, Kristina Liu, Kacie Carlson, Jaehyuk Choi, Richard Edelson and Michael Girardi. New Haven, CT.

223 Photodynamic therapy for benign neurofibromas. Edit B Olajz, Ashley M Schock, Nathan Duncan, Zelmira Lazarova, Suneel Kumar, Brendan Quirk and Harry Whelan. Milwaukee, WI.


228 Validation of the Epidermolysis Bullosa Disease Activity and Scarring Index: Characterising disease severity and responsiveness to clinical change in epidermolysis bullosa. Swaranjali Vijaya Jain, Adam G Harris, Clement CH Loh, Jaewhan Kim, John S Su, David Orchard, Lachlan J Warren, Hamish McManus and Dedee F Murrell. Sydney, Australia; Melbourne, Australia and Adelaide, Australia.

229 A cost-effective combinational and antioxidant therapy in veteran psoriasis patients. Chen Ning Young, Gregory Messenger, Chelsea Duggan, Tazeen Abbas, Wasim Nasir, Christofer Hatzis and Leonard Savoy. Detroit, MI.

230 Laboratory work up for primary thrombophilia should be extensive. Benjamin Moncada, Guillermo J Ruiz-Arguelles, Camilo Martinez and Elsa Arenas. Puebla, Mexico and San Luis Potosí, Mexico.


The utility of laser thermometry in the evaluation of plaque psoriasis. 
Vanessa Pascoe, Jessica Makanalani Donigan and Alexa B. Kimball. 
Boston, MA.

Geographically adjusted tool to estimate self-reported cumulative ultraviolet exposure and associated skin cancer risk. 
Inbar Raber, Gefei Zhu, Shufeng Li, Sukolsak Sakhswuon, Angela Li, Caroline Z Tan and Anne Lynn Su Chang. Redwood City, CA.

Clinical characteristics, disease associations, and treatment of subcutaneous cutaneous lupus erythematosus. 
Albert Gutierrez, David A. Wetter. Scottsdale, AZ and Rochester, MN.

The efficacy of meditation for treatment of chronic pruritus: A pilot trial. 
Mamta Jhaveri, Suephy C. Chen. Atlanta, GA.

Characterizing subsequent malignancies after mycosis fungoides. 
Kathryn J Martinez, Roger Ho and Jo-Ann Latkowski. New York, NY.


Patients with sorafenib induced drug eruptions can be successfully re-challenged. Dominique Pichard, Adela Cardones, Emily Chu and Heidi H Kong. Bethesda, MD; Durham, NC and Philadelphia, PA.

Blood levels of neuron specific enolase, chromogranin A, and circulating tumor cells as Merkel cell carcinoma biomarkers. Isaac Browneil, Maria R Gaiser and Kenneth Daily. Bethesda, MD and Heidelberg, Germany.

Progressive necrobiosis lipoidica of the bilateral breasts successfully treated with systemic corticosteroids, methotrexate, and pentoxyfilline. 

Should granuloma faciale and erythema elevatum diutinum be classified in the IgG4-related disease spectrum? Histopathologic and immunophenotypic appraisal of 32 cases. Sima Kavand, Julia Lehman and Lawrence Gibson. Evanston, IL and Rochester, MN.

Assessment of the genetic basis of rosacea by genome-wide association study. Anne Lynn Su Chang, Inbar Raber, Jin Xu, Rui Li, Robert Spitalie, Julia Chen, Amy Kiefer, Chao Tian, Nicholas Eriksson, David Hinds and Joyce Tung. Redwood City, CA; Irvine, CA and Mountainview, CA.

Characteristics of ocular melanoma at University Hospitals Case Medical Center: 1996-2013. Bitva Vyas, Erica Gotow, Adam Gerstenblith, Kord Honda, Kevin D Cooper and Meg Rebecca Gerstenblith. Hagerstown, MD; Cleveland Heights, OH and Cleveland, OH.

Quality of life is equivalent between atopic dermatitis patients managed through a direct-access online model compared to in-office care: A randomized controlled trial. April W. Armstrong, Mary Ann Johnson, Steven Lin, Caitlin Clark, Aleksandra G. Florek and Fu-Tong Liu. Aurora, CO and Sacramento, CA.

Ultraviolet light (UVB) alteration of epidermal nerve fibers (ENFs) and neuropeptides: A possible mechanism for the efficacy of light therapy in pruritic patients. Aaron Tyler Hollansbee, Joanna G. Panoutsopoulou, Gwen Wendelschafer-Crab, William R. Kennedy, Elisabeth Hurllman, Maria Hordinsky, George L. Wilcox and Elhabib Benlhabib. Minneapolis, MN.

TRAF3IP2 D10N limits IL-17-induced expression of TNFAIP3 and NFkBIZ in psoriasis: Regulating the regulators? Sylviane Lambert, Stefan W Stoll, Lam C. Tsiol, Rajan P Nair and James T Elder. Ann Arbor, MI.

Thermal transport characteristics of human skin measured in vivo using ultrathin conformal arrays of thermal sensors and actuators. B Chad Webb, Rafal Pleiak, Philippe Bastien, juha Nittynen, Jonas Kurniawan, Megan Manco, Athena Lin, Nam Heon Cho, Viktor Malychuk, Guive Balloch and John Rogers. Urbana, IL; San Francisco, CA; Aulay sout Bois, France; Tampere, Finland and Clark, NJ.

Likelihood of undergoing routine skin checks and use of skin cancer information are influenced by family history of skin cancer but not other risk factors for skin cancer. Diane M Kuhn, Sabrina Alessi Cesar, Radhika Grandhi, Timothy Wang, Sewon Kang and Anna L. Chien. Baltimore, MD.


The percentage of dermal elastin protein correlates with age and Fitzpatrick skin type rather than skin elasticity. Tiffany C. Florence, Hanh Pham, Barry Reece, David Gan, Geetha Kalahasti and Michelle D Hines. Dallas, TX and Irvine, TX.


Epicutaneous sensitization to peanuts and other food allergens by patch testing promotes Th2 polarization with increased IL-33. Benjamin Ungar, Tali Czarnowicki, Joel M Corrêa da Rosa, James G Krueger and Emma Guttmann-Yassky. New York, NY.

Detection of the Merkel cell polyomavirus in human Merkel cell carcinomas and the clinical implications of tumor viral status. Ryan Doumani, Ata S Moshiri, Lola Yelistratova, Oliver Chang, Martha Delaney, Meei-Li Huang, Susan McDardle, Paul Nghiem and Astrid Blom. Seattle, WA.

Unique cutaneous reaction to second- and third-generation tyrosine kinase inhibitors for chronic myeloid leukemia. Anisha Patel, Alvin Solomon, Michael Mauro and Benjamin D Esh. Houston, TX; Portland, OR and New York, NY.


Hashimoto’s thyroiditis associated with psoriasis: A cross-sectional study. Albah Podivila, Tatjana Kurgardina, Finola Bruins, Tanya Bhattacharya, Alfred Rademaker, Ahmad S Amin, Anne Elizabeth Laumann, Steven M Belknap, Dennis P West and Beatrice Nardone. Chicago, IL.


Host T cells survive conditioning in skin and are present during acute GVHD. Sherrie J. Divito, Chris Elco, Thomas S. Kupper and Zihao Yan. Boston, MA.
263** Shared inflammatory signatures between atherosclerotic plaques and psoriasis skin. Johann Eli Gudjonsson, William R Swindell, Andrew Johnston, Santhi Ganesh, Katherine Gallagher, Nicole L. Ward, Xianying Xing, Minral Kumar Sarkar, Rajan P Nair and James T Elder. Ann Arbor, MI and Cleveland, OH.

264 Characterization of gene expression biomarker signatures in cross-sectional and longitudinal studies for use as an Alopoeia Areata Disease Activity Index (ALADIN). Jane E Cerise, Ali Jabbari, Madeleine Duvic, Maria Hordinsky, Maria Norris, Vera H Price, Julian Mackay-Wiggan, Raphael Clynes and Angela Christiano. New York, NY; Houston, TX; Minneapolis, MN; Denver, CO and San Francisco, CA.

265 Hylauronan synthase 2 antisense transcript level associates with human skin youthfulness as identified by transcriptome sequencing. Jim Xu, Ryan A Flynn, Robert Spitalke, Eduardo Torre, Rui Li, Dale G Kern, Helen Knaggs, Howard Chang and Anne Lynn Su Chang. Stanford, CA; Irvine, CA; and Provo, UT.


267 The impact of chocolate consumption on acne vulgaris. Jeniffer Rae Lloyd, Gregory Raymond Delost, Jacqueline Selph, Maria Ermenia Delost and Racheal J Pohle-Krauza. Cleveland, OH; Erie, PA and Youngstown, OH.


270 University tort liability for allowing college debit card purchasing of indoor UV tanning. Konstantin Grigoryan, Arthur Best and Robert DellaVicente. Cincinnati, OH and Denver, CO.


273 A meta-analysis of laboratory monitoring during treatment with isotretinoin. Thomas P. Scharnitz, Joslyn Kirby and Young S. Lee. Hershey, PA.


275 Atopic dermatitis in children: Relationship with phospholipid metabolism, weight and lipids. Yolanda Gilberte, Pedro Agon, Rosalia Sammartin, Angela Hernandez-Martin, Roberto Aljairde, Carlos Pardos, Jose Puzo and Ana J Garcia-Malinis. Jaca, Spain; Huesca, Spain; Madrid, Spain and Zaragoza, Spain.

276 Underrepresented minorities (URMs) and perspectives on successful matching to dermatology residency. Rebecca Vazquez, Sam Jeong and Amit Pandya. Dallas, TX.

277 Lymphatic vessel endothelial hyaluronan receptor-1 (LYVE-1) expression is similar in normal human parietal and occipital scalp. Brooke Hanson, Melissa Weber-Sanders, James Hodges, Heather Bemmels, Maria Hordinsky and Marna Ericson. Minneapolis, MN.


279 Adult-onset linear morphea is associated with significant morbidity and methotrexate may reduce risk of disease reactivation. Natalie Ann Wright, Daniel R Mazori, Mital Patel, Sarika Ramachandran, Andrew G Franks, Ruth Ann Vleugels and Alisa Nicole Femia. New York, NY and Boston, MA.


282 Using RNA-seq in the transcriptome analysis of the Koeberner phenomenon in psoriasis. Kimberly Chun, Stella Chen, Aimee Too, Tissa Hata and Richard L Gallo. La Jolla, CA.

Epidemiology

All orals [designated with an asterisk (*)] listed below are presented in the Epidemiology Minisymposium on Thursday, May 7, 2015, from 2:00-5:00 pm in Salon C, Hilton Atlanta. Orals designated by two asterisks (**) will be presented during a Plenary Session. Orals designated by three asterisks (***) will be presented during the Interdisciplinary Spotlight: Skin Cancer Minisymposium on Friday, May 8, 2015, from 2:00 – 5:00 pm in the Grand Atrium.


284* Disparities in sunburns, photoprotection, indoor tanning, and skin cancer screening among U.S. men and women in same- and opposite-sex relationships. Howa Yeung, Suephy C. Chen. Atlanta, GA.

285 The early risk of an internal malignancy development in patients with dermatitis herpetiformis seems to be exaggerated. Marian Dmochowski, Justyna Gornowicz-Porowska, Pawel Pietkiewicz and Monika Bowszczyk-Dmochowska. Poznan, Poland.

286* Ozone exposure and extrinsic skin aging: Results from the SALIA cohort. Jean Krutmann, Anke Hüls, Tamara Schikowski, Ursula Krämer, Dorothee Sugiri, Sabine Stolz and Andrea Vierkoetter. Düsseldorf, Germany and Basel, Switzerland.


288 Evidence that outdoor air pollutants including particulate matter (PM) as well as gases influence skin aging in a Chinese population. Anke Huls, Yajun Yang, Wenshan Gao, Andrea Vierkoetter, Tamara Schikowski, Anan Ding, Juan Zhang, Mary S Matsui, Haidong Kan, Li Jin, Sijia Wang and Jean Krutmann. Düsseldorf, Germany; Shanghai, China; Taizhou, China and Melville, NY.

290 Thyroid abnormalities are prevalent in primary Raynaud’s phenomenon and thyroid-directed therapy may improve response to Raynaud’s treatment. Daniel R Mazori, Alisa Nicole Femia. New York, NY.

291* Long-term efficacy of topical 5-fluorouracil 5% cream in treating actinic keratosis. Hyemin Pomerantz, Daniel Hogan, David Eilers, Susan Swetter, Supehy C. Chen, Sharon Jacob, Erin M. Warshaw, George Stricklin, Robert Dellavalle, Naveen Sidhu-Malik, Nellie Konnikov, Victoria Werth, Jonette Keri, Robert Lew and Martin A Weinstock. Providence, RI; Bay Pines, FL; Hines, IL; Palo Alto, CA; Atlanta, GA; San Diego, CA; Minneapolis, MN; Nashville, TN; Denver, CO; Durham, NC; Boston, MA; Philadelphia and PA and Miami, FL.

292 Parotid-associated melanoma of unknown primary site: Clinicopathologic characteristics from a tertiary referral center. Jeffrey F Scott, Ritva Vyas, Kord Honda, Chad Zender, Rod Rezaee, Pierre Lavertu, Henry Koon, Kevin D Cooper and Meg Rebecca Gerstenblith. Cleveland, OH.

293 Phenotyping of extrinsic skin aging of German, Chinese and Japanese women. Andrea Vierkötter, Tamara Schikowski, Mohammad Vossoughi, Sabine Stoltz, Anke Hüls, Mary S Matsui, Ai Yamamoto, Li Jin, Akimichi Morita, Sijia Wang, Zhiven Li and Jean Krutmann. Nagoya, Japan; Beijing, China; Düsseldorf, Germany; Melville, NY and Shanghai, China.


296* Duration of oral antibiotic therapy for the treatment of adult acne: A retrospective analysis investigating adherence to guideline recommendations and opportunities for cost-savings. Joslyn Kirby, Chelsey S. Straight, Young S. Lee and Guodong S. Liu. Hershey, PA.

297 Bundled payment models for actinic keratosis. Joslyn Kirby, Jeffrey J Miller and Douglas S. Leslie. Hershey, PA.


300 Comparing cutaneous research funded by the National Institutes of Health with the United States skin disease burden. Lindsay Nicole Boyers, Erika L Hagtstrom, Shivani Patel, Chante Karimkhani, Cory Dunnick and Robert Dellavalle. New York, NY; Maywood, IL; Charleston, SC; Washington, DC; Aurora, CO and Denver, CO.

301 Comparing students’ behaviors, attitudes, and knowledge on sun protection. Giselle Prado, Katherine Vandenberg, Emily Tongdee and Mercedes Florez-White. Miami, FL.


303 Sex and psoriasis: An examination of sexual activities and psychometric properties of the sexual activity questionnaire (SAQ) among female psoriasis patients. April W. Armstrong, Aleksandra G. Florek and Elizabeth A. Brezinski. San Francisco, CA and Aurora, CO.

304 Vitiligo and associated pigmentation, sun exposure, and lifestyle factors in women. Newsha Lajevardi, Shaowei Wu, Wen-Qing Li, Eunyoung Cho and Abrar A. Qureshi. Providence, RI.

305* A large cohort study of lithium use and melanoma incidence and progression. Maryam Mandana Akgari, Zheng Zhu, E. Margaret Warton, Charles Quesenberry, Bruce Fireman and Andy Chien. Oakland, CA and Seattle, WA.

306 WITHDRAWN

307 Sustained reduction in skin biopsies after S-FU treatment. Joanna L Walker, Moniaka Sachar, Hyemin Pomerantz, Supehy C. Chen, Susan Swetter, Robert Dellavalle, George Stricklin and Martin A Weinstock. Providence, RI; Atlanta, GA; Palo Alto, CA; Denver, CO and Nashville, TN.


311 Pigmentary traits and indoor tanning bed use among women in the United States. Wen-Qing Li, Eunyoung Cho, Shaowei Wu and Abrar A. Qureshi. Providence, RI.

312 Misinformation is prevalent in psoriasis-related YouTube videos. Li Qi, Sarah Joo, Trinh Trang, Judy Doong, Sewon Kang and Anna L. Chien. Baltimore, MD.

313 Bradford hill criteria support the surgeon general stating that indoor ultraviolet tanning causes skin cancer. Chante Karimkhani, Lindsay Nicole Boyers, Lisa M Schilling and Robert Dellavalle. New York, NY; Washington, DC; Aurora, CO and Denver, CO.

314* Young adults who frequently indoor tan report decreased sun-protective practices and low rates of total body skin examinations. Alexander H Fischer, Timothy Wang, Sewon Kang and Anna L. Chien. Baltimore, MD.

315* Childhood versus adulthood sun exposure and skin cancer risk in Caucasian post-menopausal women in the Women’s Health Initiative. Katherine J. Ransohoff, Mina Sarah Alty, Marcia Stefanick, Elizabeth Keiser, Katrina Spaunhurst, Krishopher Kapahan, Sherry Pagoto, Catherine Messina, Haley Hedlin, joAnne E Manson and Jean Y Tang. Redwood City, CA; Stanford, CA; San Diego, CA; Cleveland, OH; Boston, MA and Stony Brook, NY.

316 Objective and subjective qualifiers of perceived skin aging process. Ana Paula Azambuja, Mary Sanae Nakamura, Thiago F Pires, Andrea RVR Horimoto, Rafael Alvim, José Eduardo Krieger and Alexandre C Pereira. Cajamar, Brazil and São Paulo, Brazil.

317 Heritability and correlation map of skin hydration measurements with environmental and life style factors of Brazilian population. Thiago F Pires, Ana Paula Azambuja, Mary Sanae Nakamura, Andrea RVR Horimoto, Rafael Alvim, José Eduardo Krieger and Alexandre C Pereira. Cajamar, Brazil and São Paulo, Brazil.

Notes:
**Poster Presentations / Abstract Titles**

318 Heritability and correlation map of skin viscoelastic measurements with environmental and life style factors of Brazilian population. Mary Sanne Nakamura, Ana Paula Azambuja, Thiago F Pires, Andrea VRV Horimoto, Rafael Alvim, José Eduardo Krieger and Alexandre C Pereira. Cajamar, Brazil and São Paulo, Brazil.

319** Functional characterization of AHR promoter polymorphism that contributes to reduced vitiligo risk. Xiaowen Wang, Kai Li, Ling Liu, Zhe Jian, Gang Wang, Chunying Li and Tianwen Gao. Xi’an, China.

320 Childhood eczema is associated with anemia in 18 US population-based studies. Jonathan Silverberg, Kerry D Drury. Chicago, IL.

321 Eczema is associated with increased preventive healthcare and health maintenance in US adults and children. Mark A Strom, Jonathan Silverberg. Chicago, IL.

322* Melanoma screening consequences. Martin A Weinstock, Laura Ferris, Melissa Saul, Alan Geller, Patricia Risica, Francis Solano, John Lagnese and John Kirkwood. Providence, RI; Pittsburgh, PA and Boston, MA.

323*** Alcohol consumption and risk of cutaneous basal cell carcinoma in women and men. Abrar A. Qureshi, Shaowei Wu, Wen-Qing Li and Eunyoung Cho. Providence, RI.

324 Natural hair color and pain among women in the United States. Wen-Qing Li, Xiang Gao, Shelley Tworoger, Jiali Han and Abrar A. Qureshi. Providence, RI; University Park, PA; Boston, MA and Indianapolis, IN.

325 Dietary intake of folate and vitamins B6 and B12 and risk of psoriasis. Eunyoung Cho, Tricia Li, Wen-Qing Li, Shaowei Wu and Abrar A. Qureshi. Providence, Ri and Boston, MA.


327* Air pollution is associated with increased eczema prevalence and severity. Jonathan Silverberg, Parul Kathuria. Chicago, IL.

328 Laboratory monitoring during isotretinoin therapy: A systematic review and meta-analysis. Thomas P. Scharnitz. Young S. Lee and Joslyn Kirby. Hershey, PA.

329 Association of keloids with systemic medical conditions: A retrospective analysis. Donald A Glass, Prince Adotama. Dallas, TX.

330 Varicella vaccination is associated with increased prevalence of eczema in the US. Jonathan Silverberg, Jennifer C Li. Chicago, IL.

331 Assessment of sun exposure while traveling to sunny destinations by Canadians during the winter season. Sunil Kalia. Vancouver, Canada.

332 Adolescent and young adult cutaneous lymphomas: Clinical spectrum and autoimmunity. Gregory Raymond Delost, Jacqueline Selph, Ritva Vyas, Kord Honda and Kevin D Cooper. Erie, PA and Cleveland, OH.

333 Advertisement of indoor tanning to minors through high school newspapers. Alyssa Self, Chante Karimkhani, Konstantin Grigoryan, Jason Pelham Lott and Robert Dellauro. Aurora, CO; New York, NY; Cincinnati, OH; New Haven, CT and Denver, CO.

334* Incidence and survival of sebaceous carcinoma in the United States. Raghav Tripathi, Zhengyi Chen, Li Li and Jeremy Bordeaux. Cleveland, OH.

**Epidermal Structure & Barrier Function**

All orals (designated with an asterisk (*)) listed below are presented in the Epidermal Structure & Barrier Function Minisymposium Friday, May 8, 2015, from 2:00-5:00 pm in Salon C, Hilton Atlanta. Orals designated by two asterisks (**) will be presented during a Plenary Session. Orals designated by three asterisks (***) will be presented during the Interdisciplinary Spotlight: Skin Cancer Minisymposium on Friday, May 8, 2015, from 2:00 – 5:00 pm in the Grand Ballroom, Hilton Atlanta.

335 A combination of keratinocyte activation with exposure to Th2 interleukins is required to alter barrier properties in a reconstructed human epidermis. Yves Poumay, Évelyne De Vuyyst, Séverine Giltaire, Aline Chrétien, Catherine Lambert de Rouvroit and Michel Salmon. Namur, Belgium and Les Iles, Belgium.

336* A reinnervated skin model: A new tool to study link between innervation and aging. Manasi Chavan, Christine Jeanenaire, Caroline Tedesch, Laurent Misery and Nicolas Lebonvallet. Essey les Nancy, France and Brest, France.

337 A parathyroid hormone family member TIP39 is expressed in the skin and regulates keratinocyte differentiation. Emi Sato, Jum Muto, Lingjuan Zhang, Chris Adase, James Asbury Sanford, Robert A. Lee and Richard L Gallo. San Diego, CA and Aichi, Japan.

338 Microneedle-mediated delivery of vismodegib across skin. Hiex Nguyen, Ayaj B Kanga. Atlanta, GA.

339 Ethnic differences in skin hydration and barrier function, as illustrated by facial mapping. Rainer Voegeli, Anthony V Rawlings, Pierre Seroul and Beverley Summers. Northwich, United Kingdom; Kaiseraugst, Switzerland; Lyon, France and Medunska, South Africa.


341* Network analysis identifies MPZL3 as an essential regulator of epidermal differentiation that binds FDXR to induce reactive oxygen species. Aparna Bhaduri, Alexander Ungewickell and Paul Khavari. Stanford, CA.


343 Lipid chain length reduction correlates with the skin barrier function in atopic eczema patients and inflammation plays a role in the altered epidermal lipid biosynthesis. Joke Bouwstra, Jeroen Van Smeul, Lolu Danso, Michelle Janssens, Rob Vreken, Adoel El Ghalbouzi and Sjan Lavrijsen. Leiden, Netherlands.

344 The interaction between bicyclic monoterpene diol and neuroepitopes on keratinocyte cell proliferation and apoptosis. Nicole Weiler, Catherine Ding, Kanwaljit Brar, S. A Glick and Wei-Li Lee. Brooklyn, NY.


347* Epidermal SIRT1 loss disrupts skin barrier integrity and sensitizes mice to epicutaneous allergen challenge. Yu-Xing He, Mei Ming, Baozhong Zhao, Christopher R. Shea, Shah Palak, Lei Qiang, Steven R. White and Diane Sims. Chicago, IL.

Notes:

X-ray crystal structure of the keratin 1–keratin 10 heterodimer reveals a molecular basis for associated keratinopathies. Christopher G Bunick. New Haven, CT.

Flaggrin mutations do not associate with Staphylococcus aureus skin colonization in European American atopic dermatitis subjects. Takeshi Yoshida, Nicholas Rafael, Denise Baineuine, Keli Arts, Alexandre Lockhart, Gloria David, Mark Boguniewicz, Peck Ong, Anna De Benedetto, Jon Haniff, Eric L Simpson, Amy S Paller, Emma Guttmann-Yassky, Lynda Schneider, Rasika Mathias, Kathleen Barnes, Donald Leung and Lisa A Beck. Rochester, NY; Baltimore, MD; Chapel Hill, NC; Denver, CO; Chicago, IL; New York, NY; Portland, OR; Los Angeles, CA and Boston, MA.

Nanotopography facilitates in vivo transdermal delivery of high molecular weight therapeutics through an integrin-dependent mechanism. Jumin Ryu, Laura Walsh, Suzanne Bock, Michael Koval, Theodora Mauro, Russell Ross and Tejal Desai. San Francisco, CA and Atlanta, GA.

Tight junction barrier dysfunction induced by epidermis-specific claudin-1 ablation is sufficient to cause dermatitis in mice. Akiharu Kubo, Takashige Hirano, Mariko Yokouchi, Hiroshi Kawasaki, Toru Atsugi and Masayuki Amagai. Tokyo, Japan and Kyoto, Japan.

X-ray crystallographic analysis of the human profilaggrin N-terminus provides a mechanism for binding of interacting proteins. Christopher G Bunick. Richard Presland. New Haven, CT and Seattle, WA.


Reconstructed skin models with modestly increased expression of miR-203, a key microRNA in the epidermal differentiation, allowing the in vitro study of the predicted consequences, based on a bioinformatic network model of the differentiation process. Jean Marie Botto, Catherine, Serre, Christophe Capallere, Christelle Plaza, Laurine Bergeron, Nicolas Esselin, Valére Busuttil and Nouha Domloge. Sophia Antipolis, France.

Specific culture medium to improve keratinocytes proliferation and 3D epidermis reconstruction. Christophe Capallere, Christelle Plaza, Marianne Arcioni, Imane Garcia, Eric Bauza, Jean Marie Botto and Nouha Domloge. Sophia Antipolis, France.


Impact of environmental particulate pollution on skin: effect of PM$_2.5$ like particles applied on human skin cultured cells and on 3D reconstructed epidermis, and study of miRNAs expression. Valére Busuttil, Laurine Bergeron, Catherine, Serre, Christelle Plaza, Nicolas Esselin, Eric Bauza, Christophe Capallere, Jean Marie Botto and Nouha Domloge. Sophia Antipolis, France.

Endocannabinoid modulators influence skin barrier repair, inflammation, proliferation and differentiation in mouse irritant contact dermatitis. Ehrhardt Proksch, Michael Soebert, Claudia Neumann and Christoph Abels. Kiel, Germany and Bielefeld, Germany.


Mitochondria move along keratin 14, with potential implications for epidermolysis bullosa simplex pathogenesis. Asuka Suto, Riichiro Abe, Takumi koshiba, Yoichiro Fujioka, Yosuke Obha and Hiroshi Shimizu. Sapporo, Japan and Fukuoka, Japan.

Sustained transdermal delivery of methotrexate using novel in situ forming hydrogel microneedles. Arunjprasad Sivaramam. Ajay K Banga. Atlanta, GA.

Analysis of extracellular-matrix and cell-adhesion genes modulated by mechanical massage applied in combination with a cosmetic emulsion. Carla Abdo Broherm, Bruna Bastos Swinka, Camila Miranda de Carvalho, Ana Cristina Weiherrm, Desiree Cigaran Schuck, Nathaly Boldrin, Vanessa Vitoriano da Silva, Marco Antonio Trindade Costa, Adele Helena Ribeiro, Andre Fujita and Marco Lorenzini. Sao Jose dos Pinhais, Brazil; Curitiba, Brazil and Sao Paulo, Brazil.


Loss of loricrin results in impaired incorporation of fillagrin into cornified cell envelopes. Yosuke Ishitsuka, Neil Box, Robert H Rice and Dennis R Roop. Aurora, CO and Davis, CA.


Epidermis-specific mesotrypsin is involved in cornocyte desquamation and is regulated by an intrinsic inhibitor, serpin B12. Miyai Masashi, Haruyo Yamanishi, Yuuko Matsumoto, Mami Yamamoto, Yuki Hachiya, Ryoji Tsuobi and Yoshikiko Hibino. Yokohama, Japan and Tokyo, Japan.

A natural cosmetic active ingredient dedicated to the needs of pregnant woman’s skin. Stephanie Breidt, Sophie Leclerc-Bienfait and Caroline Baudouin. Epernon, France.


NuMA/microtubule interactions are critical for asymmetric cell divisions and epidermal morphogenesis. Lindsey Seidlin, Terry Lechler. Durham, NC.


SCARA3 is required for topical delivery of spherical oligonucleotide nanoconjugates to penetrate the epidermal barrier. Quincy Song, Will Briley, Suguna Narayan, Xiao-Qi Wang, Chad Mirkin and Amy S. Paller. Chicago, IL and Evanston, IL.

Nuclear IL-33 is involved in cell proliferation via formation of contractile ring in normal human epidermal keratinocytes. Hitoshi Tanaka, Mayumi Komine, Shin-ichi Tominaga and Mamitaro Ohtsuki. Shimotsuke-shi, Japan.

Notes:
Poster Presentations / Abstract Titles

Contributions of skin resident and recirculating memory T cells to pathway. Gang Wang. Xi'an, China.

A wave of regulatory T cells into neonatal skin mediates tolerance to commensal microbes. Yayoi Tada, Takafumi Kadono and Shinichi Sato. Tokyo, Japan.

Christopher Richardson, Elaine Gilmore and Brian Poligone. Rochester, NY.

Potential mechanisms for loss of hair follicle immune privilege in skin model that combines topical skin penetration and Th17 cell carcinoma. Shamim Mollah, Rachel E. Feder, Pinru Wu, Peter Sage and Arlene H.Migratory DC temper subcutaneous immunity through key tolerance Er-Le Dang, Liang Jin, Chang-xu Han, Bing Li, Man Jiang and Niroshana Anandasabapathy, Christopher Nirschl, Yong Liu, Mary Bedard, Steven Cook, Leandro Santos, Jessica Neil, David Koelle and Paul Nghiem. Seattle, WA.

Tight junction response to impaired lipid barrier. Manasi Chavan, Corinne Reymermier, Veronique Degrave, Julie Saget, Mitsuhiro Denda. Yokohama, Japan; Tokyo, Japan and Sapporo, Japan.


Improvement of Lox expression in epidermis by Cichorium intybus. Manasi Chavan, Corinne Reymermier, Veronique Degrange, Julie Saget, Stephane Grenier and Valerie Andre-Frey. Lyon, France.


Desmocollin ectodomain shedding and cantharidin acantholysis. Ning Li, Moonhee Park, Zhi Liu and LUIS. A. Diaz. Chapel Hill, NC.


IL-17A increases asymmetric stem cell divisions in imiquimod-induced psoriasis. Giselle Vitcov, Samuel Sklar, Jeffrey North, Sarah Arron, Karen Horton, Alexander Charrura and Ruby Ghandialy. San Francisco, CA.

Discovery of natural products that provide multi-functional anti-aging skin benefits. Bing C Mei, Cheng Hwang, Jolanta Idkowiak-Baldys, Daniel Thorn Leeson, Uma Santhanam and John Lyga. Suffern, NY.

A cosmetic formulation containing ingredients that stimulate in vitro production of epidermal differentiation proteins improves in vivo barrier function. Michelle D Hines, Geetha Kalaehasti, Hanh Pham, David Gan and Tiffany C. Florence. Dallas, TX.

In vivo imaging and identification of the dermal-epidermal junction. Rachel E Watson, Victoria Newton, Michael J Sherratt, Robert Bradley, Anthony V Rawlings, Rainer Voegeli and Christopher E Griffiths. Manchester, United Kingdom; Northwich, United Kingdom and Kaiseraugst, Switzerland.


Biochemical changes underlying a keratoderm-like phenotype in mice lacking suprabasal AP1 transcription factor function. Ellen Rorke, Gautam Adhikary, Christie Young, Robert H Rice, Peter M Elias, Debra Crumrine, Miroslav Blumenberg and Richard Eckert. Baltimore, MD; Davis, CA; San Francisco, CA and New York, NY.

Comparative genomics identifies filaggrin-deficient species of mammals. Leopold Eckhart, Bettina Strasser, Veronika Militz, Heinz Fischer and Erwin Tscherchler. Vienna, Austria.

Calmodulin-like 5 interacts with 14-3-3-σ/stratifin to regulate late epidermal differentiation. Bryan Sun, Julia Ransohoff, Kun Qu, Vanessa Lopez-Pajares, Linda D Boxer and Paul Khavari. Stanford, CA.


Major differences between human atopic dermatitis phenotype and mouse models as determined by global genomic profiling. David Adrian Ewald, Shinji Noda, Saeko Nakajima, Thomas Litman, James G Krueger, Mayte Suarez-Farinas, Kenji Kabashima and Emma Guttmann-Yassky. New York, NY; Copenhagen, Denmark and Kyoto, Japan.


Topical delivery of Hylauronic acid in dermatomed human skin. Pooja Bakshe, Ajay K Banga. Atlanta, GA.

Exploring the metabolome effectively to advance skincare research. Tracy Shafizadeh. Durham, NC.

Regulation of protein synthesis during keratinocyte differentiation. Annie E Collier, Ronald C. Wek and Dan F Spandau. Indianapolis, IN.


Ingredients and formulation that improve barrier function also enhance antimicrobial peptide production. Richard Sun, Mao-Qiang Man, Melanie Hupe, John Wakefield and Peter M Elias. San Francisco, CA.


Regulation of aquaporin-3 levels in epidermal keratinocytes through histone deacetylase inhibition. Wendy B Bollag, Vivek Choudhary, Karen Kaga and Lawrence Olala. Augusta, GA.

Novel insights in the mechanisms of epidermal maintenance by in vivo imaging. Panteleimon Rompolas, Valentina Greco. New Haven, CT.

Notes:
Gene Therapy & Clinical Therapeutics

All orals [designated with an asterisk (*)] listed below are presented in the Gene Therapy & Clinical Therapeutics Minisymposium on Thursday, May 7, 2015, from 2:00-5:00 pm in Salon AB, Hilton Atlanta. Orals designated by two asterisks (**) will be presented during a Plenary Session. Orals designated by three asterisks (***) will be presented during the Interdisciplinary Spotlight: Skin Cancer Minisymposium on Friday, May 8, 2015, from 2:00 – 5:00 pm in the Grand Ballroom, Hilton Atlanta.


408* Hematopoietic cell transplantation (HCT) for recessive dystrophic epidermolysis bullosa (RDEB): reduced intensity conditioning (RIC) has a better outcome than myeloablative conditioning (MAC). Jakub Tolar, John McGrath, Mark J. Osborn, Douglas R Keene, Kristen Hook, Maria Hordinsky, David Timothy Woodley, Mei Chen, Alain Hovnanian, Katsuto Tamai, Bruce Blazar and John Wagner. Minneapolis, MN; London, United Kingdom; Portland, OR; Los Angeles, CA; Paris, France and Osaka, Japan.


413* Topically delivered spherical nucleic acid nanoconjugates targeting TNF improve the psoriatic phenotype. Katherine Lewandowski, Weston Daniel, Richard Kang, David Giljohann, Chad Mirkin and Amy S. Paller. Chicago, IL; Skokie, IL and Evanston, IL.


415 Low dose irradiation kills malignant T cells, spares benign T cells and is a potentially curative therapy for mycosis fungoides. Rachel Clark, Elizabeth Lowry, Tiago R Matos, Victor Huang, Rei Watanabe, Ahmed Gehad, Jessica Emberley Teague, Phillip Devlin and Thomas S. Kupper. Boston, MA.


417 Etanercept for toxic epidermal necrolysis: A confirm on efficacy and safety. Biagio Didonna, Andrea Paradisi, Dario Didona and Damiano Abeni. Rome, Italy.


419** Site-specific genome editing using CRISPR/Cas9 and TALENs for correction of IPS cells derived from dominant dystrophic epidermolysis bullosa. Satoru Shinkuma, Zongyou Guo and Angela Christiano. New York, NY.


423 ONC201 induces apoptosis, inhibits proliferation, and affects cell cycle in cutaneous T-cell lymphoma cells. Xiang Zhang, Xiao Ni, Timothy Langridge and Madeleine Duvic. Houston, TX.

424 Autosomal dominant transient palmoplantar keratoderma (PPK) and hypohidrosis treated adequately with 13-cis retinoic acid and acitretin: a new phenotype of PPK with congenital alopecia and update on palmoplantar keratoderma-congenital alopecia syndrome. Heather Irina Cohn, Neil Korman. Cleveland, OH.


426* Assessment of amlexanox, an antagonist of nonsense mediated mRNA decay (NMD), for the treatment of RDEB. Velina Atanasova, Q. Jiang, Jouni Uitto and Andrew P South. Philadelphia, PA.


428* Investigation into the safety and efficacy of human ES/iPS-derived keratinocytes for therapeutic reprogramming. Hanson Zhen, Elizaveta Bashkirova, Sandra Melo, Lingjie Li, Jessica Torkelson, Eric Liaw and Anthony Oro. Stanford, CA.

Notes:
Genetic Disease & Gene Regulation

All orals [designated with an asterisk (*)] listed below are presented in the Genetic Disease & Gene Regulation Minisymposium on Friday, May 8, 2015, from 2:00-5:00 pm in Room 204-207, Hilton Atlanta. Orals designated by two asterisks (**) will be presented during a Plenary Session. Orals designated by three asterisks (***) will be presented during the Interdisciplinary Spotlight: Skin Cancer Minisymposium on Friday, May 8, 2015, from 2:00 – 5:00 pm in the Grand Ballroom, Hilton Atlanta.

429  Assimilating transcriptional profiles from CCLE lesional skin and peripheral blood offers a comprehensive model of disease pathogenesis. Ramu Dev-Rao, Animesh A. Sinha. Buffalo, NY.

430*  DDX6 orchestrates human epidermal progenitor function through the mRNA degradation and translation pathways. George Sen, Ying Wang and Yifang Chen. La Jolla, CA.


434*  The IncRNA FLJ46906 alters expression of aging-associated proteins through binding to AP-1 and NF-kB. Kazuyuki Yo, Thomas M. Ruenger. Providence, RI and Yokohama, Japan.

435  TALEN-induced mutations confirm Col17A1 as a genetic modifier of junctional epidermolysis bullosa in mice. Thomas James Sproule, John Paul Sundberg, Benjamin E Low, Kathleen A Silva, Deepak Reyon, Keith Joung, Michael V Miles and Derry C Roopenian. Bar Harbor, ME; Charlestown, MA and Cambridge, MA.


437*  Gasdermin A3 targets mitochondria to mediate keratinocyte necrosis and skin inflammation. Liang-Tung Yang, Pei-Husun Lin, Hisen-Yi Lin, Shuhui Wu and Cheng-Chin Kuo. Zhunan, Taiwan and Taichung, Taiwan.

438  Genome wide association study of psoriasis in India. Rajan P Nair, Lam C. Tsai, Manju Ghosh, Philip E. Stuart, Madhulika Kabra, Trilokraj Tejasvi, John J Voorhees, Gonalco Abecasis, Vinod Kumar Sharma and James T Elder. Ann Arbor, MI and New Delhi, India.

439  Cutaneous neoangiogenesis in mice with chronic proliferative dermatitis (Sharpin). Harm HogenEsch, Mario Sola, Timothy M Stearn, Kathleen A Silva, Victoria E Kennedy, Lloyd E. King and John Paul Sundberg. West Lafayette, IN; Bar Harbor, ME and Nashville, TN.


441*  MCP-1 is overexpressed by Tsc2-null skin fibroblasts in a mouse model of tuberous sclerosis with targeted disruption of Tsc2. Shaowei Li, Peter Kloever, Rajesh L. Thangapazham, Ji-an Wang, Joel Moss and Thomas N Darling. Bethesda, MD.


444*  Dominant de novo GJA1 mutations cause erythrodermatodermia variabilis. Lynn Bowden, Beatrice Craiglow, Jing Zhou, Ronghua Hu, Erin Loring, Kimberly Morel, Christine Lauren, Richard Lifton, Amy S Paller and Keith A Choate. New Haven, CT; New York, NY and Chicago, IL.

445  Analysis of transcriptomes from palmoplantar pustulosis and palmoplantar pustular psoriasis suggests that they may not be different clinical entities. Robert Bissonnette, Mayeze Suarez-Farinas, Carrie Brodmerkel, Jyllynn Fuentes Duculan, Kathleen M Bonifacio and James G Krueger. Montreal, Canada; New York, NY and Spring House, PA.

446  Psoiriasis drug development and GWAS interpretation through in silico analysis of transcription factor binding sites. William R Swindell, Minal Kumar Sarker, Philip E. Stuart, John J Voorhees, James T Elder, Andrew Johnston and Johann Eli Gudjonsson. Ann Arbor, MI.


449  Multiple facial vellus hair cysts, ear pits, lipomas, macrocephaly, joint laxity and cardiac defects: A novel genodermatosis? Marisa Grace Grace Ponzio, Margot Van Allen, Magdalena Martinka and Jan Peter Dutz. Vancouver, Canada.

450*  Onychodystrophy, Palmoplantar keratodermia, and Aromelogenesis imperfecta (OPA) syndrome caused by a homozygous mutation in CNBD2. YC Metzger, O Sarig, R Bochner, D. Vodo, N Malchin, O Isakov, N Erez, A Gat, I Goldberg, N Shomron, M Schwartz, Irwin McLean, FJ Smith, FB Rihani and Eli Sprecher. Tel Aviv, Israel; Dundeely United Kingdom; Salt Lake City, UT and Iribid, Jordan.

451*  The BAF/SWI/SNF complex controls genome accessibility to p63 during epidermal differentiation. Xiaomin Bao, Abdul Rubin, Kun Qu, Jiaying Zhang, Paul Giresi, Howard Chang and Paul Khavari. Stanford, CA and Palo Alto, CA.

452*  Novel regulatory variants identified in adult atopic dermatitis by targeted deep sequencing alter enhancer function. Cristina de Guzman Strong, Ashley Quiggle, Twinkle Marfata, Kari Jll Gulewicz, Avner Shemer, Zane Goodwin, Wendall Jones and Emma Gutmann-Yassky. St. Louis, MO; Tel-Aviv, Israel and New York, NY.
453 Guanine nucleotide binding protein alpha q polypeptide (Gnaq) 
An ENU induced mutant allele affecting dermal melanocytosis in the 
mouse. Christopher S Potte, Louise Dionne, Heather Fairfield, Soheil S 
Dadras, John Paul Sundberg and C. Herbert Pratt. Farmington, CT and Bar 
Habor, ME.

454 Skin fragility of the wild-derived, inbred mouse strain Mus pahari. 
Thomas Sproule. C. Herbert Pratt, Son Yong Karst, Derry C Roopenian and 
John Paul Sundberg. Bar Harbor, ME.

455 Mouse models of skin and adrenal diseases in the Mouse Mutant 
Resource (MMR) at The Jackson Laboratory. C. Herbert Pratt, Louise 
Dionne, Laura G Reinholdt, David E Bergstrom, Heather Fairfield, Belinda 
S Harris, Son Yong Karst and John Paul Sundberg. Bar Harbor, ME.

456 Inherited LCK deficiency causes susceptibility to EV-HPV infections 
and early-onset squamous cell carcinoma. Shuli Li, Tina Du, Huijun 
Wang, Wei Dai, Weigang Zhang, Eray Yihui Zhou, Xu Cao, Jiahui Zhao, Sen 
Guo, Yanan Xu, Tao Zhao, Yueyuan Xiao, Cuiling Ma, Li Xia, Zhihua Yang, 
Liantao Zheng, Yiya Hu, Cheng Feng, Jinghua Yin, Guiwen Xu, Zhimiao 
Lin, Tianwen Gao, Yong Yang and Chunying Li. Xi’an, China; Beijing, China 
and Yinchuan, China.

457 Intra-familial variation in clinical phenotype of CARD14-related 
psoriasis. Marina Eskin-Schwartz, Lina Basel-Vanagaite, Michael David, 
Irina Lavogys, Dan Ben-Atiyyat, Pola Smirin-Yosef, Lihi Atzmony and 
Emmilia Hodak. Petah Tikva, Israel and Tel Aviv, Israel.

458 Mutations affecting keratin 10 surface exposed residues highlight 
the structural basis of phenotypic variation in epidermolytic ichthyosis. 
Haris Mirza, Anil Kumar, Brittany Craiglow, Jing Zhou, Corey Saraceni, 
Bruce Ragsdale, Leonard Milstone, Paul Rehder, Annamarie Ranki and 
Keith A. Choate. New Haven, CT, Zurich, Switzerland; San Luis Obispo, CA; 
Oxnard, CA and Helsinki, Finland.

459 Systems biological analysis of alopecia areata reveals master regulators 
of hair follicle immune privilege. James Chen, Ali Jabbari, Jane E Cerise 
and Angela Christina. New York, NY.

460 A role for autocrine and paracrine action of the TH1 chemokines in 
the pathogenesis of keratoderma. Christina Young, Ellen Rorke and Richard 
Eckert. Baltimore, MD.

461 Pathway analysis and protein-protein interaction network construction 
provide functional interpretation of GWAS evidence in alopecia areata. 

462 Juxta-articular joint-capsule mineralization in CD73 deficient mice: 
Similarities to patients with NTSE mutations. Dian Wang, Q. Li, Thea 
P Price, John Paul Sundberg and Joumi Uitto. Philadelphia, PA and Bar 
Habor, ME.

463 mir2961 plays an important role in epidermal cell growth and survival . 
Xiaoling Zhang, Joseph Wu, Jean Qin and Jennifer Y Zhang. Durham, NC.

464 Kindler syndrome: Novel and recurrent FERMT2 mutations in 20 unique 
families with 70 patients and evidence of genetic heterogeneity. Leila 
Youssefian, Hassan Vahidnezhad, Mohammad R Barzegar, Q. Li, S Zainali, 
P Mansouri, M R Basir and Joumi Uitto. Tehran, Iran (the Islamic Republic of 
Persia).

465 Somatic V600E BRAF mutation causes syringocystadenoma papilliferum. 
Jonathan Levinsohn, Jeffrey Sugarman, Kaya Bilguvar, Jennifer McNiff and 
Keith A. Choate. New Haven, CT and San Francisco, CA.

466 The spectrum of COL7A1 mutations identified in 63 families with 
strophic epidermolysis bullosa by comparative Sanger and next 
generation sequencing. Hassan Vahidnezhad, Leila Youssefian, S Zainali, 
Mohammad R Barzegar, Soheila Sotoudeh, Adam Ertel, Q. Li, Nikoo 
Mozaffari, Paolo Fortina and Joumi Uitto. Tehran, Iran (the Islamic Republic 
of) and Philadelphia, PA.

467 Evidence for coordinate regulation of HmgA2 and Tlr4 in hair follicle 
stem cells. Yong Li. Austin, MN.

468 Mineralization of soft connective tissues and cartilage in Enpp1asj-2j 
mutant mice. Jieyu Zhang, Q. Li, C. H Pratt, L A Dionne, H, Fairchild, S 
Y Karst, John Paul Sundberg and Joumi Uitto. Philadelphia, PA and Bar 
Habor, ME.

469 MicroRNAs involved in the pathogenesis of pachyonychia congenita. 
Andreas Berroth, Yu-An Cao, Manuel A Flores, Tycho Speaker, Mary E 
Schwartz, Christopher Contag and Roger Kaspar. Stanford, CA; Santa Cruz, 
CA and Salt Lake City, UT.

470 Identification of MITF regulated microRNAs in melanoma. Ashika 
Jayanthi. Vijayasardhini Setaluri. Madison, WI.

** Growth Factors, Cell Adhesion, & Matrix Biology

471 Subcutaneous adipose tissue accumulation mediated by lymphatic 
dysfunction. Kentaro Kajiyama, Mika Sawane and Nobuyuki Takakura. 
Yokohama, Japan and Saitama, Japan.

472 Smurfs E3 ubiquitin ligases negatively regulate TGF-β signaling in 
keratinocytes. Ken Shirachi, Kiyoui Dai, Masamoto Murakami, Mikiko 
Tahyama, Natsuki Matsushita, Takeshi Inamura and Koji Sayama. Toon, 
Japan.

473* EphA2 negatively regulates EGFR to promote keratinocyte 
differentiation. Bethany Elena Perez White, Paul Thomas, Joshua 
Rappoport and Spiro Gettos. Chicago, IL.

474** Integrin αV is necessary for skin tissue generation and SCC tumor 
invansion, but is dispensable for epidermal maintenance. Elizabeth 

475* Desmosomal mediated mechanotransduction regulates cell adhesion 
and signaling. Joshua A Brousard, Kathleen J Green. Chicago, IL.

476 Tailoring fibroblast culture media to broaden functionality and 
increase cytokine responsiveness. Peter Girling, Baetschi Stefan and 
Chennakesava Cuddapah. Bern, Switzerland.

477 Estrogen receptor alpha-mediated control of growth factor production 
from nipple fibroblasts. Hein-Jung Wu, Dan F Spandau, Sunil S. Tholpady, 
Carlos Offutt, Sachiko Koyama and John G. Foley. Bloomington, IN and 
Indianapolis, IN.

478 Defining mechanisms that regulate dermal adipose tissue in the skin. 
Guillermo Rivera Gonzalez, Valerie Horsley. New Haven, CT.

479* Altered desmosome organization, endocytosis and desmosome splitting 
in pemphigus vulgaris epidermis as revealed by super-resolution 
microscopy. Sara N Stahley, Maxine Warren, Ron J Feldman, Robert 
Swerlick, Alexa Mattheyes and Andrew Kowalczyk. Atlanta, GA.

480* Exclusion of insulin and IGF-1 receptors from caveolar domains by 
ganglioside GM3 mediates insulin resistance. Duncan Hieu M Dan, June 
Jung ha Park, Betty Kong, Xiao-Qi Wang and Amy S. Paller. Chicago, IL.


Lysyl hydroxylase 3 localizes to epidermal basement membrane and is reduced in patients with recessive dystrophic epidermolysis bullosa. Stephen Watt, Jasbani Dayal, Sheila Wright, Celine Pourreyray, James McMillan, Megan Riddle, Irwin McLean, Julie McGrath, Julio Salas-Alanis, Jakub Tolar and Andrew P South. Dunedin, United Kingdom; London, United Kingdom; Minneapolis, MN; Monterrey, Mexico and Philadelphia, PA.


Palmitoylation of the desmosomal cadherins is important for protein stability and assembly dynamics. Brett J Roberts, Robert Svoboda, Keith Johnson and James K Wahl. Lincoln, NE.

Differential requirement for HB-EGF vs. amphiregulin for survival of malignant vs. normal epithelial cells. Stefan W Stoll. James T Elder. Ann Arbor, MI.

RDEB fibroblast-derived periostin promotes the invasion of squamous cell carcinoma. Mei Chen, Xinyi Wang, Yingping Hou, Jon Cogan, Olivia Lai, Weihuang Ning and David Timothy Woodley. Los Angeles, CA.

Rapamycin modulates the glucocorticoid receptor functions, blocks atrophenoh REDD1 expression, and protects skin against steroid-induced atrophy. Irina Budunova, Ekaterina Lesovaya, Elena Vinokour, Gleb Baida, Pankaj Bhalla, Kirill Kirsanova, Marianna Pourreyray, Leonidas Platianis, Ben Readhead and Joel Dudley. Chicago, IL; Moscow, Russian Federation and New York, NY.

Reduced mechanical forces suppress extracellular matrix production via specific down-regulation of TGF-β type II receptor in adult human dermal fibroblasts: Implications for the role of mechanobiology in skin aging. Taihao Quan, Zhaoping Qin, Yuan Shao, Tianyuan He, John J Voorhees and Gary J Fisher. Ann Arbor, MI.

Oxidative stress reduces collagen production through ERK2a-dependent down-regulation of transforming growth factor-beta signaling pathway in human dermal fibroblasts. Tianyuan He, Taihao Quan, John J Voorhees and Gary J Fisher. Ann Arbor, MI.

The role of the himedemosomal protein BP180 in granulopoiesis. Lin Lin, Bin-Jin Hwang, Ning Li, Luis A. Diaz and Zhi Liu. Chapel Hill, NC.


Role of integrin-linked kinase in keratinocyte survival. Lina Dagnino, Michelle Im. London, Canada.


Matrinin-2 and ADAMTS-4 express in aggressive basal cell carcinomas and regulate basal cell carcinomas progression. Zhengke Wang, Fang Xiong, Ming Lu, Catherine Breen and Satoru Iwamoto. Providence, RI.

Anti-aging clinical efficacy of stabilized retinol is associated with the stimulation of hyaluronic acid production. Ramin Paraj, HK Helene Wong, Yaping Hu, Simarna Kaur, Manpreet Randhawa and Michael Southall. Skillman, NJ.

Secreted heat shock protein-90 alpha (Hsp90α) is essential for skin wound healing. Aresha Bhatta, Kathryn O’Brien, Takashi Imai, Mei Chen, David Timothy Woodley, Heichiro Udono and Wei Li. Los Angeles, CA and Chiba, Japan.

Increased circulating monocyte aggregates in psoriasis patients exhibit an adhesion profile distinct from classical monocytes. Jackelyn B Golden, Sarah G Groft, Michael V Squier, Thomas McCormick and Kevin D Cooper. Cleveland, OH.

Fibulin-4 is down-regulated in malignant head and neck SCC. Kathleen P McGuinn, Takako Sasaki, Mon Li Chu and My G Mahoney. Philadelphia, PA and Oita, Japan.

Innate Immunity, Inflammation & Microbiology

All orals [designated with an asterisk (*)] listed below are presented in the Innate Immunity, Inflammation & Microbiology Minisymposium on Friday, May 8, 2015, from 2:00–5:00 pm in Salon E, Hilton Atlanta. Orals designated by two asterisks (**) will be presented during a Plenary Session. Orals designated by three asterisks (***) will be presented during the Interdisciplinary Spotlight: Skin Cancer Minisymposium on Friday, May 8, 2015, from 2:00 – 5:00 pm in the Grand Ballroom, Hilton Atlanta.

Trichodysplasia spinulosa-associated polymavirus small T antigen activates MAPK pathway. Julie H Wu, Harrison Nguyen, Rebecca Simonette, Peter L Rady and Stephen K Tyring. Houston, TX.


GSK compound A inhibits keratinocyte and T lymphocyte proliferation and cytokine production by blocking cell cycle progression at the G1-S transition phase. Thi Bui, Christine Coquy, David Rickard, John Moore, Susan H Smith and Javier Cote-Sierra. Research Triangle Park, NC.

Dysbiotic microbiota drives atopic inflammation in Adam17\(^{+}\)Sox9-Cre mice. Tetsuro Kobayashi, Martin Glatz, Keisuke Horuchi, Thomas Doebel, Daniel Kaplan, Heidi H Kong, Masayuki Amagai and Keisuke Nagao. Tokyo, Japan; Bethesda, MD and Minneapolis, MN.


Expression of toll like receptors 3, 7, 8, and 9 in peripheral blood mononuclear cells from patients with psoriasis. Hee Joo Kim, Sung Hee Kim, Jeong Hwan Je, Dae Suk Kim, Dong Youn Shin and Min-Geol Lee. Seoul, Korea (the Republic of).

Bacteria in the skin microbiome mediate glycerol fermentation against Malassezia furfur. Ming-Shan Kang, Ying-Hsien Lee, Yanhan Wang, Richard L Gallo and Chun-Ming Huang. Taoyuan, Taiwan and San Diego, CA.

Unprocessed IL-36\(\alpha\) regulates psoriasis-like skin inflammation in cooperation with IL-1\(\alpha\) Liselotte Jensen, Hangfei Fu, Katelynn A Milora and Ornella Dubas. Philadelphia, PA.


Quantiative correlation of pruritus with functional connectivity MRI in the brain of mice with psoriasisform dermatitis. Xiping Liu, Yasutomo Imai and Sam Hwang. Milwaukee, WI.


Nociceptive sensory fibers drive IL-23 from CD301b+ dermal DC and provide protection from cutaneous C. albicans infection. Saken Wali Kashen, Daniel Kaplan. Minneapolis, MN.


IL-9/IL-9R of epidermal keratinocytes in atopic dermatitis: IL-9 induces IL-8 production through STIM1 activation and ERK phosphorylation. Chih-Hung Lee, Chien-Hui Hong and Yu Hsin-Su. Kaohsiung, Taiwan; Taipei, Taiwan and Zhunan, Taiwan.


Real-time imaging of Bartonella henselae invading mature human erythrocytes. Marna Ericson, Gislaine Viera-Damian, Marlene Neves da Silva, Kalpona Gupta, Tania Soares, Maria Cintra, Amanda de Almeida, Vitor Pelegati, Andre de Thomas, Mariana Baratti, Hernandes Carvalho, Carlos Lenz Cesar and Paulo Velho. Minneapolis, MN; Campinas, Brazil and Sao Paulo, Brazil.

Angiogenic peptide-30 (AG30) activates primary human keratinocytes to produce cytokines/chemokines via MRG receptors. Chanika Kiotsurayanan, Francois Niyonsaba, Hiroko Ushio, Shigaku Ikeda, Ko Okumura and Hideoki Ogawa. Tokyo, Japan.

Identification and modulation of cytokines produced from skin-derived innate lymphoid cells. Christine Cougoury, Thi Bui, Susan H Smith and Javier Cote-Sierra. Research Triangle Park, NC.

Role of galectin-7 in pathogenesis of psoriasis: regulation of skin inflammation and epidermal homeostasis through two microRNA pathways. Hung-Lin Chen, Chia-Hui Lo, Meng-Ping Lu, Yuan-Hsin Lo, Huan-Yuan Chen and Fu-Tong Liu. Taipei, Taiwan and Davis, CA.


IL-17C, TNF\(\alpha\) and IL-36 compensate for loss of IL-6 and identify novel signals facilitating the transition between uninvolved and involved psoriasis skin. Philip Kienzle, Andrew Johnston, Thomas McCormick and Nicole L. Ward. Cleveland, OH and Ann Arbor, MI.

Nitric oxide releasing nanoparticles effectively prevent Propionibacterium acne induced inflammation by both clearing the organism and inhibiting microbial stimulation of the innate immune response. Min Qin, Angelo Landiscina, Jamie Rosen, George W Agak, Stephanie Kao, Gabrielle Wei, Karin BLEcher, Josephine Bonventre, Alicea Clendaniel, Josephine Stacey Harper, Brandon Adler, Joel Friedman, Joshua Nosanchuk, Jenny Kim and Adam Friedman. Los Angeles, CA; Bronx, NY and Corvallis, OR.

Intradermal administration of norepinephrine (NE) and adenosine-5'-triphosphate (ATP) induces interleukin-6 (IL-6) and CXCL1 expression in murine skin. Lori L Stohl, Wanhong Ding, Richard David Granstein and John A Wagner. New York, NY.

The chronic wound microbiome as a biomarker for clinical outcomes. Michael Loesch, Sue E. Gardner, Brendan P Hodkinson, Amanda Tyldsele, Joseph Horwinski, Sanan Boudhar, David J Margolis and Elizabeth A Grice. Philadelphia, PA and Iowa City, IA.

Targeting tumor-associated macrophages with anti-CSF-1R antibodies as a strategy for inhibiting T cell lymphoma tumorigenesis. Sam Hwang, Xuesong Wu and Yasutomo Imai. Milwaukee, WI.


Three-dimensional printing of chemotherapeutic and antibiotic eluting fibers, seeds, and discs for localized drug delivery in cutaneous disease. Jeffery A Weisman, Nadine Marwan Kaskas, Adam H Green, David H Ballard, Jeffery J Ambrose, Lin Sun and David K Mills. Shreveport, LA and Ruston, LA.

Notes:
Poster Presentations / Abstract Titles

537  C. elegans as a model to screen natural human odors produced by the human skin microbiome. Sung-Min Wang, Chun-Ming Huang, Taoyuan, Taiwan and San Diego, CA.


540  Type 2 human papillomavirus E7 can attenuate NF-κB in human epidermal keratinocytes. Young Min Park, Yunhee Ryu, Ji Hee Han, Ji Hyun Lee and Soon Yong Choi. Seoul, Korea (the Republic of) and Daejeon, Korea (the Republic of).

541  Signaling through tachykinin receptors regulates the pro-inflammatory and type 2 biasing functions of mast cells. Tina L Sumpter, Olga Tkacheva, William Schuflesky, Adrian Morelli and Adriana T Larregina. Pittsburgh, PA.


544*  PD-1 regulates imiquimod-induced psoriasiform dermatitis through inhibition of innate IL-17A expression by γδ T cells. Xuesong Wu, Yasutomo Imai, Natarajan Ayithan, Li Wang and Sam Hwang. Milwaukee, WI.

545  Secrets from the past: Natural products and the future of topical anti-infectives. Cassie L Quaye, James Lyles, Kate Nelson, Jeffery S. Kavanaugh, Corey Parlet, Heidi Crosby and Alex Horswill. Atlanta, GA and Iowa City, IA.


547  Inhibition of adhesion proteins expression in human dermal microvascular endothelial cells exposed to TNF-α by a Sambucus nigra extract Mathilde Frechet, Lionel Valenti, Pierre-Gilles Markioli, Patrick Lafitte, Frederic Maccario and Jean-François Nicolay. Monaco, Monaco.


552*  IL-1 and IL-36 are the dominant cytokines in generalized pustular psoriasis. Andrew Johnston, Xianying Xing, Liza Wolterink, Drew H Barnes, William R Swindell, Minal Kumar Sarkar, J M Kahlenberg, Paul W Harms and Johann Eli Gudjonsson. Ann Arbor, MI.


555  Recirculating dermal IL-17-producing γδ+ γδ T cells display memory-like responses. Francisco Ramirez-Valle, Jason Cyster. San Francisco, CA.


557*  Spatial expression of RGD-binding integrins on keratinocytes control homeostatic and UV-induced Langerhans cell migration by activating latent TGFβ. Javed Mohammed, Aleh Bobr, Brian Astry, Alina G Bridges and Daniel Kaplan. Minneapolis, MN and Rochester, MN.

558  A requirement for pDC in the initiation of psoriasiform inflammation. Alexis Griffith, Matthew Hadijono, Rachel Davis and Daniel Popkin. Cleveland, OH.

559  Fisetin, a small molecule and a natural inhibitor of mTOR for treating psoriasis. Jean Christopher Chamecheu, Maria Ines Chavez-Rodriguez, Imitat Siddiqui, Vaqar Adhami, Deeba N Syed, Shah-Johan Doodwad and Hasan Mukhtar. Madison, WI.

560*  LTA from commensal bacteria modulates keratinocyte SCF production to maintain mast cells in the skin. Zhaoxing Song, Xiaojun Sun and Anna Di Nardo. La Jolla, CA.

561  Opposing roles for Neurokinin-1 receptor in skin resident and circulating immune cells. Yi Fritz, Diona Dianconu, Maya Camhi, Thomas McCormick and Nicole L Ward. Cleveland, OH.

562  Robust induction of innate epidermal response genes by petrolatum sheds light on its function in preventing cutaneous infections. Dana Malajian, Joel M Corrêa da Rosa, Avner Shemer, James G Krueger and Emma Gutman-Yassky. New York, NY and Tel-Aviv, Israel.

563  Clusters of dermal Bartonella henselae may be a functional biofilm. Marna Ericson, Melissa Weber-Sanders, Gislaine Viera-Damiani, Marlene Neves da Silva, Vitor Pelegrati, Carlos Lenz Cesar and Paulo Velho. Minneapolis, MN and Campinas, Brazil.

564  A blockade of lypo phosphatidic acid - lypo phosphatidic acid receptor 1 cascade augments murine allergic skin inflammation. Ken Igawa, Yoshiko Itoh and Hiroo Yokozeki. Tokyo, Japan.


Notes:
### Poster Presentations / Abstract Titles

**569** xMAP® technology and tape stripping: High-throughput profiling of stratum corneum IL-1Ra and IL-1α
Nicola Parisi, P. J. Matts, R. Lever, J. Hadgraft and Majella E. Lane. London, United Kingdom and Egham, United Kingdom.

**570** The cytosolic nucleic acid-sensing pathways play critical roles in host restriction of modified vaccinia virus Ankara replication.

**571** Lewisite-induced cutaneous injuries in murine skin.
Mohammad Athar, Changzhao Li, Ritesh K. Srivastava, Zhiping Weng and Farrukh Afaq. Birmingham, AL.

**572** IL-27 participates in cutaneous host immune suppression in leprosy.
Kindra Kelly-Scumpia, Rosane MB Teles and Robert Modlin. Los Angeles, CA.

**573** Negative regulation of noncanonical NF-κB signaling.
Bahram Razani. Los Angeles, CA and San Francisco, CA.

**574** Macrophages infected with Mycobacterium leprae fail to activate appropriate antimicrobial pathways.
Philip Oliver Scumpia, Giovanni Botten, Kindra Kelly-Scumpia, Robert Modlin and Stephen Smale. Los Angeles, CA.

**575** Comparison of the effects of continuous and pulsed-wave light photodynamic therapy.
Hideyuki Masuda, Makoto Kimura and Akimichi Morita. Tokyo, Japan and Nagoya, Japan.

**576** Role of UVB-induced IL-1 and neutrophils in dermal collagen alteration in murine skin.

**577** Light emitting diode-generated red light alters human fibroblast proliferation rate and migration speed through modulation of the PI3K/AKT pathway.
Jared R. Jaeckel, Andrew Mamalis, Roslyn Rivkah Isseroff and William Murphy. Sacramento, CA; Brooklyn, NY and Mather, CA.

**578** A meta-analysis of miRNA expression profile in UV-irradiated skin tumors
Ram Prasad. Tripti Singh, Mudit Vaid and Santosh K Katiyar. Birmingham, AL.

**579** Drinking green tea inhibits photocarcinogenesis in mice by upregulating the levels of miRNA-29 and subsequently inhibition of DNA hypermethylation in tumors.
Santosh K Katiyar, Tripti Singh and Ram Prasad. Birmingham, AL.

**580** TGF-beta signaling links E-cadherin loss to suppression of UVB-induced DNA repair.
Lei Qiang, Palak Shah, Mary Helen Barcellos-Hoff and Yu-Ying He. Chicago, IL and New York, NY.

**581** Toll-Like Receptor-4 deficiency enhances repair of ultraviolet radiation induced DNA damage in skin and prevents skin cancer.
Michelle Chang, Mohammad O Ata, Iman A Tamimi, Israr Ahmad, Santosh K Katiyar, Craig A Elmetric and Nabiha Yusuf. Birmingham, AL.

**582** Ultraviolet radiation, both UVA and UVB, influences the composition of the skin microbiome.

**583** Clinicopathological features of Bowen’s disease resistance to methyl amionolevulinate photodynamic therapy.
Tamara Gracia-Cazaña, Jesus Vera-Alvarez, Angeles Juarranz, Levenia Pastushenko, Nerea Salazar, Salvador Gonzalez and Yolanda Gilberete. Barbastro; Spain; Huesca; Spain; Madrid; Spain; Brussels, Belgium and New York, NY.

**584** Circadian rhythm and skin inflammation.
Amanda K Suarez, Jacqueline Selph, Minh Lam and Elma D Baron. Cleveland, OH.

**585** Ultraviolet Radiation (UVR) induced cytogenetic damage in melanocytes of White, Hispanic and Black skin.
Amrita Dasgupta, Meena Kattare. Hampton, VA and Norfolk, VA.

**586** Evaluation of DNA damage biomarker expression in UV-exposed human keratinocytes using sphenogomelin treatment.
Kevin T Campbell, Kristina Bishard, Karissa Cardenas and Lily Laiho. San Luis Obispo, CA.

**587** Alternative keratin 17 expression variation is induced by different doses of narrow-band ultraviolet B in keratinocytes via Erk1/2-dependent mechanism.
Er-Le Chang, Chang-xu Han, Liang Jin and Gang Wang. Xian, China.

**588** Involvement of AhR-dependent COX-2 generation in the mechanism of antifungal voriconazole-induced, UV-associated skin cancer development.

**589** The tumor suppressor p27**kip1** in keratinocytes is regulated via an autocrine mechanism involving the aryl hydrocarbon receptor (AHMR).
Thomas Haarmann-Stemmann, Mariol Pollet and Jean Krutmann. Düsseldorf, Germany.

**590** Combining ethanol and UVB results in augmented acute cutaneous and systemic effects via augmented Platelet-activating factor production.
Ravi Sahu, Jonathan Weyerbacher, Raymond Lloyd Konger and Jeffery B. Travers. Indianapolis, IN.

**591** Silymarin mediated DNA repair is a mechanism for suppression of UVB induced Treg cells and prevention of photocarcinogenesis.
Hui Xu, Hui Li, Donghou Ge, Tripti Singh, Ram Prasad and Santosh K Katiyar. Birmingham, AL.

**592** Rab23 regulates UVB-induced autophagy via ERK/mTOR Signaling Pathway in epidermal keratinocytes.
Min Huang, Jian Qiang and Chengxin Li. Xian, China and Beijing, China.

**593** Platelet-activating factor receptor agonists generated by radiation therapy thwart host anti-tumor immunity.
Ravi Sahu, Raymond Lloyd Konger and Jeffery B. Travers. Indianapolis, IN.

**594** Lipid oxidation patterns and kinetics in keratinocytes undergoing senescence-promoting stress or replicative senescence.
Florian Gruber, Marie Sophie Nartz, Ionela Mariana Nagelreiter, Susanne Karner, Johannes Grillari, Katarzyna Figlak, Manuel Filzweiser, Valery Bochkov and Erwin Tschaclerh. Vienna, Austria and Graz, Austria.

**595** UVA and UVB induce different sets of long non-coding RNAs.
Thomas M. Ruenger, Kazuyuki Yo. Providence, RI and Yokohama, Japan.

**596** Effect of TNFα blockade on UV-induced changes in the skin.
Jamie Langenhain, Meena Sharma, Elizabeth S Robinson, Emily Privette, Rui Feng, Joyce Okawa and Victoria Werth. Phil, PA.

**597** Distinctive molecular and cellular responses to UBV in keratinocytes and melanocytes.
Jiang Liu, Masashi Nakatani and Arianna Kim. New York, NY.

---

**Notes:**
**POSTER PRESENTATIONS / ABSTRACT TITLES**

598*** miR-30 is downregulated in human squamous cell carcinoma and UVB exposed keratinocytes. Deesa N Syed, Rahul K Lall, Nosheen Akhtzar, Jack Longley and Hasan Mukhtar. Madison, WI.


600 Mixture of Areca catechu nuts and Alpinia katsumadai seeds inhibits skin photoaging by inhibition of UVB-induced 11β-hydroxysteroid dehydrogenase type 1 up-regulation. Jin-Ju Nam, Ji-Eun Park, Seok Kyun Yun and Seong-Joon Moon. Seongnam-si, Korea (the Republic of).


602 Solar simulated Ultraviolet radiation induces global histone hypoacetylation in human HaCaT keratinocytes. Hong Sun, Xiaoru Zhang, Thomas Kluz, Lisa Gesumaria, Mary S Matsui and Max Costa. Tuxedo, NY and Melville, NY.

603 Antioxidants prevent ozone induced oxidative damage in human keratinocytes. Christian Oresajo, Giuseppe Valacchi, Claudia Sticcozi, Nannan Chen and Yevgeniy Krol. Ferrara, Italy; Clark, NJ and New York, NY.

604 CXCL5 is secreted by UV irradiated skin cells and enhances CGRP release in sensory neurons. Gitta Neufang, Olga Reichert, Dennis Roggenkamp, Ludger Kolbe, Lara Terstegen, Franz Staeb and Horst Wencz. Hamburg, Germany.

605 Autotherapy and skin aging. Raaj P Khusial, Michelle Slade, John Lyga and Uma Santhanam. Suffern, NY.

606 Chemiexcitation of melanin derivatives induces cyclobutane dimers in the dark. Douglas E. Brash, Sanjay Premi, Silvia Wallisch, Camilo Mano, Adam Weiner, Antonella Bacchiocchi, Kazumasa Wakamatsu, Eletivino Bechara, Ruth Halaban and Thierry Douki. New Haven, CT; Sao Paolo, Brazil; Toyoake, Japan and Grenoble, France.

607 Signaling pathways that modulate the UVR response of human melanocytes. Zafa A Abdel-Malek, Anne vonKoschembahr, Vicki Swope and Renny Starner. Cincinnati, OH.

608* UVB induces mast cell dermal recruitment and activation through SIP production from human keratinocytes. Anna Di Nardo, Matthieu Vanderbergh and Zhengjie Wang. La Jolla, CA.

609* Identification of glycolysis-derived α-dicarbonyl metabolites as the smallest known endogenous UVA-photosensitizers in human skin cells and reconstructed epidermis. Georg T Wondrak, Rebecca Justinidad, Shuxi Qiao and Joshua D Williams. Tucson, AZ.

610 Low-level laser treatment of chemotherapy-induced alopecia: A preclinical study in rats. Assuan Lens, Keyvan Nouri, Joaquin Jimenez and Tongyu Cao. Xi’an, China.

611 Enhanced DNA repair in keratinocytes reconstituted into epidermal equivalents. Dennis H. Oh, Katherine Ona-Vu. San Francisco, CA.

**Pigmentation & Melanoma**

All orals [designated with an asterisk (*)] listed below are presented in the Pigmentation & Melanoma Minisymposium on Friday, May 8, 2015, from 2:00-5:00 pm in Salon AB, Hilton Atlanta. Orals designated by two asterisks (**) will be presented during a Plenary Session. Orals designated by three asterisks (***) will be presented during the Interdisciplinary Spotlight: Skin Cancer Minisymposium on Friday, May 8, 2015, from 2:00 – 5:00 pm in the Grand Ballroom, Hilton Atlanta.

612 Small molecule inhibitors of protein kinase CK2 reduce proliferation and viability of melanoma cells in vitro. Erin Marie Dodd, Janeen H Trembley and Rehana Leila Ahmed. Mpls, MN.

613 The role of KIT in early melanoma development. Christian Posch, Martina Sanlunenzo, Homayoun Mosleihi, Igor Vujic, Juan Oses-Prieto, Rosaura Esteve-Puig, Gary Green, Luz Feeney, Al Burlingame, Klemens Rappersberger and Susana Ortiz-Urda. San Francisco, CA; Boston, MA; Vienna, Austria and Torino, Italy.


615* CD4, IL-17, and COX-2 are associated with inflammation in melanoma. Adriana Rodriguez-Arribula, Juan P Castanedo-Cázares, Diego Cortés-García, Bertha Torres-Álvarez and Karla Immelda Martínez-Rosales. San Luis Potosi, Mexico and San Luis Potosi, Mexico.


617* MT19c resensitizes metastatic melanoma cells to vemurafenib, decreases tumor growth, and increases survival in a vemurafenib-resistant metastatic melanoma model. Alex Han, Michael Vezeridis, Rakesh Singh, Leslie Robinson-Bostom, Martin A Weinstock and Richard Moore. Providence, RI.

618 Dual inhibition of CRD-BP and BRAF in BRAF-mutant Melanoma – A novel approach to overcome resistance to BRAF inhibitors. Taewon Kim, Yashui Gloria Xu, Vijayasaradhi Setaluri and Vladimir Spiegelman. Madison, WI.

619 Aspirin induces Nrf2-mediated transcriptional activation of heme oxygenase-1 in protection of human melanocytes from H2O2-induced oxidative stress. The Jin, Lingzhen Tang, Tianwen Gao and Chunying Li. Xi’an, China.


621 High expression of Mcl-1 mediated by MEK-ERK1/2–STAT3 signaling pathway protects melanocytes and melanoma cells against ultraviolet B-induced apoptosis. Takeshi Fukushima, Tetsushi Iwaskai, Taro Okada, Takaroni Hashimoto, Yoonbin Moon, Masanobu Sakaguchi, Yasuo Fukumi, Chioko Nishigori and Masahiro Oka. Kobe, Japan.


623 Broadband light absorption characteristics of melanin: human skin measurement beyond Chromameter and Mexameter. InSeok Seo, Hao Ouyang. Skillman, NJ.
Poster Presentations / Abstract Titles


625 Akt activation promotes the development of brain metastases in a mouse model of melanoma. Joseph Cho, James Robinson, Rowan Arave, Russell Green, David Kircher, Guo Chen, Michael Davies, Allie Grossmann, Matthew VanBrocklin and Sheri Holmen. Salt Lake City, UT; Austin, MN and Houston, TX.


629 mTOR and PKM2 are constitutively up-regulated in melanoma cells but not in melanocytes Alfredo Gonzalez, Jeanine Justiniano, Ryan Garrity, Yai Cui and Yinsheng Wang. Providence, RI and Xi'an, China.


631 Characteristic comparison of human melanoma cell lines derived from primary and metastatic sites Xiaofeng Liu, David Fiore, Paul Thompson, Jane K Goodrich, Tatyana Yuft, Polly Carson and Vincent Falanga. Boston, MA.

632 Effects of MAPK inhibition on glucose uptake in melanoma are largely secondary to alterations in cellular morphology. Nicholas Theodossakis, Matthew A Held, Alexander Marzuka and Marcus Bosenberg. New Haven, CT.

633 Correlation of insulin-like growth factor II mRNA-binding protein 3 (IMP-3) and high mobility group AT-hook 2 (HMGA2) expressions in human melanoma. Chia-Yu Chu, Yi-Shuan Sheen, Chih-Chun Yeh and Shio-Iwa Jee. Taipei, Taiwan.

634* Multigene epigenetic signature is a prognostic marker in melanoma. Goran Micevic, Viswanathan Muthusamy, Richard Scolyer and Marcus Bosenberg. New Haven, CT and Sydney, Australia.

635* Delayed cyclobutane pyrimidine dimers induced by chemotherapy melanin derivatives long after UV exposure. Sanjay Premi, Silvia Wallisch, Camila Mano, Adam Weiner, Antonella Bacchicioci, Kazumasa Wakamatsu, Eletvino Bechara, Ruth Halaban, Thierry Douki and Douglas E. Brash. New Haven, CT; Sao Paulo, Brazil; Toyoake, Japan; Sao Paulo, Brazil and Grenoble, France.


639 P2X7/PANX1 inhibition decreases melanoma proliferation and differentiation in vitro and decreases tumor growth in vivo. Jenna Bordelon, Samantha L Schneider, Andrew Louis Ross, Mark Eller and James Michael Grichnik. Miami, FL and Bronx, NY.

640 Notch1 confers melanoma resistance to temozolomide through NLRP1 upregulation. Zili Zhai, Weimin Liu, Manjinder Kaur, Yuchun Luo, David Norris, Richard A. Spritz, Charles A Dinarello and Mayumi Fujita. Aurora, CO and Denver, CO.

641** Narrow band UVB treatment of human vitiligo is associated with induction of stem cell genes for melanocyte repopulation in the hair follicle and epidermis. Stanca A Birlea, Nathaniel B. Goldstein, Maranke I Koster, Laura Hoaglin, Bifeng Gao, Kenneth Jones, Dennis R Roop and David Norris. Aurora, CO.


643 Differences in patient and tumor characteristics in amelanotic vs. pigmented melanomas. Lauren Christenee Strazzulla, Xiaoxue Li, Lana Tong, Sandra J Lee and Caroline C Kim. New York, NY; Los Angeles, CA and Boston, MA.

644* Inhibition of histone deacetylase 3 overrides BRAF-inhibitor resistance. Xiao-Oi Wang, Antonio Velez, Chelsea S. Claire and Amy S. Paller. Chicago, IL.


646* MSX1-induced neural crest-like reprogramming promotes melanoma progression. Mizuho Fukunaga-Kalabis, Markus Heep, Joshua Wang, Denitsa Hristova, Zhi Wei, Martin Irmler, Carola Berking, Robert Besch, Johannes Beckers, Frank J Rauscher, David E Fisher and Meenhard Herlyn. Philadelphia, PA; Munich, Germany; Newark, NJ; Neuherberg, Germany and Boston, MA.

647 Measurement of skin pigmentation using a chromameter in a 3-dimensional epidermal model containing melanocytes Michael Allen Bachelor, Bridget Breyfogle and Mitchell Klausner. Ashland, MA.

648 Strategic use of BCL-2 inhibitors to target melanoma cells and melanoma initiating cells. Nabanaita Mukherjee, Chung-Wai Shiau, Yan Lu, Adam R Almeida, Josianna V Schwahn, Yuchun Luo, Mayumi Fujita, Steven Robinson, William Robinson, David Norris and Yiquan G Shellman. Aurora, CO and Taipei, Taiwan.

649 The adverse correlation of primary cilia in melanoma is likely independent of proliferation and cell cycle progression. Elizabeth R Snedecor, Clifford Sung, Alejandra Moncayo, Brooke Rothstein, Daniel Mckoller, Marcia Tonnesen, Evan Jones, Mayumi Fujita, Richard August Clark, Kenneth R Shroyer and Jiann Yang. Stony Brook, NY; Medford, MA; Northport, NY and Denver, CO.


651* IL-23 prevents melanoma development through multiple mechanisms. Tahseen H. Nasti, Mohammad Athar, Laura Timares and Craig A Elmets. Birmingham, AL.


Notes:
Skin & Hair Developmental Biology
All orals [designated with an asterisk (*)] listed below are presented in the Skin & Hair Developmental Biology Minisymposium on Thursday, May 7, 2015, from 2:00-5:00 pm in Salon D, Hilton Atlanta. Orals designated by two asterisks (**) will be presented during a Plenary Session. Orals designated by three asterisks (***) will be presented during the Interdisciplinary Spotlight: Skin Cancer Minisymposium on Friday, May 8, 2015, from 2:00 – 5:00 pm in the Grand Ballroom, Hilton Atlanta.

654 4'-Bromo-resveratrol, a new small molecule inhibitor of SIRT3, imparts anti-proliferative effects and causes metabolic reprogramming of human melanoma cells. Jasmine George, Minakshi Nihal, Chandra K Singh and Nihal Ahmad. Madison, WI.

655 10SF is a novel immunoadaptive treatment candidate for melanoma that induces apoptosis and the secretion of pro-inflammatory IL-6. Gail Naughton, Emmett Pinney, Christian Posch, Aline Betancourt and Mayra Montes-Camacho. San Diego, CA and San Francisco, CA.

656 Human facial sebaceous glands contain the enzymes that synthesise prostaglandin F<sub>2α</sub> and prostamide F<sub>2α</sub>, and the receptors to respond to bimatoprost. Mohammad Shalbaf, Theresa Street, Neil J Poloso, Jenny W Wang, David Woodward and Valerie Randall. Bradford, United Kingdom and Irvine, CA.


658 Knockdown of Sulf2 causes hair loss in obese mice fed a fast food diet. Jeanette M. Olazagasti, Catherine D. Moser, Tae Hyo Kim, Anuradha Krishnan and Lewis R. Roberts. Rochester, MN.

659 Follistatin and secreted frizzled-related protein 1, OVO homolog-like 1- regulated genes, are important for hair follicle neogenesis. Young-Kwan Sung, Soon-Sun Bak, Moon Kim and Jung-Chul Kim. Daegu, Korea (the Republic of).

660 Stimulatory effect of pseudoceramide on hair growth through intracellular sphingolipids signaling. Jong Hwan Bae, Bu Man Park, Dae Hwan Kim, Kyong Oh Shin, Seung Phil Hong, Hyun Jong Kim, Sung Ku Ahn and Se Kyoo Jeong. Daejeon, Korea (the Republic of); Cheongju, Korea (the Republic of); Cheonan, Korea (the Republic of); Seoul, Korea (the Republic of) and Wonju, Korea (the Republic of).

661 Systematic analyses for skin, hair, and nail abnormalities in The Jackson Laboratory's KOMP<sup>®</sup> knockout mouse program. John Paul Sundberg, C. Herbert Pratt, Stephen A. Murray, Kathleen A Silva, Victoria E Kennedy, Lloyd E. King and Soheil S Dadras. Bar Harbor, ME; Nashville, TN and Farmington, CT.


663 Dynein is necessary for intracellular transport of both nutrients and autophagosomes in human dermal fibroblasts. Yong Zhuang, Russell Wyborski, Siming Chen, Raaj P Khusial and John Lyga. Suffern, NY.


665 Alterations of vitamin A metabolism and signaling in central, centrifugal, cicatricial alopecia patients. Live Suo, Wilma F Bergfeld, Natasha Mesinkovska and Helen B Everts. Cleveland, OH and Columbus, OH.

666 Human hair follicle epithelial stem cells undergo epithelial-mesenchymal transition (EMT) in primary cicatricial alopecia: Lessons from lichen planopilaris. Hisayoshi Imanishi, David Ansell, Matthew Harries, Norbert Sepp, Tamas Biro, Daisuke Tsuruta, Christopher M Ward and Ralf Paus. Manchester, United Kingdom; Innsbruck, Austria; Osaka, Japan and Debrecen, Hungary.

667 Electrophysiological and immunohistological characterization of TMEM16A isoforms in sweat glands. Torsten Ertongur-Fauth, Andrea Brueggemann, Christina Jost and Daniela Kulichova. Zwingenberg, Germany and Munich, Germany.

668** Hdac1 and Hdac2 are required for maintenance and survival of embryonic and adult epidermal stem cells. Matthew LeBoeuf, Fang Liu, Xinxi Zhao, Eric Olson and Sarah Millar. Philadelphia, PA and Dallas, TX.

669 Keratinocytes devoid of DLX3 initiate psoriasis-like inflammation in mice. Jin-Chul Kim, Gaku Nagato, Youichi Ogawa, Mark C Udey and Maria Morasso. Bethesda, MD.

670 Preventing radiation-induced hair loss by augmenting spontaneous anagen repair through modulating wnt signaling. Wen-Yen Huang, Hsiien-Yi Chiu, Chih-Chieh Chan and Sung-Jan Lin. Taipei, Taiwan.


672 Novel diagnostic test predicts mean change in hair counts in female androgenetic alopecia patients treated with topical minoxidil. John McCoy, Andy Goren, Janet Roberts and Nisha Desai. Irvine, CA and Portland, OR.


674*** The role of dermal wnt activation in hair follicle development and carcinogenesis. Peggy Myung, Thomas Yang, Panteleimon Rompolas and Valentina Greco. New Haven, CT.

675 The role of regulatory T-cells in hair follicle cycling. Niwa All, Hong-An Truong, Abul K. Abbas and Michael David Rosenblum. San Francisco, CA.


677 Apoptotic signals increase during catagen-like changes in hair follicles confirming follicle organ culture's exciting new potential as a human in vitro catagen model. Heero Najieeb Rahman, Nilofor Farjo, Bessam Farjo and Valerie Randall. Bradford, United Kingdom and Manchester, United Kingdom.


679 Spatial trans-interactions between lineage-specific gene loci are required for determination of the stratified epithelium. Andrei Mardaryev, Janina Baer, Krzysztof Poterlowicz, Jana Rudolf, Igor Malashchuk, Valentina Rapisarda, Vinod Kumar, Andrey Sharov, Joanne Yarker, Michael Fessing, Terumi Kohwi-Shigematsu, Vladimir A. Botchkarev and Thomas Magin. Bradford, United Kingdom; Leipzig, Germany; Boston, MA and San Francisco, CA.
**Poster Presentations / Abstract Titles**


681* Serum response factor (SRF) regulates the development and cyclic regeneration of the hair follicle, and functions in epidermal development in a stage-specific manner. Tatiana Efimova, Congxing Lin, Aaron Koppel, Alexi Kiss and Liang Ma. St. Louis, MO.


684 Prostaglandin D2 (PGD2) enhances testosterone metabolism in primary human keratinocytes possibly via upregulation of aldo-keto reductase 1C3 (AKR1C3) expression. Alon Mantel, Alice P Pentland and Meena Kardare. Hampton, VA; Rochester, NY and Norfork, VA.

685* Wnt/β-catenin signaling marks self-renewing stem cells in multiple epithelial tissues. Sarah Millar, Mingang Xu, Jeremy Horrell, Heather Gochnauer, Jiawei Cui, Melinda Snitow, Tien Peng and Edward Morrissey, Philadelphia, PA.


687* Gorab is essential for dermal papilla cells to respond to hedgehog signals during hair follicle formation. Jiang Chen, Ying Liu, Elizabeth R Snedecor, Yeun Ja Choi, Ning Yang, Xu Zhang, Yuhuan Xu, Yunlin Han, Evan C Jones, Kenneth R Shroyer, Richard August Clark, Lianfeng Zhang and Chuan Qin. Beijing, China and Stony Brook, NY.

688 The distal end of the arrector pili muscle is a potential epidermal stem cell niche. Niloufar Torkamani, Nicholas Rufat, Leslie Jones and Rodney Sinclair. Richmond, Australia and Melbourne, Australia.


690 MHC genes associated with alopeica areata exhibit diverse and complex expression patterns during hair follicle development in mice. Alexander Awgulewitsch, John Paul Sundberg. Charleston, SC and Bar Harbor, ME.

691 3D cultures of hair follicles on Gelfoam® promote functional recovery of severed peripheral nerves and the spinal cord when transplanted to the injury site. Robert M. Hoffman, Wenlou Cao, Lingna Li, Sumiyuki Mii, Yusuuki Amoh and Fang Liu. San Diego, CA; Shanghai, China and Kanagawa, Japan.

692 Molecular diagnostics in differentiation of segmental overgrowth syndromes. Jouni Utto, Leila Youssefian, Hassan Vahidnezhad, T Baghdadi, A Ghaznavi, Q Li and Mina Tabrizi. Tehran, Iran (the Islamic Republic of) and Philadelphia, PA.

693* Studying hair cycle clock with the aid of multi-scale diffusion-based mathematical modeling. Maksim Plikus, Ji Won Oh, Qixuan Wang and Qing Nie. Irvine, CA.

694* The LINC complex promotes keratinocyte cell-cell adhesion and hair follicle structure. Amanda Zubek, Rachel Stewart, Kathryn A. Rosowski, Megan King and Valerie Horsley. New Haven, CT.

695* Rapid hair cycle pattern breakdown during mouse development revealed with the aid of mathematical modeling. Ji Won Oh, Qixuan Wang, Qing Nie and Maksim Plikus. Irvine, CA.

696 Genetic determinants of eccrine sweat gland density in the mouse. Bruce Morgan, Yana Kamberov and Clifford Tabin. Boston, MA.

**Tissue Regeneration & Wound Healing**

All orals (designated with an asterisk (*) listed below are presented in the Tissue Regeneration & Wound Healing Minisymposium on Saturday, May 9, 2015, from 12:30-3:30 pm in Salon E, Hilton Atlanta. Orals designated by two asterisks (**) will be presented during a Plenary Session. Orals designated by three asterisks (***) will be presented during the Interdisciplinary Spotlight: Skin Cancer Minisymposium on Friday, May 8, 2015, from 2:00 – 5:00 pm in the Grand Ballroom, Hilton Atlanta.


700* Reconstitution of three-dimensional skin composed of keratinocytes, fibroblasts and melanocytes induced from Muse human pluripotent stem cell. Takehi Kamiyama, Kensi Yamasaki, Kenichiro Tsuchiyama, Saaya Koike, Mai Inoue and Setsuya Aiba. Sendai, Japan.

701 High glucose environment increased thrombospondin-1 expression in keratinocytes via epigenetic regulation: Metabolic memory of impaired angiogenesis during diabetic wound healing. Cheng-Chie Lai, Shu-Mei Huang, Ching Shuang Wu and Gwo-Shing Chen. Kaohsiung, Taiwan.


703* Collagen XVII regulates actin dynamics and traction forces in motile keratinocytes. Sho Hiroiwasu, Zachary Colburn and Jonathan Jones. Pullman, WA.

704* Cadherin endocytosis, adhesion, and cytoskeletal linkage cooperatively regulate collective cell migration. Chantel Cadwell, Benjamin A Nanes, Daniel Conway and Andrew Kowalczyk. Atlanta, GA and Richmond, VA.


708 Comparison of the transcriptomes of mouse skin derived precursors and SKP-derived fibroblasts by RNA-Seq. Yujie Ma, Li Li. Chengdu, China.

POSTER PRESENTATIONS / ABSTRACT TITLES

710 Fibroblasts from the elderly fail to deposit sufficient extracellular matrix to generate connective tissue in vitro. Richard August Clark, Fubao Lin and John Medameda. Stony Brook, NY.

711* IRF1 protein levels depend on microRNA miR-31 and reduced levels of IRF1 inhibit keratinocyte migration. Thomas Andl, Chase Taylor and Claudia D Andl. Nashville, TN.

712 The pivotal role of peristin in RDEB scarring. Olivia Lai, Jon Cogan, Xinyi Wang, Yingping Hou, David Timothy Woodley and Mei Chen. Los Angeles, CA.

713 Prolonged local vasodilatation following topical application of nitric oxide releasing nanoparticles. David Otto Schairer, Moses Tar, Pedro Cabrales, Mahantesh Navatti, Brandon Adler, Parimala Nacharaju, Adam Friedman, Joel Friedman and Kelvin Davies. Bronx, NY and La Jolla, CA.

714 The guanine nucleotide exchange factor β-PIX regulates the speed of motile keratinocytes. Susan B Hopkinson, Gregory Stimac and Jonathan Jones. Pullman, WA.


717* Repair versus regeneration: Msx2 is required for epidermal competency during wound induced follicular neogenesis. Michael Warren Hughes, Ting-Xin Jiang, Gary Lai, Christopher Schaver, Robert Maxson, Randal Widelitz and Cheng-Ming Chuong. Los Angeles, CA and Tainan, Taiwan.

718 Improving stretch mark pathophysiologic knowledge by specific in vitro models. Stephanie Bredif, Morgane de Tollenaere, Marisa Meloni and Carol Courderot-Mazuyer. Epernon, France; Milan, Italy and Besancon, France.


720 A novel animal model for lichen planus. Etienne Wang, Sivan Harel, Victor Luria and Angela Christiano. New York City, NY and Boston, MA.

721* Inhibition of Apoptosis signal-regulating kinase 1 alters differentiation of the wound epithelium to enhance tissue regeneration. Theresa A Freeman, Natalie Chernet, Deepa Kurpad and My G Mahoney. Philadelphia, PA.


723* Ephrin-A ligand loss enhances keratinocyte migration via ligand-independent EphA2 action. Spiro Getisios, Nihal Kaplan, Bethany Elena Perez White, Ji Zheng, Paul Hoover, Rosa Ventrella, William R Swindell, Johann El Gudjonsson and Bingcheng Wang. Chicago, IL; Cleveland, OH and Ann Arbor, MI.

724 Topical application of mesenchymal stem cells accelerates healing of wounds in a scleroderma mouse model. Tatyana Yufit, Xiaofeng Lin, David Fiore, Polly Carson, Marta Otero-Vinas and Vincent Falanga. Boston, MA and Vic, Spain.


726 Acute immune effects and tissue destruction in mice following skin exposure to sulfur mustard. Lopa Das, Kurt Quoc Lu. Cleveland, OH.


729 A novel stress-response mechanism by Hsp90α and Hsp90β to cope with hypoxia and nutrient paucity during wound healing. Priyamvada Jayaarakash, Hangming Dong, Mengchen Zou, Ayesha Bhatia, Kathryn O’Brien, Mei Chen, David Timothy Woodley and Wei Li. Los Angeles, CA.


732 Increased TSLP expression in keloids: Dose increased expression of TSLP promote keloid pathogenesis? Jung U Shin, SeoHyeong Kim, Ji Yeon Noh, Shan Jin, Chang Ock Park, Ju Hee Lee, Won Jai Lee, Dong Won Lee and Kwang Hoon Lee. Seoul, Korea (the Republic of) and Boston, MD.


734* CAGE sequencing reveals MAFB as an early VEGF-C induced transcription factor that mediates cutaneous lymphatic vessel differentiation and development. Michael Detmar, Lothar Dieterich, Sarah Klein, Anthony Mathelier, Young-Kwon Hong and Wyeth Wasserman. Zurich, Switzerland; Vancouver, Canada and Los Angeles, CA.

735 Phosphorylation of SMAD2 linker site Thr220 is a marker for quiescent stem cells. Claudia D Andl. Thomas Andl. Nashville, TN.

736* Estrogen receptor alpha-mediated control of growth factor production from nipple fibroblasts. Hsin-Jung Wu, Dan F Spandau, Sunil S. Tholpady and John G. Foley. Bloomington, IN and Indianapolis, IN.

Notes:
<table>
<thead>
<tr>
<th>Author</th>
<th>Pages</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bauza, Eric</td>
<td>356, 358</td>
</tr>
<tr>
<td>Beachy, Phillip</td>
<td>174</td>
</tr>
<tr>
<td>Bec, Julien</td>
<td>170</td>
</tr>
<tr>
<td>Bechara, Etelevino</td>
<td>606, 635</td>
</tr>
<tr>
<td>Beck, Kristen M.</td>
<td>620, 628</td>
</tr>
<tr>
<td>Beck, Lisa A.</td>
<td>213, 346, 350</td>
</tr>
<tr>
<td>Beckers, Johannes</td>
<td>646</td>
</tr>
<tr>
<td>Bedard, Mary</td>
<td>005, 505</td>
</tr>
<tr>
<td>Beis, Eroto</td>
<td>271</td>
</tr>
<tr>
<td>Belknap, Steven M.</td>
<td>260</td>
</tr>
<tr>
<td>Bellen, Barbara</td>
<td>719</td>
</tr>
<tr>
<td>Bemmels, Heather</td>
<td>277</td>
</tr>
<tr>
<td>Ben-Ami, Dan</td>
<td>457</td>
</tr>
<tr>
<td>Ben-Ary, Guy</td>
<td>707</td>
</tr>
<tr>
<td>Ben-Asher, E</td>
<td>066</td>
</tr>
<tr>
<td>Benhabib, Elhabib</td>
<td>247</td>
</tr>
<tr>
<td>Berger, Shelley L.</td>
<td>156</td>
</tr>
<tr>
<td>Bergeron, Laurine</td>
<td>355, 357, 358</td>
</tr>
<tr>
<td>Bergfeld, Wilma F.</td>
<td>665</td>
</tr>
<tr>
<td>Bergstrom, David E.</td>
<td>442, 455</td>
</tr>
<tr>
<td>Berke, Zsofia</td>
<td>221</td>
</tr>
<tr>
<td>Berkers, Tineke</td>
<td>342</td>
</tr>
<tr>
<td>Berking, Carola</td>
<td>646</td>
</tr>
<tr>
<td>Beroukhim, Kourosh</td>
<td>095</td>
</tr>
<tr>
<td>Berroth, Andreas</td>
<td>469</td>
</tr>
<tr>
<td>Berry, Adam</td>
<td>036, 165</td>
</tr>
<tr>
<td>Besch, Robert</td>
<td>646</td>
</tr>
<tr>
<td>Besen, Justin</td>
<td>232</td>
</tr>
<tr>
<td>Best, Arthur</td>
<td>270</td>
</tr>
<tr>
<td>Betancourt, Aline</td>
<td>655</td>
</tr>
<tr>
<td>Bhatia, Aparna</td>
<td>341</td>
</tr>
<tr>
<td>Bhalla, Pankaj</td>
<td>491</td>
</tr>
<tr>
<td>Bhandarkar, Sulochana</td>
<td>176</td>
</tr>
<tr>
<td>Bhatia, Ayeshu</td>
<td>500, 729</td>
</tr>
<tr>
<td>Bhatia, Jasvinder</td>
<td>205</td>
</tr>
<tr>
<td>Bhattacharya, Tanya</td>
<td>260</td>
</tr>
<tr>
<td>Bhuj, Vijay G.</td>
<td>059</td>
</tr>
<tr>
<td>Bian, Li</td>
<td>448</td>
</tr>
<tr>
<td>Biddle, Paul</td>
<td>097</td>
</tr>
<tr>
<td>Bickers, David R.</td>
<td>115, 150</td>
</tr>
<tr>
<td>Bigler, Jeanette</td>
<td>281</td>
</tr>
<tr>
<td>Bikle, Dan</td>
<td>699</td>
</tr>
<tr>
<td>Bilgic, Kaya</td>
<td>465</td>
</tr>
<tr>
<td>Birlea, Stanca A.</td>
<td>641</td>
</tr>
<tr>
<td>Biro, Tamás</td>
<td>666</td>
</tr>
<tr>
<td>Bishard, Kristina</td>
<td>586</td>
</tr>
<tr>
<td>Bissonnette, Robert</td>
<td>445</td>
</tr>
<tr>
<td>Bivik, Cecilia</td>
<td>546</td>
</tr>
<tr>
<td>Blacker, Alyssa</td>
<td>407</td>
</tr>
<tr>
<td>Blazar, Bruce</td>
<td>408</td>
</tr>
<tr>
<td>Blecher, Karin</td>
<td>531</td>
</tr>
<tr>
<td>Bloch, Wilhelm</td>
<td>375</td>
</tr>
<tr>
<td>Blom, Astrid</td>
<td>256</td>
</tr>
<tr>
<td>Blumbach, Katrin</td>
<td>484</td>
</tr>
<tr>
<td>Blumenberg, Miroslav</td>
<td>097, 389</td>
</tr>
<tr>
<td>Bobr, Aleh</td>
<td>557</td>
</tr>
<tr>
<td>Bochkov, Valery</td>
<td>594</td>
</tr>
<tr>
<td>Bochner, R</td>
<td>378, 450</td>
</tr>
<tr>
<td>Bock, Suzanne</td>
<td>351</td>
</tr>
<tr>
<td>Boedigheimer, Michael</td>
<td>281</td>
</tr>
<tr>
<td>Boelens, Iap J.</td>
<td>411</td>
</tr>
<tr>
<td>Boguniewicz, Mark</td>
<td>350</td>
</tr>
<tr>
<td>Boher, Austrie</td>
<td>485</td>
</tr>
<tr>
<td>Boland, Kelsey</td>
<td>118</td>
</tr>
<tr>
<td>Boldrini, Nathaly</td>
<td>363</td>
</tr>
<tr>
<td>Bollag, Wendy B.</td>
<td>403</td>
</tr>
<tr>
<td>Bonifacio, Kathleen M.</td>
<td>266, 445</td>
</tr>
<tr>
<td>Bonnel, David</td>
<td>376</td>
</tr>
<tr>
<td>Bonner, Michael</td>
<td>376, 495</td>
</tr>
<tr>
<td>Bonventre, Josephine</td>
<td>531</td>
</tr>
<tr>
<td>Booker, Reid C.</td>
<td>108</td>
</tr>
<tr>
<td>Booker, Sarah</td>
<td>061</td>
</tr>
<tr>
<td>Bordeaux, Jeremy</td>
<td>334</td>
</tr>
<tr>
<td>Bordeleau, Jenna</td>
<td>639</td>
</tr>
<tr>
<td>Bose, Marcus</td>
<td>632, 634</td>
</tr>
<tr>
<td>Boss, Cristina</td>
<td>420</td>
</tr>
<tr>
<td>Botchkarev, Vladimir A.</td>
<td>679, 709</td>
</tr>
<tr>
<td>Botten, Giovanni</td>
<td>574</td>
</tr>
<tr>
<td>Botto, Jean Marie</td>
<td>355, 356, 357, 358</td>
</tr>
<tr>
<td>Bouder, Sanaz</td>
<td>533</td>
</tr>
<tr>
<td>Bousifan, Amina</td>
<td>193</td>
</tr>
<tr>
<td>Bouwstra, Joke</td>
<td>342, 343</td>
</tr>
<tr>
<td>Bowcock, Anne M.</td>
<td>443</td>
</tr>
<tr>
<td>Bowszczyk-Dmochowska, Monika</td>
<td>285</td>
</tr>
<tr>
<td>Box, Neil</td>
<td>366</td>
</tr>
<tr>
<td>Boxer, Lisa O.</td>
<td>391</td>
</tr>
<tr>
<td>Boyden, Lynn</td>
<td>444</td>
</tr>
<tr>
<td>Boyers, Lindsay N.</td>
<td>300, 313</td>
</tr>
<tr>
<td>Bradley, Bridget</td>
<td>046, 061</td>
</tr>
<tr>
<td>Bradley, Robert</td>
<td>387</td>
</tr>
<tr>
<td>Brand, Rhonda M.</td>
<td>402</td>
</tr>
<tr>
<td>Brar, Kanwaljit</td>
<td>344</td>
</tr>
<tr>
<td>Brash, Douglas E.</td>
<td>606, 635</td>
</tr>
<tr>
<td>Braumüller, Heidi</td>
<td>136, 140, 420</td>
</tr>
<tr>
<td>Breddin, Stephanie</td>
<td>369, 718</td>
</tr>
<tr>
<td>Breen, Catherine</td>
<td>498</td>
</tr>
<tr>
<td>Brenner, Ellen</td>
<td>136, 140, 420</td>
</tr>
<tr>
<td>Breslow, Jan</td>
<td>190</td>
</tr>
<tr>
<td>Breton, Lionel</td>
<td>269</td>
</tr>
<tr>
<td>Breyfogle, Bridget</td>
<td>647</td>
</tr>
<tr>
<td>Brezinski, Elizabeth A.</td>
<td>303</td>
</tr>
<tr>
<td>Bridges, Alina G.</td>
<td>557</td>
</tr>
<tr>
<td>Briley, Will</td>
<td>373</td>
</tr>
<tr>
<td>Brodmerkel, Carrie</td>
<td>445</td>
</tr>
<tr>
<td>Brohem, Carla A.</td>
<td>363</td>
</tr>
<tr>
<td>Brooks, Lionel</td>
<td>133</td>
</tr>
<tr>
<td>Brooks, Yang S.</td>
<td>121</td>
</tr>
<tr>
<td>Broussard, Joshua A.</td>
<td>475</td>
</tr>
<tr>
<td>Brownell, Isaac</td>
<td>241</td>
</tr>
<tr>
<td>Brozowski, Jaime</td>
<td>152</td>
</tr>
<tr>
<td>Brueggemann, Andrea</td>
<td>667</td>
</tr>
<tr>
<td>Bruhs, Anika</td>
<td>518</td>
</tr>
<tr>
<td>Bruins, Finola</td>
<td>260</td>
</tr>
<tr>
<td>Brunner, Georg</td>
<td>484</td>
</tr>
<tr>
<td>Brusq, Jean-Marie</td>
<td>505</td>
</tr>
<tr>
<td>Bucher, Stefania</td>
<td>719</td>
</tr>
<tr>
<td>Buck, Jochen</td>
<td>146</td>
</tr>
<tr>
<td>Budanov, Andrey</td>
<td>107</td>
</tr>
<tr>
<td>Budunova, Irina</td>
<td>491</td>
</tr>
<tr>
<td>Bui, Thi</td>
<td>506, 527</td>
</tr>
<tr>
<td>Bukhitiwarov, Yuri E.</td>
<td>367</td>
</tr>
<tr>
<td>Bullock, Karen</td>
<td>487, 642</td>
</tr>
<tr>
<td>Bunick, Christopher G.</td>
<td>349, 353</td>
</tr>
<tr>
<td>Bürgler, Christina</td>
<td>125</td>
</tr>
<tr>
<td>Burlingame, Al</td>
<td>613</td>
</tr>
<tr>
<td>Burns, Erin M.</td>
<td>582</td>
</tr>
<tr>
<td>Bushman, Frederic D.</td>
<td>553</td>
</tr>
<tr>
<td>Busuttil, Valère</td>
<td>355, 357, 358</td>
</tr>
<tr>
<td>Byrne, Michael</td>
<td>642</td>
</tr>
</tbody>
</table>

C

<table>
<thead>
<tr>
<th>Author</th>
<th>Pages</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cabrales, Pedro</td>
<td>713</td>
</tr>
<tr>
<td>Cadau, Sebastien</td>
<td>542</td>
</tr>
<tr>
<td>Caldwell, Chantal</td>
<td>704</td>
</tr>
<tr>
<td>Calderone, Ken</td>
<td>254</td>
</tr>
<tr>
<td>Camhi, Maya</td>
<td>033, 561</td>
</tr>
<tr>
<td>Campbell, Kevin T.</td>
<td>586</td>
</tr>
<tr>
<td>Campbell, Laura</td>
<td>026, 225</td>
</tr>
<tr>
<td>Campiche, Remo</td>
<td>364</td>
</tr>
<tr>
<td>Cantley, Lewis C.</td>
<td>146, 626</td>
</tr>
<tr>
<td>Cao, Wenluo</td>
<td>691</td>
</tr>
<tr>
<td>Cao, Xu</td>
<td>456</td>
</tr>
<tr>
<td>Cao, Yu-An</td>
<td>469</td>
</tr>
<tr>
<td>Capallene, Christophe</td>
<td>355, 356, 357, 358</td>
</tr>
<tr>
<td>Capell, Brian C.</td>
<td>156</td>
</tr>
<tr>
<td>Capozza, Korey L.</td>
<td>159</td>
</tr>
<tr>
<td>Cardenas, Karra</td>
<td>586</td>
</tr>
<tr>
<td>Author</td>
<td>Pages</td>
</tr>
<tr>
<td>------------------------</td>
<td>----------------------------</td>
</tr>
<tr>
<td>Cardia, James</td>
<td>487, 642</td>
</tr>
<tr>
<td>Cardon, Zachary E.</td>
<td>186</td>
</tr>
<tr>
<td>Cardones, Adela</td>
<td>164, 240, 251</td>
</tr>
<tr>
<td>Carey, Cara</td>
<td>033, 414</td>
</tr>
<tr>
<td>Carlson, Kacie</td>
<td>222</td>
</tr>
<tr>
<td>Carson, Polly</td>
<td>631, 724, 728, 731</td>
</tr>
<tr>
<td>Carter, Jol B.</td>
<td>191</td>
</tr>
<tr>
<td>Carty, Nancy</td>
<td>212</td>
</tr>
<tr>
<td>Carucci, John A.</td>
<td>698</td>
</tr>
<tr>
<td>Carvalho, Hernandez</td>
<td>525</td>
</tr>
<tr>
<td>Cassell, Martin</td>
<td>084</td>
</tr>
<tr>
<td>Castanedo-Cuzares, Juan P.</td>
<td>615</td>
</tr>
<tr>
<td>Catiaison, Christophe</td>
<td>097, 137, 153</td>
</tr>
<tr>
<td>Celli, Anna</td>
<td>381</td>
</tr>
<tr>
<td>Cenizo, Valerie</td>
<td>542</td>
</tr>
<tr>
<td>Cerise, Jane E.</td>
<td>079, 264, 459, 682</td>
</tr>
<tr>
<td>Cesar, Carlos L.</td>
<td>525, 563</td>
</tr>
<tr>
<td>Chadoutaud, Bernard</td>
<td>197</td>
</tr>
<tr>
<td>Chambon, P</td>
<td>155</td>
</tr>
<tr>
<td>Chamecheu, Jean Christopher</td>
<td>559</td>
</tr>
<tr>
<td>Champer, Jackson</td>
<td>407</td>
</tr>
<tr>
<td>Chan, Chih-Chieh</td>
<td>670</td>
</tr>
<tr>
<td>Chandra, Jyotsna</td>
<td>215</td>
</tr>
<tr>
<td>Chang, Anne Lynn S.</td>
<td>120, 130, 132, 135, 174, 234, 244, 265</td>
</tr>
<tr>
<td>Chang, Howard</td>
<td>263, 451</td>
</tr>
<tr>
<td>Chang, Kee-Lung</td>
<td>103</td>
</tr>
<tr>
<td>Chang, Michelle</td>
<td>581</td>
</tr>
<tr>
<td>Chang, Oliver</td>
<td>256</td>
</tr>
<tr>
<td>Charbonnier, Soeli</td>
<td>405</td>
</tr>
<tr>
<td>Charruyer, Alexandra</td>
<td>384</td>
</tr>
<tr>
<td>Chaudhry, Usman</td>
<td>169</td>
</tr>
<tr>
<td>Chavan, Manasi</td>
<td>336, 380</td>
</tr>
<tr>
<td>Chaves-Rodriguez, Maria Ines</td>
<td>559</td>
</tr>
<tr>
<td>Chen, Guo</td>
<td>625</td>
</tr>
<tr>
<td>Chen, Gwo-Shing</td>
<td>103, 701</td>
</tr>
<tr>
<td>Chen, Haoyan</td>
<td>443</td>
</tr>
<tr>
<td>Chen, Huan-Yuan</td>
<td>528</td>
</tr>
<tr>
<td>Chen, Hung-Lin</td>
<td>528</td>
</tr>
<tr>
<td>Chen, James</td>
<td>459, 683</td>
</tr>
<tr>
<td>Chen, James C.</td>
<td>682</td>
</tr>
<tr>
<td>Chen, Jiang</td>
<td>141, 649, 687</td>
</tr>
<tr>
<td>Chen, Jie</td>
<td>698</td>
</tr>
<tr>
<td>Chen, Jing</td>
<td>060</td>
</tr>
<tr>
<td>Chen, Julia</td>
<td>244</td>
</tr>
<tr>
<td>Chen, Mei</td>
<td>408, 490, 500, 712, 729</td>
</tr>
<tr>
<td>Chen, Nannan</td>
<td>603</td>
</tr>
<tr>
<td>Chen, Pinghun</td>
<td>109</td>
</tr>
<tr>
<td>Chen, Siming</td>
<td>663</td>
</tr>
<tr>
<td>Chen, Stella</td>
<td>282</td>
</tr>
<tr>
<td>Chen, Suehy C.</td>
<td>236, 284, 291, 307</td>
</tr>
<tr>
<td>Chen, Yilang</td>
<td>430</td>
</tr>
<tr>
<td>Chen, Ying</td>
<td>697</td>
</tr>
<tr>
<td>Chen, Yiyin E.</td>
<td>616</td>
</tr>
<tr>
<td>Chen, Yu-Ju</td>
<td>671</td>
</tr>
<tr>
<td>Chen, Zhengyi</td>
<td>334</td>
</tr>
<tr>
<td>Chen, Zhiguo</td>
<td>108</td>
</tr>
<tr>
<td>Cheng, Nancy</td>
<td>160, 231</td>
</tr>
<tr>
<td>Chernet's, Natalie</td>
<td>721, 722</td>
</tr>
<tr>
<td>Cheung, Carolyn</td>
<td>348, 360</td>
</tr>
<tr>
<td>Chien, Andy</td>
<td>303</td>
</tr>
<tr>
<td>Chien, Anna L.</td>
<td>160, 231, 250, 312, 314, 599</td>
</tr>
<tr>
<td>Chieves, Zelma C.</td>
<td>302</td>
</tr>
<tr>
<td>Chinnayian, Arul M.</td>
<td>440</td>
</tr>
<tr>
<td>Chiou, Albert S.</td>
<td>209</td>
</tr>
<tr>
<td>Chitsazadeh, Vida</td>
<td>110</td>
</tr>
<tr>
<td>Chittur, Sridar V.</td>
<td>706</td>
</tr>
<tr>
<td>Chu, Hsin-Yi</td>
<td>670</td>
</tr>
<tr>
<td>Cho, Alice</td>
<td>046</td>
</tr>
<tr>
<td>Cho, Eunyoung</td>
<td>178, 299, 304, 311, 321, 325</td>
</tr>
<tr>
<td>Cho, Gunisk</td>
<td>274</td>
</tr>
<tr>
<td>Cho, Hyunj G.</td>
<td>410</td>
</tr>
<tr>
<td>Cho, Joseph</td>
<td>625</td>
</tr>
<tr>
<td>Cho, Michael Jeffrey T.</td>
<td>018, 059</td>
</tr>
<tr>
<td>Cho, Nam H.</td>
<td>249</td>
</tr>
</tbody>
</table>

102
**AUTHOR INDEX**

<table>
<thead>
<tr>
<th>Author Name</th>
<th>Pages</th>
</tr>
</thead>
<tbody>
<tr>
<td>Couts, Kasey L.</td>
<td>106</td>
</tr>
<tr>
<td>Cowen, Edward W.</td>
<td>168</td>
</tr>
<tr>
<td>Cowin, Allison</td>
<td>538</td>
</tr>
<tr>
<td>Craiglow, Brittany</td>
<td>444, 458</td>
</tr>
<tr>
<td>Crisswell, Lindsey A.</td>
<td>443</td>
</tr>
<tr>
<td>Crosby, Heidi</td>
<td>545</td>
</tr>
<tr>
<td>Crowe, James</td>
<td>018</td>
</tr>
<tr>
<td>Crowson, Cynthia S.</td>
<td>050</td>
</tr>
<tr>
<td>Crumrine, Debra</td>
<td>348, 389</td>
</tr>
<tr>
<td>Cruz, Ponciano D.</td>
<td>096, 199</td>
</tr>
<tr>
<td>Cucumel, Karine</td>
<td>354, 627</td>
</tr>
<tr>
<td>Cuddapah, Chemakesava</td>
<td>476</td>
</tr>
<tr>
<td>Cui, Jiawei</td>
<td>685</td>
</tr>
<tr>
<td>Cui, Yali</td>
<td>629</td>
</tr>
<tr>
<td>Cunningham, Trevor J.</td>
<td>021</td>
</tr>
<tr>
<td>Cyster, Jason</td>
<td>555</td>
</tr>
<tr>
<td>Czarowicki, Tali</td>
<td>036, 055, 165, 255</td>
</tr>
<tr>
<td>da Silva, Vanessa V.</td>
<td>363</td>
</tr>
<tr>
<td>Dadras, Soheil S.</td>
<td>204, 442, 453, 661</td>
</tr>
<tr>
<td>Dagnino, Lisa</td>
<td>496</td>
</tr>
<tr>
<td>Dai, Peihong</td>
<td>570</td>
</tr>
<tr>
<td>Dai, Wei</td>
<td>456</td>
</tr>
<tr>
<td>Dai, Xiuju</td>
<td>472</td>
</tr>
<tr>
<td>Dai, Zhenpeng</td>
<td>019, 089, 090, 448, 682</td>
</tr>
<tr>
<td>Daily, Kenneth</td>
<td>241</td>
</tr>
<tr>
<td>Dakin, Adam</td>
<td>548</td>
</tr>
<tr>
<td>Daly, Mark</td>
<td>134</td>
</tr>
<tr>
<td>Dam, Duncan Hieu M.</td>
<td>480</td>
</tr>
<tr>
<td>Dana, Ali</td>
<td>294</td>
</tr>
<tr>
<td>Danesh, Melissa</td>
<td>095</td>
</tr>
<tr>
<td>Dang, Er-Le</td>
<td>012, 587</td>
</tr>
<tr>
<td>Daniel, Weston</td>
<td>413</td>
</tr>
<tr>
<td>Danso, Lolu</td>
<td>342, 343</td>
</tr>
<tr>
<td>Darji, Kavita</td>
<td>161</td>
</tr>
<tr>
<td>Darling, Thomas N.</td>
<td>168, 441</td>
</tr>
<tr>
<td>Das, Lopa</td>
<td>726</td>
</tr>
<tr>
<td>Dasgupta, Amrita</td>
<td>585</td>
</tr>
<tr>
<td>Daud, Adil</td>
<td>194</td>
</tr>
<tr>
<td>Davari, Parastoo</td>
<td>074, 170</td>
</tr>
<tr>
<td>David, Gloria</td>
<td>193, 350</td>
</tr>
<tr>
<td>David, Michael</td>
<td>457</td>
</tr>
<tr>
<td>Davies, Kelvin</td>
<td>713</td>
</tr>
<tr>
<td>Davies, Michael</td>
<td>625</td>
</tr>
<tr>
<td>Davis, Angela L.</td>
<td>650</td>
</tr>
<tr>
<td>Davis, Rachel</td>
<td>558</td>
</tr>
<tr>
<td>Dayal, Jasbani</td>
<td>486</td>
</tr>
<tr>
<td>de Almeida, Amanda</td>
<td>525</td>
</tr>
<tr>
<td>de Belilosky, Clarence</td>
<td>197</td>
</tr>
<tr>
<td>De Benedetto, Anna</td>
<td>213, 346, 350</td>
</tr>
<tr>
<td>de Carvalho, Camila M.</td>
<td>363</td>
</tr>
<tr>
<td>de Guzman Strong, Cristina</td>
<td>452</td>
</tr>
<tr>
<td>de Jung, Annemieke</td>
<td>019</td>
</tr>
<tr>
<td>de Thomasz, Andre</td>
<td>525</td>
</tr>
<tr>
<td>de Tollemaere, Morgane</td>
<td>718</td>
</tr>
<tr>
<td>De Vuyst, Evelyne</td>
<td>335</td>
</tr>
<tr>
<td>Debanne, Sarah</td>
<td>214</td>
</tr>
<tr>
<td>Debasish, Reja</td>
<td>308</td>
</tr>
<tr>
<td>Degan, Simone</td>
<td>040</td>
</tr>
<tr>
<td>Degrange, Veronique</td>
<td>380</td>
</tr>
<tr>
<td>Del Rio, Marcela</td>
<td>151</td>
</tr>
<tr>
<td>Delaney, Martha</td>
<td>256</td>
</tr>
<tr>
<td>Dellaravalle, Robert</td>
<td>270, 291, 300, 307, 313, 333</td>
</tr>
<tr>
<td>Delost, Gregory R.</td>
<td>212, 267, 332</td>
</tr>
<tr>
<td>Delost, Maria E.</td>
<td>212, 267</td>
</tr>
<tr>
<td>DeLoustre, Lisa A.</td>
<td>024</td>
</tr>
<tr>
<td>Demehri, Shadmehr</td>
<td>023</td>
</tr>
<tr>
<td>Denardo, David</td>
<td>021</td>
</tr>
<tr>
<td>Denda, Mitsuhiro</td>
<td>377</td>
</tr>
<tr>
<td>Denda, Sumiko</td>
<td>377</td>
</tr>
<tr>
<td>Deng, Jingwen</td>
<td>093</td>
</tr>
<tr>
<td>Deng, Liang</td>
<td>570</td>
</tr>
<tr>
<td>Dennis, Phillip A.</td>
<td>137</td>
</tr>
<tr>
<td>Dentschev, T</td>
<td>157, 416</td>
</tr>
<tr>
<td>DePianto, Daryl</td>
<td>144</td>
</tr>
<tr>
<td>Desai, Amishi</td>
<td>158</td>
</tr>
<tr>
<td>Desai, Nisha</td>
<td>672</td>
</tr>
<tr>
<td>Desai, Tejal</td>
<td>351</td>
</tr>
<tr>
<td>Deshayes, Stephanie</td>
<td>407</td>
</tr>
<tr>
<td>DeStefano, Gina M.</td>
<td>448, 683</td>
</tr>
<tr>
<td>Detmar, Michael</td>
<td>734</td>
</tr>
<tr>
<td>DeValaraja, Matt</td>
<td>221</td>
</tr>
<tr>
<td>Devlin, Philip</td>
<td>415</td>
</tr>
<tr>
<td>Dey-Rao, Rama</td>
<td>057, 069, 429</td>
</tr>
<tr>
<td>Di Nardo, Anna</td>
<td>560, 608</td>
</tr>
<tr>
<td>Diaconu, Doina</td>
<td>033, 561</td>
</tr>
<tr>
<td>Diamond, Ariana C.</td>
<td>638</td>
</tr>
<tr>
<td>Diaz, Ana</td>
<td>146</td>
</tr>
<tr>
<td>Diaz, Luis A.</td>
<td>091, 092, 152, 382, 494</td>
</tr>
<tr>
<td>Didona, Biagio</td>
<td>417</td>
</tr>
<tr>
<td>Didona, Dario</td>
<td>417</td>
</tr>
<tr>
<td>Dieterich, Lothar</td>
<td>734</td>
</tr>
<tr>
<td>DiGiovanna, John J.</td>
<td>112, 195</td>
</tr>
<tr>
<td>Dinarello, Charles A.</td>
<td>640</td>
</tr>
<tr>
<td>Ding, Anan</td>
<td>288</td>
</tr>
<tr>
<td>Ding, Catherine</td>
<td>344</td>
</tr>
<tr>
<td>Ding, Julia</td>
<td>167</td>
</tr>
<tr>
<td>Ding, Jun</td>
<td>440</td>
</tr>
<tr>
<td>Ding, Wanhong</td>
<td>020, 532</td>
</tr>
<tr>
<td>Dionne, L. A.</td>
<td>468</td>
</tr>
<tr>
<td>Dionne, Louise</td>
<td>453, 455</td>
</tr>
<tr>
<td>DiPersio, C. M.</td>
<td>706</td>
</tr>
<tr>
<td>DiPersio, John F.</td>
<td>038</td>
</tr>
<tr>
<td>Dissanyake, Shashini</td>
<td>707</td>
</tr>
<tr>
<td>Divito, Sherrie J.</td>
<td>043, 227, 262</td>
</tr>
<tr>
<td>Dlugosz, Andrzej</td>
<td>111, 124, 155</td>
</tr>
<tr>
<td>Drmochowski, Marian</td>
<td>285</td>
</tr>
<tr>
<td>Dodd, Erin M.</td>
<td>612</td>
</tr>
<tr>
<td>Dodwad, Shah-Johan</td>
<td>559</td>
</tr>
<tr>
<td>Doebel, Thomas</td>
<td>508</td>
</tr>
<tr>
<td>Dolly, Naomi</td>
<td>081</td>
</tr>
<tr>
<td>Domologe, Nouha</td>
<td>354, 355, 356, 357, 358, 627</td>
</tr>
<tr>
<td>Donahue, Greg</td>
<td>156</td>
</tr>
<tr>
<td>Dong, Chen</td>
<td>507</td>
</tr>
<tr>
<td>Dong, Chengguo</td>
<td>367</td>
</tr>
<tr>
<td>Dong, Hangming</td>
<td>729</td>
</tr>
<tr>
<td>Dong, Kelly</td>
<td>393</td>
</tr>
<tr>
<td>Donigan, Jessica M.</td>
<td>191, 233</td>
</tr>
<tr>
<td>Doong, Judy</td>
<td>312</td>
</tr>
<tr>
<td>Doppler, Stephan</td>
<td>364</td>
</tr>
<tr>
<td>Dorresten, Peter</td>
<td>193</td>
</tr>
<tr>
<td>Dorsey, Jean</td>
<td>156</td>
</tr>
<tr>
<td>Dotto, Gian Paolo</td>
<td>121, 122</td>
</tr>
<tr>
<td>Dou, Zhixun</td>
<td>156</td>
</tr>
<tr>
<td>Douglas, Stephanie</td>
<td>436</td>
</tr>
<tr>
<td>Douki, Thierry</td>
<td>606, 635</td>
</tr>
<tr>
<td>Doumani, Ryan</td>
<td>256</td>
</tr>
<tr>
<td>Dovekis, Julia</td>
<td>203</td>
</tr>
<tr>
<td>Drake, Adam</td>
<td>156</td>
</tr>
<tr>
<td>Drew, Ben</td>
<td>182</td>
</tr>
<tr>
<td>Drill, Esther</td>
<td>448</td>
</tr>
<tr>
<td>Drury, Kerry E.</td>
<td>320</td>
</tr>
<tr>
<td>Du, Tiankai</td>
<td>205, 269</td>
</tr>
<tr>
<td>Dubaz, Ornella</td>
<td>514</td>
</tr>
<tr>
<td>Duculan, Judilyn F.</td>
<td>281, 445</td>
</tr>
<tr>
<td>Dudley, Joel</td>
<td>491</td>
</tr>
<tr>
<td>Duggan, Chelsea</td>
<td>229</td>
</tr>
<tr>
<td>Duncan, Nathan</td>
<td>129, 223</td>
</tr>
<tr>
<td>Dunnick, Cory</td>
<td>300</td>
</tr>
<tr>
<td>Duo, Lina</td>
<td>456</td>
</tr>
<tr>
<td>Duperret, Elizabeth K.</td>
<td>474</td>
</tr>
<tr>
<td>Duszynski, Robert J.</td>
<td>138</td>
</tr>
<tr>
<td>Dutz, Jan P.</td>
<td>086, 449</td>
</tr>
<tr>
<td>Duvic, Madeleine</td>
<td>019, 079, 101, 179, 264, 423</td>
</tr>
<tr>
<td>Author</td>
<td>Page</td>
</tr>
<tr>
<td>-------------------------</td>
<td>------</td>
</tr>
<tr>
<td>Eash, Kyle</td>
<td>038</td>
</tr>
<tr>
<td>Eberlin, Livia S.</td>
<td>209</td>
</tr>
<tr>
<td>Eby, Jonathan</td>
<td>047</td>
</tr>
<tr>
<td>Eckert, Richard</td>
<td>143, 389, 460</td>
</tr>
<tr>
<td>Eckes, Beate</td>
<td>484</td>
</tr>
<tr>
<td>Eckhart, Leopold</td>
<td>388, 390</td>
</tr>
<tr>
<td>Edelson, Richard</td>
<td>031, 222</td>
</tr>
<tr>
<td>Efimova, Tatiana</td>
<td>681</td>
</tr>
<tr>
<td>Ehst, Benjamin D.</td>
<td>257, 258</td>
</tr>
<tr>
<td>Eichenseinfeld, Lawrence F.</td>
<td>207, 219</td>
</tr>
<tr>
<td>Eide, Melody J.</td>
<td>287</td>
</tr>
<tr>
<td>Eilers, David</td>
<td>291</td>
</tr>
<tr>
<td>Eischen, Christine M.</td>
<td>138</td>
</tr>
<tr>
<td>Eisenbrey, John R.</td>
<td>722</td>
</tr>
<tr>
<td>Ekjell, Sanna</td>
<td>221</td>
</tr>
<tr>
<td>Ekman, Anna-Karin</td>
<td>546</td>
</tr>
<tr>
<td>Ekström, Gunilla</td>
<td>006</td>
</tr>
<tr>
<td>El Ghallabouni, Abdoel</td>
<td>343</td>
</tr>
<tr>
<td>El-Domiyati, Meotaz</td>
<td>652</td>
</tr>
<tr>
<td>El, Chris</td>
<td>225, 262</td>
</tr>
<tr>
<td>Elder, James T.</td>
<td>248, 263, 438, 440, 446, 489</td>
</tr>
<tr>
<td>Elgart, George</td>
<td>657</td>
</tr>
<tr>
<td>Eliades, Philip</td>
<td>636</td>
</tr>
<tr>
<td>Elias, Peter M.</td>
<td>102, 348, 360, 381, 389, 400</td>
</tr>
<tr>
<td>Ellebrecht, Christoph</td>
<td>018, 059, 060, 071</td>
</tr>
<tr>
<td>Eller, Mark</td>
<td>639</td>
</tr>
<tr>
<td>Elmers, Craig A.</td>
<td>581, 582, 638, 651</td>
</tr>
<tr>
<td>Emerson, Ryan O.</td>
<td>039, 147</td>
</tr>
<tr>
<td>Enning, R</td>
<td>218</td>
</tr>
<tr>
<td>Enerback, Charlotte</td>
<td>546</td>
</tr>
<tr>
<td>Epstein, Ervin</td>
<td>004, 116, 135</td>
</tr>
<tr>
<td>Erdos, Geza</td>
<td>550</td>
</tr>
<tr>
<td>Erez, N</td>
<td>378, 450</td>
</tr>
<tr>
<td>Ericsson, Marna</td>
<td>277, 525, 563</td>
</tr>
<tr>
<td>Eriksson, Nicholas</td>
<td>244</td>
</tr>
<tr>
<td>Erkel, Adam</td>
<td>466</td>
</tr>
<tr>
<td>Ertongur-Fauth, Torsten</td>
<td>667</td>
</tr>
<tr>
<td>Esaki, Hitokazu</td>
<td>036, 165</td>
</tr>
<tr>
<td>Esandrio, Jessica</td>
<td>160, 231</td>
</tr>
<tr>
<td>Eskin-Schwartz, Marina</td>
<td>457</td>
</tr>
<tr>
<td>Esselin, Nicolas</td>
<td>355, 358</td>
</tr>
<tr>
<td>Esser, Charlotte</td>
<td>375</td>
</tr>
<tr>
<td>Esser, E. S.</td>
<td>045</td>
</tr>
<tr>
<td>Esteve-Puig, Rosaaura</td>
<td>613</td>
</tr>
<tr>
<td>Ettinger, Monika</td>
<td>016</td>
</tr>
<tr>
<td>Evangelista, Floria</td>
<td>091</td>
</tr>
<tr>
<td>Everts, Helen B.</td>
<td>665</td>
</tr>
<tr>
<td>Ewald, David A.</td>
<td>394</td>
</tr>
<tr>
<td>Eystein, Henni J.</td>
<td>175</td>
</tr>
<tr>
<td>Ezhkova, Elena</td>
<td>680</td>
</tr>
<tr>
<td>Feder, Rachel E.</td>
<td>003</td>
</tr>
<tr>
<td>Feeney, Luz</td>
<td>613</td>
</tr>
<tr>
<td>Feingold, Kenneth</td>
<td>381</td>
</tr>
<tr>
<td>Feldman, Ron J.</td>
<td>046, 061, 479</td>
</tr>
<tr>
<td>Feldstein, Stephanie</td>
<td>207</td>
</tr>
<tr>
<td>Felsen, Diane</td>
<td>698</td>
</tr>
<tr>
<td>Feina, Alisa N.</td>
<td>242, 279, 290</td>
</tr>
<tr>
<td>Feng, Cheng</td>
<td>456</td>
</tr>
<tr>
<td>Feng, Rui</td>
<td>056, 202, 596</td>
</tr>
<tr>
<td>Ferguson, Sara S.</td>
<td>298</td>
</tr>
<tr>
<td>Fernandez, Anthony P.</td>
<td>172</td>
</tr>
<tr>
<td>Fernandez, Jose R.</td>
<td>529, 568</td>
</tr>
<tr>
<td>Ferreira, Yolene</td>
<td>354, 627</td>
</tr>
<tr>
<td>Ferris, Laura</td>
<td>322</td>
</tr>
<tr>
<td>Fessing, Michael</td>
<td>679</td>
</tr>
<tr>
<td>Feuchtiger, Tobias</td>
<td>420</td>
</tr>
<tr>
<td>Fewkes, Natasha</td>
<td>308</td>
</tr>
<tr>
<td>Figak, Katarzyna</td>
<td>594</td>
</tr>
<tr>
<td>Filzweiser, Emanuel</td>
<td>594</td>
</tr>
<tr>
<td>Finkielstein, Ariel</td>
<td>399</td>
</tr>
<tr>
<td>Fiore, David</td>
<td>631, 724, 731</td>
</tr>
<tr>
<td>Fiorentino, David F.</td>
<td>064, 410</td>
</tr>
<tr>
<td>Fireman, Bruce</td>
<td>305</td>
</tr>
<tr>
<td>Fischbach, Michael A.</td>
<td>011</td>
</tr>
<tr>
<td>Fischer, Alexander H.</td>
<td>314</td>
</tr>
<tr>
<td>Fischer, Heinz</td>
<td>388, 390</td>
</tr>
<tr>
<td>Fishelevich, Rita</td>
<td>524</td>
</tr>
<tr>
<td>Fisher, David C.</td>
<td>421</td>
</tr>
<tr>
<td>Fisher, David E.</td>
<td>646</td>
</tr>
<tr>
<td>Fisher, Gary J.</td>
<td>139, 254, 492, 493</td>
</tr>
<tr>
<td>Fisher, Hannah M.</td>
<td>204</td>
</tr>
<tr>
<td>Fitzpatrick, James E.</td>
<td>141</td>
</tr>
<tr>
<td>Fleckman, Philip</td>
<td>195</td>
</tr>
<tr>
<td>Florek, Aleksandra G.</td>
<td>246, 303</td>
</tr>
<tr>
<td>Florence, Tiffany C.</td>
<td>253, 386</td>
</tr>
<tr>
<td>Flores, E. R.</td>
<td>110</td>
</tr>
<tr>
<td>Flores, Manuel A.</td>
<td>469</td>
</tr>
<tr>
<td>Frew, Ronald, Mercedes</td>
<td>301</td>
</tr>
<tr>
<td>Flower, Brittany</td>
<td>153</td>
</tr>
<tr>
<td>Flynn, Ryan A.</td>
<td>265</td>
</tr>
<tr>
<td>Foley, John G.</td>
<td>477, 736</td>
</tr>
<tr>
<td>Follansbee, Aaron T.</td>
<td>247</td>
</tr>
<tr>
<td>Forsberg, Flemming</td>
<td>722</td>
</tr>
<tr>
<td>Forsyth, Alexandra M.</td>
<td>127</td>
</tr>
<tr>
<td>Fortina, Paolo</td>
<td>466</td>
</tr>
<tr>
<td>Fo, Thompson</td>
<td>582</td>
</tr>
<tr>
<td>Francisco, Schroder J.</td>
<td>414</td>
</tr>
<tr>
<td>Franke, Andre</td>
<td>431</td>
</tr>
<tr>
<td>Franks, Andrew G.</td>
<td>051, 279</td>
</tr>
<tr>
<td>Frech, Tracy</td>
<td>087</td>
</tr>
<tr>
<td>Frechet, Mathilde</td>
<td>547</td>
</tr>
<tr>
<td>Freeman, Bruce</td>
<td>414</td>
</tr>
<tr>
<td>Freeman, Theresa A.</td>
<td>721, 722</td>
</tr>
<tr>
<td>Freis, Olga</td>
<td>485</td>
</tr>
<tr>
<td>Freund, Yvonne</td>
<td>507</td>
</tr>
<tr>
<td>Frias, Maria P.</td>
<td>189</td>
</tr>
<tr>
<td>Fridy, Sade</td>
<td>213, 346</td>
</tr>
<tr>
<td>Friedewald, John J.</td>
<td>105, 158</td>
</tr>
<tr>
<td>Friedman, Adam</td>
<td>531, 713</td>
</tr>
<tr>
<td>Friedman, Blake E.</td>
<td>035</td>
</tr>
<tr>
<td>Friedman, Joel</td>
<td>531, 713</td>
</tr>
<tr>
<td>Friedrich, Emily</td>
<td>550</td>
</tr>
<tr>
<td>Frisch, Stephanie</td>
<td>166</td>
</tr>
<tr>
<td>Fritz, Yi</td>
<td>033, 037, 495, 561</td>
</tr>
<tr>
<td>Frydenlund, Noah</td>
<td>614</td>
</tr>
<tr>
<td>Fu, Hang Lei</td>
<td>514</td>
</tr>
<tr>
<td>Fu, Xiulin</td>
<td>041</td>
</tr>
<tr>
<td>Fucaloro, Stephen</td>
<td>123</td>
</tr>
<tr>
<td>Fuchs-Telem, D</td>
<td>395</td>
</tr>
<tr>
<td>Fuentes-Duculan, Judily B.</td>
<td>266, 686</td>
</tr>
<tr>
<td>Fuhliggig, Robert C.</td>
<td>041, 043, 147</td>
</tr>
<tr>
<td>Fujikawa, Yoichiro</td>
<td>361</td>
</tr>
<tr>
<td>Fujisawa, Akhiro</td>
<td>106</td>
</tr>
<tr>
<td>Fujita, Andre</td>
<td>363</td>
</tr>
</tbody>
</table>
AUTHOR INDEX

Fujita, Hideki 177, 188
Fujita, Mayumi 106, 624, 640, 648, 649
Fujita, Yasuyuki 432
Fukai, Tatsuo 716
Fukami, Yasuo 623
Fukuda, Keitaro 993
Fukumoto, Takeshi 621
Fukunaga-Kalabis, Mizuho 646
Funakoshi, Takeru 998
Furniss, Megan 238, 272
Furukawa, Fukami 062
Furukawa, Louise K. 418

G

Gadek, Thomas 001
Gaide, Olivier 039
Gaiser, Maria R. 241
Gajjala, Abhinay 409
Galmerti, Fabrizio 172, 278
Gallagher, Katherine 263
Gallo, Richard L. 193, 282, 337, 513, 522, 543, 702
Gan, David 253, 386
Ganesh, Santhi 263
Gao, Bifeng 641
Gao, Lin 383
Gao, Tianwen 075, 319, 456, 619, 645
Gao, Wenshan 288
Gao, Xiang 324
Garbe, Claus 420
Garbet, Sandra 042, 280
Garcia, Andrea 702
Garcia, Imane 356
Garcia-Doval, Ignacio 189
Garcia-Malinis, Ana J 275
Gardner, Sue E. 533
Gareau, Daniel 049
Garrett-Mayer, Elizabeth 047
Garrity, Ryan 629
Garza, Luis A. 365, 599
Gaspari, Anthony 524
Gat, A 450
Gaydon, Amandine 485
Ge, Rui 645
Gearthy, Sofia V. 011, 016, 029
Geha, Raif 510
Gehad, Ahmed 026, 072, 082, 225, 415, 421
Gelfand, Joel 289, 302, 310
Geller, Alan 322
Geller, S 066, 218
George, Jasmine 654
Geraci, Mark 106
Gerstenblith, Adam 245
Gerstenblith, Meg R. 245, 292, 326
Geskin, Larisa 294
Gesumaria, Lisa 602
Getios, Spiro 399, 473, 723
Ghaddally, Ruby 384
Ghahary, Aziz 673
Ghannoun, Mahmoud 215
Ghaznavi, A 692
Gho, Deborah Stephanie 409
Ghoseishi, Mehran 086
Ghosn, Manju 438
Gibbons, Simon 372
Gibson, Juliet F. 222, 379
Gibson, Lawrence 243
Gilaberte, Yolanda 151, 189, 275, 583
Giljohnson, David 415
Gill, Liza 287
Gilleadeaud, Patricia 190
Gillette, Brian 401, 427, 715
Gilmore, Elaine 008
Giltaire, Séverine 335

Girardi, Michael 125, 222, 379
Giresi, Paul 451
Girling, Peter 476
Gkoutos, Georgios V. 204
Gilant, Tibor 567
Glass, Donald A. 329, 447
Glaz, Martin 180, 508
Gledhill, Karl 401, 427, 715
Glick, S. A. 344
Gober, Michael 149, 157
Gochmaner, Heather 685
Goggins, William 134
Goldberg, I 066, 378, 450
Golden, Jackelyn B. 033, 037, 278, 501
Goldsmith, T. 378
Goldstein, Nathaniel B. 641
Gondran, Catherine 354, 627
Gonzalez, Alfredo 629
Gonzalez, Juana 036, 055, 165, 698
Gonzalez, Salvador 151, 583
González, Javier 224
Goodrich, Jane K. 631
Goodwin, Zane 452
Gopaul, Remona 433
Gordon, Derek 118
Gordon, Elisa J. 158
Gordon, Joel S. 529, 568
Gorell, Emily 418
Goren, Andy 672
Gormley, Anna 097
Gornowicz-Porzowska, Justyna 285
Gorpas, Dimitris 170
Goruppi, Sandro G. 122
Goto, Makiko 377
Gotow, Erica 245
Gottlieb, Alice B. 406
Goubman, Bishop 381
Gounmih, Salma 269
Goyarts, Earl C. 630
Grachtchouk, M 155
Gracia-Cazaña, Tamara 583
Graf-Cohen, M 378
Graham, Neil 169
Grandhi, Radhika 160, 231, 250
Gransheier, Diana 136
Granstein, Richard D. 020, 226, 516, 532
Gray, Jayla 036, 165
Gray, Linda 210
Gray, Nathanael S. 636
Greco, Valentina 119, 404, 674
Green, Adam H. 536
Green, Gary 613
Green, Kathleen J. 105, 378, 475
Green, Russell 625
Grenstein, Ian 442
Grenier, Stephane 380
Grénman, Reidar 100
Grether-Beck, Susanne 375
Grice, Elizabeth A. 533, 553, 554
Grichtnik, James M. 639
Grifith, Alexis 358
Grifiths, Christopher E. 387
Grigoryan, Konstantin 270, 333
Grillari, Johannes 594
Groff, Sarah G. 278, 501
Grossmann, Allie 625
Gruber, Florian 594
Grun, Dan 143
Gu, LiHong 365
Gubens, Matthew 194
Gudjonsson, Johann E. 263, 399, 440, 446, 552, 723
Guerrero-Juarez, Christian F. 522
Guilabert, Antonio 091
Gujjar, Meera 063
AUTHOR INDEX

Huda, Sumeira 582
Huet-Adams, Beverley 186
Hughes, Michael W. 717
Hulis, Anke 286, 288, 293
Hupe, Melanie 349, 360, 400
Hurliman, Elisabeta 247
Hwang, Bin-Jin 152, 494
Hwang, Cheng 385
Hwang, Joonsung 097
Hwang, Sam 126, 517, 534, 544

J
Jabbari, Ali 019, 079, 089, 090, 238, 264, 272, 459
Jackow, Joanna 405
Jacob, Justin 144
Jacob, Sharon 291
Jacobe, Heidi 181
Jacobsen, Gordon 287
Jagdeo, Jared R. 577
Jain, Swaranjali V. 228
Jaju, Prajakta 135, 425
Jalili, Reza 673
Jammayrac, Odette 269
Jang, Min Soo 160, 231
Janssens, Michelle 343
Jarmag, Kort 507
Jatana, Samreen 024
Jay, Steve 142
Jayanthi, Ashika 470
Jayaorakash, Priyamvada 729
Je, Jeong Hwan 512
Jeanmaire, Christine 336
Jee, Shiou-Hwa 109, 633
Jensen, Liselotte 514
Jeon, Jiehyun 198
Jeong, Joseph S. 092
Jeong, Sam 276
Jeong, Se Kyoo 515, 660
Jhaveri, Mamt 236
Ji, Zhenyu 616
Jia, Peiling 138
Jian, Zhe 319, 619
Jiang, Man 012, 383
Jiang, Q. 426
Jiang, Ting-Xin 717
Jiam, Xiaoqiong 039, 041, 147
Jimenez, Joaquin 610, 657
Jin, Cheng Long 482
Jin, Guang C. 115
Jin, Li 288, 293
Jin, Liang 012, 587
Jin, Seon-Pil 217, 481, 601
Jin, Shan 017, 252, 556, 732
Jin, X 497
Jin, Zhe Hu 482
Jin, Seunghee 121
Johnson, Jodi L. 105
Johnson, Keith 488
Johnson, Kelly 118
Johnson, Mary Ann 246
Johnson, Timothy R. 254
Johnson-Huang, Leanne 049
Johnston, Andrew 175, 263, 399, 446, 530, 552
Jones, Evan 649
Jones, Evan C. 141, 687
Jones, Jonathan 703, 714
Jones, Kenneth 641
Jones, Leslie 688
Jones, Wendell 452
Jonsson, Charlotte 549
Jonsson, Goran 616
Joo, Sarah 312
Joseph, A K. 110
Jost, Christina 667
Joubert, Margot C. 123
Joung, Keith 435
Jourdain, Roland 269
Juarranz, Angeles 151, 583
Justiniano, Jeanine 629
Justiniano, Rebecca 609

K
Kabasawa, Miyoko 177
Kabashima, Kenji 085, 206, 394
Kabra, Madhulika 438
Kadiri, Tendai 411
Kadono, Takaumi 009, 177
Kahyla, Karen 403
Kahari, Veli-Matti 100
Kahlenberg, J M. 552
Kajita, Ai 551
Kajiy, Kentaro 471
Kalanhaste, Geetha 253, 386
Kalina, Sunil 331
Kalthoff, F 416
Kam, Sarah 232, 731
Kamata, Yayoi 340, 519
Kamberov, Yana 696
Kan, Haidong 288
Kanazawa, Nobuo 062
Kang, Hyun M. 440
Kang, Richard 413
Kang, Sewon 160, 231, 250, 274, 312, 314, 365, 599
Kao, Ming-Shan 513
Kao, Stephanie 407, 531
Kapelow, Rachel 162
Kaplan, Daniel 508, 521, 557
Kaplan, Mariana 203
Kaplan, Mark H. 048
Kaplan, Nihal 723
Kappes, John C. 638
Kappah, Christoph 315
Karakauma, Masaru 220
Karia, Prithesh 182
Karimkhani, Chante 300, 313, 333
Karlborg, Ann-Therese 549
Karlsson, Isabell 495, 549
Karnes, Susanne 394
Karst, S.Y. 468
Karst, Son Yong 454, 455
Kasheem, Saekeen W. 521
Kaskas, Nadine M. 536
Kasko, Andrea 407
Kaspar, Roger 469
Kasuya, Saori 208
Katzare, Meena 585, 684
Kathuria, Parul 327
Katiyar, Santosh K. 578, 579, 581, 591
Kaur, Manjinder 640
Kaur, Simarna 499
Kavanagh, Ann 210
Kavanagh, Jeffery S. 543
Kavadi, Sima 243
Kawaguchi, Makiko 177, 188
Kawakami, Yutaka 002
Kawasaki, Hiroshi 352
Keene, Douglas R. 408, 418
Keiser, Elizabeth 315
Keller, Christopher C. 212
Keller, Matthew S. 259, 395
Kelllet, Meghan D. 097
Kelly-Sumpia, KINDRA 572, 574
Kennedy, Victoria E. 052, 439, 661
Kennedy, William R. 247
Keri, Jonette 291
Kerkof, Keith 281
Kern, Dale G. 265, 433
Khalsa, Amrit S. 309
Khan, Neelam 056, 080
Khan, Sikandar G. 112
Khavari, Paul 145, 341, 391, 412, 418, 451
Khidhir, Karzan 678
Khosravi-Molkarlooeei, Mohsen 673
Khusital, Raaj P. 605, 663
Khru, Phucon 418
Kiatursrayon, Chanisa 526
Kibbi, Nour 031
Kido, Tatsuo 622
Kiefer, Amy 244
Kiguradze, Tintin 260
Killeen, Meghan 414
Kim, Arianna 115, 150, 597
Kim, Brian S. 535
Kim, Caroline C. 643
Kim, Chang-Eop 601
Kim, Dae H. 660
Kim, Dae Suk 512
Kim, Dong Joo 190, 198
Kim, Dongwon 365
Kim, Geurim 132
Kim, Hee Joo 512
Kim, Hyun J. 660
Kim, Jaehwan 190, 198, 228, 392
Kim, Jenny 407, 531
Kim, Jin-Chul 669
Kim, Jung-Chul 659
Kim, Kyu Han 483
Kim, Min-Kyung 481
Kim, Moon 659
Kim, Noon 160, 231
Kim, Richard 406
Kim, Su Hwan 515
Kim, Sung Hee 512
Kim, Sung Soo 217
Kim, Sung Wo 515
Kim, Tae H. 658
Kim, Tae-Kang 345
Kim, Tae Won 618
Kim, Yeon Kyung 483
Kim, Young II 102
Kim, Seo Hyeong 017, 252, 556, 732
Kimball, Alexa B. 233
Kimura, Makoto 575
King, Lloyd E. 204, 052, 439, 661
King, Megan 694
Kingman, Joshua 395, 422
Kirby, Joslyn 273, 296, 297, 298, 309, 328
Kircher, David 625
Kirkwood, John 322
Kirsanov, Kirill 491
Kirsch, Iain 225
Kiss, Alexi 681
Kitagawa, Hiroshi 137
Kitoh, Akihiko 206
Kittipongda, Wasakorn T. 117, 126
Klarquist, Jared 047
Klauser, Mitchell 566, 647, 725
Klechevsky, Evgen 025
Kleeff, Sonja 123
Klein, Rebecca 306
Klein, Sarah 734
Klektoka, Paul 281
Klenotic, Philip 530
Klint, Cecilia 006
Klover, Peter 441
Kluz, Thomas 602
Knaggs, Helen 265, 433
Ko, Christine J. 119, 436
Kobayashi, Tetsuro 508
Koelle, David 015
Koetsier, J 378
Kohwi-Shigematsu, Terumi 679
Koike, Saaya 700
Kolbe, Ludger 604, 727
Komine, Mayumi 220, 374
Komorowski, Lars 060
Kong, Betty 480
Kong, Heidi H. 180, 240, 508
Konger, Raymond L. 590, 593
Königsrainer, Alfred 420
Konnikov, Nellie 291
Koon, Henry 292
Kopan, Raphael 021
Kopecki, Zlatko 538
Koppel, Aaron 681
Korgavkar, Kavari 622
Korkmaz, Emrullah 550
Korman, Neel 214, 278, 424
Korolevich, Susanna 221
Koshiba, Takumi 361
Köster, Maranke L. 641
Kotol, Paul 193
Koval, Michael 351
Kovalenko, Yevgeniy 046
Kovalski, Joanna 412
Kowalczyk, Andrew 479, 704
Koyama, Sachiko 477
Kraemer, Kenneth H. 112
Kraft, Robert 187
Krajenta, Richard 287
Krakowski, Andrew 207
Kramer, Ursula 286
Krausz, Aimée 239, 295
Kricorian, Greg 201
<table>
<thead>
<tr>
<th>Author</th>
<th>Page Numbers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Krieg, Thomas</td>
<td>484</td>
</tr>
<tr>
<td>Krieger, José E.</td>
<td>316, 317, 318</td>
</tr>
<tr>
<td>Krishnan, Anuradha</td>
<td>658</td>
</tr>
<tr>
<td>Krol, Yevgeniy</td>
<td>603</td>
</tr>
<tr>
<td>Kroshinsky, Daniela</td>
<td>171</td>
</tr>
<tr>
<td>Krueger, James G.</td>
<td>036, 042, 049, 055, 082, 085, 186, 190, 192, 198, 225, 255, 266, 280, 281, 392, 394, 445, 562, 686</td>
</tr>
<tr>
<td>Krutmann, Jean</td>
<td>286, 288, 293, 375, 589</td>
</tr>
<tr>
<td>Kubick, Bradley J.</td>
<td>114</td>
</tr>
<tr>
<td>Kubo, Akiharu</td>
<td>352</td>
</tr>
<tr>
<td>Kubo, Kyoji</td>
<td>216</td>
</tr>
<tr>
<td>Kuhn, Diane M.</td>
<td>160, 231, 250</td>
</tr>
<tr>
<td>Kulichová, Daniela</td>
<td>667</td>
</tr>
<tr>
<td>Kumamoto, Junichi</td>
<td>377</td>
</tr>
<tr>
<td>Kumar, Anil</td>
<td>458</td>
</tr>
<tr>
<td>Kumar, Raj</td>
<td>636</td>
</tr>
<tr>
<td>Kumar, Kanjit</td>
<td>582</td>
</tr>
<tr>
<td>Kumar, Suresh</td>
<td>223</td>
</tr>
<tr>
<td>Kumar, Vinod</td>
<td>679</td>
</tr>
<tr>
<td>Kuo, Cheng-Chin</td>
<td>437</td>
</tr>
<tr>
<td>Kuo, Min-Liang</td>
<td>109</td>
</tr>
<tr>
<td>Kupper, Thomas S.</td>
<td>017, 026, 039, 041, 043, 072, 082, 123, 147, 225, 227, 262, 415, 421</td>
</tr>
<tr>
<td>Kurniawan, Jonas</td>
<td>249</td>
</tr>
<tr>
<td>Kurpad, Deepa</td>
<td>721, 722</td>
</tr>
<tr>
<td>Kutty, Lekha</td>
<td>624</td>
</tr>
<tr>
<td>Kwasy, Mary</td>
<td>158</td>
</tr>
<tr>
<td>Kwiatkowski, Nicholas</td>
<td>636</td>
</tr>
<tr>
<td>Labinadade, Florian</td>
<td>627</td>
</tr>
<tr>
<td>Lachmann, Nadège</td>
<td>197</td>
</tr>
<tr>
<td>Lalitte, Patrick</td>
<td>547</td>
</tr>
<tr>
<td>Lagnese, John</td>
<td>322</td>
</tr>
<tr>
<td>Lagovsky, Irina</td>
<td>457</td>
</tr>
<tr>
<td>Lai, Gary</td>
<td>717</td>
</tr>
<tr>
<td>Lai, Kevin</td>
<td>409</td>
</tr>
<tr>
<td>Lai, Olivia</td>
<td>490, 712</td>
</tr>
<tr>
<td>Lai, Zhiqin</td>
<td>044</td>
</tr>
<tr>
<td>Laiho, Lily</td>
<td>586</td>
</tr>
<tr>
<td>Lair, Petra</td>
<td>364</td>
</tr>
<tr>
<td>Lajevardi, Newsha</td>
<td>304</td>
</tr>
<tr>
<td>Lala, Deepak</td>
<td>367</td>
</tr>
<tr>
<td>Lall, Rahul K.</td>
<td>598</td>
</tr>
<tr>
<td>Lally, Aiofe</td>
<td>210</td>
</tr>
<tr>
<td>Lam, Christina</td>
<td>232</td>
</tr>
<tr>
<td>Lam, Minh</td>
<td>584</td>
</tr>
<tr>
<td>Lambert, Sylviane</td>
<td>248</td>
</tr>
<tr>
<td>Lambert de Rouvroit, Catherine</td>
<td>335</td>
</tr>
<tr>
<td>Lan, Cheng-Chen</td>
<td>701</td>
</tr>
<tr>
<td>Lancet, D</td>
<td>066</td>
</tr>
<tr>
<td>Landriscina, Angelo</td>
<td>531</td>
</tr>
<tr>
<td>Landry, Tim</td>
<td>366</td>
</tr>
<tr>
<td>Lane, Majella E.</td>
<td>372, 569</td>
</tr>
<tr>
<td>Lane, Alfred</td>
<td>418</td>
</tr>
<tr>
<td>Langbein, Lutz</td>
<td>388</td>
</tr>
<tr>
<td>Langenhan, Jamie</td>
<td>596</td>
</tr>
<tr>
<td>Langer, Jessica</td>
<td>269</td>
</tr>
<tr>
<td>Langerveld, Anna J.</td>
<td>433</td>
</tr>
<tr>
<td>Langhoff, Erik</td>
<td>294</td>
</tr>
<tr>
<td>Langridge, Timothy</td>
<td>101, 423</td>
</tr>
<tr>
<td>Lanke, Lakshmana R.</td>
<td>176</td>
</tr>
<tr>
<td>Lank, Padmavathy</td>
<td>176</td>
</tr>
<tr>
<td>Larcher, Fernando</td>
<td>151</td>
</tr>
<tr>
<td>Lardone, Ricardo D.</td>
<td>201</td>
</tr>
<tr>
<td>Larregina, Adriana T.</td>
<td>030, 541</td>
</tr>
<tr>
<td>Latif, Hayberm</td>
<td>193</td>
</tr>
<tr>
<td>Latkovski, Jo-Ann</td>
<td>237</td>
</tr>
<tr>
<td>Lau, Chris</td>
<td>622</td>
</tr>
<tr>
<td>Laumann, Anne E.</td>
<td>260</td>
</tr>
<tr>
<td>Lauren, Christine</td>
<td>444</td>
</tr>
<tr>
<td>Lavertu, Pierre</td>
<td>292</td>
</tr>
</tbody>
</table>

Lavriisen, Sjan 343
Lavriisen, Sjan 343
Lazar, Jozef 129
Lazarova, Zelmira 129, 223
Lee, Li Q. 108
Le Poole, Caroline 047
Lebeaux, Celine 542
Lebleu, Alexia 354
LeBoeuf, Matthew 668
Lebonvallet, Nicolas 336
Lechler, Terry 113, 371
Leclere-Bienfait, Sophie 369
Lee, Alexander 425
Lee, Carolyn 145
Lee, Chih-Hung 103, 523
Lee, Chun-Yue I. 185
Lee, Da 509
Lee, Dayae 483
Lee, Delphine J. 201
Lee, Dong Hun 217, 481
Lee, Dong Won 732
Lee, Ga-Young 421
Lee, Hemin 017, 252, 556
Lee, Ji Hyun 022, 540
Lee, Ju Hee 252, 732
Lee, Jun young 022
Lee, Jungsoo 017, 252, 556
Lee, Kristina M. 443
Lee, Kwang H. 017, 085, 252, 556, 732
Lee, Min-Geol 512
Lee, Robert A. 337
Lee, Sandra J. 643
Lee, Se-Rah 217, 481
Lee, Seung Yun 251
Lee, Sin Hee 515
Lee, Vivian 149
Lee, Wei-Li 344
Lee, Wen-han 715
Lee, Wendy 689
Lee, WON JI 732
Lee, Ye Jin 022
Lee, Ying-Hsien 513
Lee, Yong-Moon 102
Lee, Young S. 273, 296, 328
Leithers, Katerina 367
Legouffe, Raphael 376
Lehigh, Elisabeth 433
Lehman, Julia 243
Lehmann, Kim 221
Leigh, Irene 486
Lenn, Jon 005
Lens, Assuan 610
Lentini, Tim 049
Leone, Dominick 614
Leothy-Okoabi, Sabrina 485, 542
Lerchne, A. 416
Leslie, Douglas S. 297
Lesovaya, Ekaterina 491
Leung, Donald 193, 350
Leung, Sherry 160, 231, 599
Leung, Thomas H. 418
Lev-Yov, Hadar 239, 295
Lever, R. 569
Levin, Lonny 146
Levine, Michael A. 422
Levinsohn, Jonathan 465
Lew, Robert 291
Lewandowski, Katherine 413
Lewis, Christopher W. 196
Lewis, Julia 125, 379
Lewis, Steven M. 049
Li, Angela 234
Li, Bing 012, 023
Li, Bingshan 440
Li, Changshao 571
<table>
<thead>
<tr>
<th>Name</th>
<th>Page Numbers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Li, Chenglong</td>
<td>027</td>
</tr>
<tr>
<td>Li, Chengxin</td>
<td>592</td>
</tr>
<tr>
<td>Li, Chunying</td>
<td>075, 319, 456, 619, 645</td>
</tr>
<tr>
<td>Li, Hui</td>
<td>591, 650</td>
</tr>
<tr>
<td>Li, Jennifer C.</td>
<td>330</td>
</tr>
<tr>
<td>Li, Jiang</td>
<td>120, 132</td>
</tr>
<tr>
<td>Li, Jilong</td>
<td>149</td>
</tr>
<tr>
<td>Li, Kai</td>
<td>319</td>
</tr>
<tr>
<td>Li, Li</td>
<td>141, 334, 708</td>
</tr>
<tr>
<td>Li, Lingjie</td>
<td>428</td>
</tr>
<tr>
<td>Li, Lingna</td>
<td>691</td>
</tr>
<tr>
<td>Li, Luowei</td>
<td>153</td>
</tr>
<tr>
<td>Li, Mingli</td>
<td>047</td>
</tr>
<tr>
<td>Li, Ning</td>
<td>091, 152, 382, 494</td>
</tr>
<tr>
<td>Li, Q.</td>
<td>259, 378, 395, 422, 462, 464, 466, 468, 692, 730</td>
</tr>
<tr>
<td>Li, Rui</td>
<td>244, 265</td>
</tr>
<tr>
<td>Li, Shaowei</td>
<td>168, 441</td>
</tr>
<tr>
<td>Li, Shufeng</td>
<td>234</td>
</tr>
<tr>
<td>Li, Shuli</td>
<td>456</td>
</tr>
<tr>
<td>Li, Tricia</td>
<td>325</td>
</tr>
<tr>
<td>Li, Wei</td>
<td>053, 104, 345, 500, 729</td>
</tr>
<tr>
<td>Li, Wen-Qing</td>
<td>178, 299, 304, 311, 323, 324, 325</td>
</tr>
<tr>
<td>Li, Xiaoxue</td>
<td>643</td>
</tr>
<tr>
<td>Li, Xilong</td>
<td>186</td>
</tr>
<tr>
<td>Li, Yong</td>
<td>467</td>
</tr>
<tr>
<td>Li, Yuneng</td>
<td>033, 037</td>
</tr>
<tr>
<td>Li, Yunmin</td>
<td>622</td>
</tr>
<tr>
<td>Li, Zhiwen</td>
<td>293</td>
</tr>
<tr>
<td>Liang, Bruce T.</td>
<td>442</td>
</tr>
<tr>
<td>Liang, Christine</td>
<td>182</td>
</tr>
<tr>
<td>Liao, Chun-Ping</td>
<td>108</td>
</tr>
<tr>
<td>Liao, Wilson</td>
<td>093, 431, 443</td>
</tr>
<tr>
<td>Liaw, Eric</td>
<td>428</td>
</tr>
<tr>
<td>Libove, Eileen</td>
<td>116</td>
</tr>
<tr>
<td>Lichtman, Michael</td>
<td>232, 731</td>
</tr>
<tr>
<td>Lifton, Richard</td>
<td>444</td>
</tr>
<tr>
<td>Lifton, Richard P.</td>
<td>436</td>
</tr>
<tr>
<td>Lilly, Evelyn</td>
<td>200</td>
</tr>
<tr>
<td>Lim, Henry W.</td>
<td>287, 582</td>
</tr>
<tr>
<td>Lim, Young H.</td>
<td>436</td>
</tr>
<tr>
<td>Lin, Andrew</td>
<td>187</td>
</tr>
<tr>
<td>Lin, Athena</td>
<td>249</td>
</tr>
<tr>
<td>Lin, Charles</td>
<td>041</td>
</tr>
<tr>
<td>Lin, Chenyan</td>
<td>060</td>
</tr>
<tr>
<td>Lin, Congxing</td>
<td>681</td>
</tr>
<tr>
<td>Lin, Fuhao</td>
<td>710</td>
</tr>
<tr>
<td>Lin, Hsien-Yi</td>
<td>437</td>
</tr>
<tr>
<td>Lin, Jiayuh</td>
<td>027</td>
</tr>
<tr>
<td>Lin, Kevin</td>
<td>194, 409</td>
</tr>
<tr>
<td>Lin, Lin</td>
<td>152, 494</td>
</tr>
<tr>
<td>Lin, Pei-Husan</td>
<td>437</td>
</tr>
<tr>
<td>Lin, Samantha</td>
<td>662</td>
</tr>
<tr>
<td>Lin, Steven</td>
<td>246</td>
</tr>
<tr>
<td>Lin, Sung-Jan</td>
<td>670, 671, 676</td>
</tr>
<tr>
<td>Lin, Xiaofeng</td>
<td>631, 724, 728, 731</td>
</tr>
<tr>
<td>Lin, Zhimiao</td>
<td>456</td>
</tr>
<tr>
<td>Lipinski, Kerri K.</td>
<td>367</td>
</tr>
<tr>
<td>Lish, Samantha</td>
<td>049</td>
</tr>
<tr>
<td>Lissin, Dmitri</td>
<td>406</td>
</tr>
<tr>
<td>Litman, Thomas</td>
<td>394</td>
</tr>
<tr>
<td>Liu, Aimin</td>
<td>141</td>
</tr>
<tr>
<td>Liu, Chengbao</td>
<td>141</td>
</tr>
<tr>
<td>Liu, Chiaochi</td>
<td>108</td>
</tr>
<tr>
<td>Liu, Fang</td>
<td>668, 691</td>
</tr>
<tr>
<td>Liu, Fu-Tong</td>
<td>246, 528</td>
</tr>
<tr>
<td>Liu, Guodong S.</td>
<td>296, 309</td>
</tr>
<tr>
<td>Liu, Ji-Bin</td>
<td>722</td>
</tr>
<tr>
<td>Liu, Jianjun</td>
<td>431, 443</td>
</tr>
<tr>
<td>Liu, Kristina</td>
<td>222</td>
</tr>
<tr>
<td>Liu, Liang</td>
<td>597</td>
</tr>
<tr>
<td>Liu, Lin</td>
<td>645</td>
</tr>
<tr>
<td>Liu, Ling</td>
<td>075, 319</td>
</tr>
<tr>
<td>Liu, Ming</td>
<td>169</td>
</tr>
<tr>
<td>Liu, Minglin</td>
<td>067</td>
</tr>
<tr>
<td>Liu, Qin</td>
<td>535</td>
</tr>
<tr>
<td>Liu, Sucai</td>
<td>624</td>
</tr>
<tr>
<td>Liu, Weimin</td>
<td>640</td>
</tr>
<tr>
<td>Liu, Xinjan</td>
<td>128</td>
</tr>
<tr>
<td>Liu, Xiping</td>
<td>517</td>
</tr>
<tr>
<td>Liu, Ying</td>
<td>687</td>
</tr>
<tr>
<td>Liu, Yong</td>
<td>003, 004, 007</td>
</tr>
<tr>
<td>Liu, Zhen</td>
<td>152</td>
</tr>
<tr>
<td>Liu, Zhi</td>
<td>091, 152, 382, 494</td>
</tr>
<tr>
<td>Livingston, John</td>
<td>622</td>
</tr>
<tr>
<td>Lloyd, Michele</td>
<td>173</td>
</tr>
<tr>
<td>Lloyd, Jennifer R.</td>
<td>212, 267</td>
</tr>
<tr>
<td>Lo, Chia-Hui</td>
<td>528</td>
</tr>
<tr>
<td>Lo, Yuan-Hsin</td>
<td>528</td>
</tr>
<tr>
<td>Lockhart, Alexandre</td>
<td>193, 350</td>
</tr>
<tr>
<td>Lockshin, Benjamin</td>
<td>203</td>
</tr>
<tr>
<td>Loesch, Mathew</td>
<td>154</td>
</tr>
<tr>
<td>Loesche, Michael</td>
<td>533</td>
</tr>
<tr>
<td>Loefahl, Anna</td>
<td>006</td>
</tr>
<tr>
<td>Loftus, Serena</td>
<td>043</td>
</tr>
<tr>
<td>Loh, Clement C.</td>
<td>228</td>
</tr>
<tr>
<td>Londono, Douglas</td>
<td>118</td>
</tr>
<tr>
<td>Longley, Jack</td>
<td>598</td>
</tr>
<tr>
<td>Longmate, Whitney M.</td>
<td>706</td>
</tr>
<tr>
<td>Lopez de Padilla, Consuelo</td>
<td>050</td>
</tr>
<tr>
<td>Lopez-Pajares, Vanessa</td>
<td>391</td>
</tr>
<tr>
<td>Lorenzini, Marco</td>
<td>363</td>
</tr>
<tr>
<td>Lorenz, H. P.</td>
<td>418</td>
</tr>
<tr>
<td>Lorinda, Chung</td>
<td>064</td>
</tr>
<tr>
<td>Loring, Erin</td>
<td>444</td>
</tr>
<tr>
<td>Lutes, Stephen</td>
<td>367</td>
</tr>
<tr>
<td>Lott, Jason P.</td>
<td>313</td>
</tr>
<tr>
<td>Lotto, Christine F.</td>
<td>497, 730</td>
</tr>
<tr>
<td>Loutit, Kylie</td>
<td>418</td>
</tr>
<tr>
<td>Low, Benjamin E.</td>
<td>435</td>
</tr>
<tr>
<td>Low, Hui Qi</td>
<td>431</td>
</tr>
<tr>
<td>Lowe, Margaret</td>
<td>095</td>
</tr>
<tr>
<td>Lowes, Michelle</td>
<td>049, 190, 198</td>
</tr>
<tr>
<td>Lowry, Elizabeth</td>
<td>072, 082, 225, 415, 421</td>
</tr>
<tr>
<td>Lu, Chuanjian</td>
<td>093</td>
</tr>
<tr>
<td>Lu, Kurt Q.</td>
<td>726</td>
</tr>
<tr>
<td>Lu, Meng-Ping</td>
<td>528</td>
</tr>
<tr>
<td>Lu, Ming</td>
<td>498</td>
</tr>
<tr>
<td>Lu, Yan</td>
<td>648</td>
</tr>
<tr>
<td>Lucena, Silvia</td>
<td>151</td>
</tr>
<tr>
<td>Luiten, Rosalie</td>
<td>047</td>
</tr>
<tr>
<td>Luna, Sara A.</td>
<td>194</td>
</tr>
<tr>
<td>Luo, Yuchun</td>
<td>106, 624, 640, 648</td>
</tr>
<tr>
<td>Luria, Victor</td>
<td>720</td>
</tr>
<tr>
<td>Lwin, Su M.</td>
<td>411</td>
</tr>
<tr>
<td>Lygii, John</td>
<td>385, 605, 663, 697</td>
</tr>
<tr>
<td>Lyles, James</td>
<td>545</td>
</tr>
<tr>
<td>Lyons, Scott P.</td>
<td>706</td>
</tr>
<tr>
<td>Lyssiotis, Costas</td>
<td>146</td>
</tr>
</tbody>
</table>

**M**

<table>
<thead>
<tr>
<th>Name</th>
<th>Page Numbers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ma, Averil</td>
<td>443</td>
</tr>
<tr>
<td>Ma, Cuiling</td>
<td>456</td>
</tr>
<tr>
<td>Ma, Dinglong</td>
<td>170</td>
</tr>
<tr>
<td>Ma, Liang</td>
<td>681</td>
</tr>
<tr>
<td>Macarack, Edward</td>
<td>497, 705</td>
</tr>
<tr>
<td>Maccario, Frederic</td>
<td>547</td>
</tr>
<tr>
<td>Mack, Madison R.</td>
<td>535</td>
</tr>
<tr>
<td>Mackay-Wiggan, Julian</td>
<td>019, 079, 238, 264, 272</td>
</tr>
<tr>
<td>Mackelfresh, Jamie</td>
<td>176</td>
</tr>
<tr>
<td>MacLeod, Amanda S.</td>
<td>040</td>
</tr>
<tr>
<td>Maghami, Siaavash</td>
<td>707</td>
</tr>
<tr>
<td>Magin, Thomas</td>
<td>679</td>
</tr>
<tr>
<td>Mah, Angela</td>
<td>145</td>
</tr>
<tr>
<td>Mahalingam, Meera</td>
<td>614</td>
</tr>
<tr>
<td>Mahoney, My G.</td>
<td>502, 721</td>
</tr>
<tr>
<td>Maidhof, Robert</td>
<td>697</td>
</tr>
<tr>
<td>Author Name</td>
<td>Pages</td>
</tr>
<tr>
<td>-----------------------------</td>
<td>-------------</td>
</tr>
<tr>
<td>Mak, Yvonnie</td>
<td>507</td>
</tr>
<tr>
<td>Maki, Nobuki</td>
<td>220</td>
</tr>
<tr>
<td>Malajian, Dana</td>
<td>036, 165, 562</td>
</tr>
<tr>
<td>Malashchuk, Igor</td>
<td>679</td>
</tr>
<tr>
<td>Malchin, N.</td>
<td>378, 450</td>
</tr>
<tr>
<td>Malnychuk, Viktor</td>
<td>249</td>
</tr>
<tr>
<td>Mamalis, Andrew</td>
<td>577</td>
</tr>
<tr>
<td>Man, George</td>
<td>348, 360</td>
</tr>
<tr>
<td>Man, Mao-Qiang</td>
<td>348, 360, 400</td>
</tr>
<tr>
<td>Manco, Megan</td>
<td>249</td>
</tr>
<tr>
<td>Mangelberger, Doris</td>
<td>124</td>
</tr>
<tr>
<td>Manivasan, Sridh</td>
<td>021</td>
</tr>
<tr>
<td>Manley, Michael</td>
<td>210</td>
</tr>
<tr>
<td>Mano, Camilla</td>
<td>606, 635</td>
</tr>
<tr>
<td>Manser, Timothy</td>
<td>094</td>
</tr>
<tr>
<td>Manson, JoAnn E.</td>
<td>315</td>
</tr>
<tr>
<td>Mansouri, P</td>
<td>464</td>
</tr>
<tr>
<td>Mansouri, Yasaman</td>
<td>686</td>
</tr>
<tr>
<td>Mantel, Alon</td>
<td>684</td>
</tr>
<tr>
<td>Mao, Xuming</td>
<td>059</td>
</tr>
<tr>
<td>Mao, Yuje</td>
<td>708</td>
</tr>
<tr>
<td>Marcu, Laura</td>
<td>170</td>
</tr>
<tr>
<td>Marcus, Andrew</td>
<td>367</td>
</tr>
<tr>
<td>Mardaraye, Andrei</td>
<td>679, 709</td>
</tr>
<tr>
<td>Marfatia, Tivilk</td>
<td>452</td>
</tr>
<tr>
<td>Margolis, David J.</td>
<td>533</td>
</tr>
<tr>
<td>Marinaro, Xavier</td>
<td>261</td>
</tr>
<tr>
<td>Marinkovich, M. Peter</td>
<td>412, 418</td>
</tr>
<tr>
<td>Marito, Shinta</td>
<td>539</td>
</tr>
<tr>
<td>Markioli, Pierre-Gilles</td>
<td>547</td>
</tr>
<tr>
<td>Markovic, Adrienn</td>
<td>567</td>
</tr>
<tr>
<td>Marshall, C</td>
<td>149, 157, 416</td>
</tr>
<tr>
<td>Martin, Jo</td>
<td>599</td>
</tr>
<tr>
<td>Martinez, Anna</td>
<td>411</td>
</tr>
<tr>
<td>Martinez, Camilo</td>
<td>230</td>
</tr>
<tr>
<td>Martinez-Queipo, Magdalenia</td>
<td>411</td>
</tr>
<tr>
<td>Martinez-Rosales, Karla I.</td>
<td>268, 615</td>
</tr>
<tr>
<td>Martinka, Magdalenia</td>
<td>449</td>
</tr>
<tr>
<td>Martire, Kathryn J.</td>
<td>237, 211</td>
</tr>
<tr>
<td>Mattala, Jaana</td>
<td>705, 733</td>
</tr>
<tr>
<td>Marty, Timour</td>
<td>281</td>
</tr>
<tr>
<td>Marzuka, Alexander</td>
<td>632</td>
</tr>
<tr>
<td>Masashi, Miyai</td>
<td>368</td>
</tr>
<tr>
<td>Masuda, Hideyuki</td>
<td>575</td>
</tr>
<tr>
<td>Mathelier, Anthony</td>
<td>734</td>
</tr>
<tr>
<td>Mathers, Alicia R.</td>
<td>414, 550</td>
</tr>
<tr>
<td>Mathias, Rasika</td>
<td>350</td>
</tr>
<tr>
<td>Mathur, Anubhav N.</td>
<td>034</td>
</tr>
<tr>
<td>Matos, Tiago R.</td>
<td>026, 072, 082, 415</td>
</tr>
<tr>
<td>Matsu, Mary S.</td>
<td>288, 293, 602</td>
</tr>
<tr>
<td>Matsutomo, Yuuko</td>
<td>368</td>
</tr>
<tr>
<td>Matsushita, Natsumi</td>
<td>472</td>
</tr>
<tr>
<td>Matthesyes, Alexa</td>
<td>479</td>
</tr>
<tr>
<td>Matts, P. J.</td>
<td>569</td>
</tr>
<tr>
<td>Mauro, Michael</td>
<td>257</td>
</tr>
<tr>
<td>Mauro, Theodora</td>
<td>102, 351, 381</td>
</tr>
<tr>
<td>Masson, Robert</td>
<td>717</td>
</tr>
<tr>
<td>Maxwell, Melissa</td>
<td>487, 642</td>
</tr>
<tr>
<td>Mazori, Daniel R.</td>
<td>242, 279, 290</td>
</tr>
<tr>
<td>McArdle, Susan</td>
<td>256</td>
</tr>
<tr>
<td>McBride, Jeffrey D.</td>
<td>087</td>
</tr>
<tr>
<td>McCavana, Jackie</td>
<td>210</td>
</tr>
<tr>
<td>McClain, Steven</td>
<td>261</td>
</tr>
<tr>
<td>McCormick, Thomas</td>
<td>033, 037, 214, 278, 501, 530, 561</td>
</tr>
<tr>
<td>McCoy, John</td>
<td>672</td>
</tr>
<tr>
<td>McCray, Christina</td>
<td>040</td>
</tr>
<tr>
<td>McElwee, Kevin J.</td>
<td>673</td>
</tr>
<tr>
<td>McGeihan, Gerard M.</td>
<td>367</td>
</tr>
<tr>
<td>McGint, Laura Y.</td>
<td>138</td>
</tr>
<tr>
<td>McGrath, John</td>
<td>408, 411, 486</td>
</tr>
<tr>
<td>Mcguin, Kathleen P.</td>
<td>502</td>
</tr>
<tr>
<td>McLean, Irwin</td>
<td>450, 486</td>
</tr>
<tr>
<td>McManus, Hamish</td>
<td>228</td>
</tr>
<tr>
<td>McMillan, James</td>
<td>486</td>
</tr>
<tr>
<td>McNeely, Tessie B.</td>
<td>548</td>
</tr>
<tr>
<td>McNiff, Jennifer</td>
<td>436, 465</td>
</tr>
<tr>
<td>Means, Alex</td>
<td>306</td>
</tr>
<tr>
<td>Meadman, John</td>
<td>710</td>
</tr>
<tr>
<td>Medler, Terry R.</td>
<td>127</td>
</tr>
<tr>
<td>Mehrotra, Shikhar</td>
<td>047</td>
</tr>
<tr>
<td>Mehta, Nehal N.</td>
<td>203, 219</td>
</tr>
<tr>
<td>Mei, Bing C.</td>
<td>385</td>
</tr>
<tr>
<td>Meisel, Jacquelyn</td>
<td>553, 554</td>
</tr>
<tr>
<td>Mellerio, Jemima</td>
<td>411</td>
</tr>
<tr>
<td>Melo, Sandra</td>
<td>428</td>
</tr>
<tr>
<td>Meloni, Marisa</td>
<td>718</td>
</tr>
<tr>
<td>Meng, Shi</td>
<td>367</td>
</tr>
<tr>
<td>Merghoub, Taha</td>
<td>146</td>
</tr>
<tr>
<td>Merideth, Melissa</td>
<td>112</td>
</tr>
<tr>
<td>Mesinkovska, Natasha</td>
<td>665</td>
</tr>
<tr>
<td>Messenger, Gregory</td>
<td>229</td>
</tr>
<tr>
<td>Messersmith, Wells</td>
<td>624</td>
</tr>
<tr>
<td>Messina, Catherine</td>
<td>315</td>
</tr>
<tr>
<td>Messingham, Kelly</td>
<td>083, 084</td>
</tr>
<tr>
<td>Metzger, D</td>
<td>155</td>
</tr>
<tr>
<td>Metzger, Todd C.</td>
<td>028</td>
</tr>
<tr>
<td>Metzger, YC</td>
<td>450</td>
</tr>
<tr>
<td>Meyer, Colin J.</td>
<td>185</td>
</tr>
<tr>
<td>Meyer, Melissa</td>
<td>021</td>
</tr>
<tr>
<td>Mi, Qing-Sheng</td>
<td>093</td>
</tr>
<tr>
<td>Miccio, Joseph A.</td>
<td>261</td>
</tr>
<tr>
<td>Micevic, Goran</td>
<td>634</td>
</tr>
<tr>
<td>Michaels, Kellie A.</td>
<td>495</td>
</tr>
<tr>
<td>Michalowski, Aleksandra</td>
<td>153</td>
</tr>
<tr>
<td>Michalski, Basia M.</td>
<td>129</td>
</tr>
<tr>
<td>Mieremet, Arnout</td>
<td>342</td>
</tr>
<tr>
<td>Migliano, Emilia</td>
<td>719</td>
</tr>
<tr>
<td>Mii, Sumiyuki</td>
<td>691</td>
</tr>
<tr>
<td>Milam, Emily C.</td>
<td>051</td>
</tr>
<tr>
<td>Millar, Sarah</td>
<td>668, 685</td>
</tr>
<tr>
<td>Miller, David M.</td>
<td>636</td>
</tr>
<tr>
<td>Miller, Jeffrey J.</td>
<td>297</td>
</tr>
<tr>
<td>Miller, Lloyd S.</td>
<td>509, 510</td>
</tr>
<tr>
<td>Miller, Natalie</td>
<td>015</td>
</tr>
<tr>
<td>Millerman, Beth</td>
<td>505</td>
</tr>
<tr>
<td>Mills, David K.</td>
<td>536</td>
</tr>
<tr>
<td>Milone, Michael C.</td>
<td>059</td>
</tr>
<tr>
<td>Milora, Katelynn A.</td>
<td>514</td>
</tr>
<tr>
<td>Milstone, Leonard</td>
<td>458</td>
</tr>
<tr>
<td>Ming, Mei</td>
<td>107, 347</td>
</tr>
<tr>
<td>Minot, Samuel</td>
<td>553</td>
</tr>
<tr>
<td>Mirkin, Chad</td>
<td>373, 413</td>
</tr>
<tr>
<td>Mirza, Hars</td>
<td>458</td>
</tr>
<tr>
<td>Miseray, Laurent</td>
<td>336</td>
</tr>
<tr>
<td>Missaghi, Melody</td>
<td>173</td>
</tr>
<tr>
<td>Mitchell, Brendan</td>
<td>614</td>
</tr>
<tr>
<td>Mitchell, Hunter</td>
<td>370</td>
</tr>
<tr>
<td>Miyachi, Yoshiki</td>
<td>206</td>
</tr>
<tr>
<td>Miyagaki, Tomomitsu</td>
<td>009, 177, 188</td>
</tr>
<tr>
<td>Miyagawa, Fumi</td>
<td>054</td>
</tr>
<tr>
<td>Miltz, Veronika</td>
<td>390</td>
</tr>
<tr>
<td>Mochizuki, Hideki</td>
<td>187</td>
</tr>
<tr>
<td>Mockler, Daniel</td>
<td>649</td>
</tr>
<tr>
<td>Modlin, Robert</td>
<td>572, 574</td>
</tr>
<tr>
<td>Mohammed, Jawed</td>
<td>557</td>
</tr>
<tr>
<td>Mollah, Shamim</td>
<td>003</td>
</tr>
<tr>
<td>Moncaro, Benjamin</td>
<td>224, 230, 268</td>
</tr>
<tr>
<td>Moncayo, Alejandra</td>
<td>649</td>
</tr>
<tr>
<td>Montes-Camacho, Mayra</td>
<td>655</td>
</tr>
<tr>
<td>Moon, James J.</td>
<td>011</td>
</tr>
<tr>
<td>Moon, Seon-Goon</td>
<td>600</td>
</tr>
<tr>
<td>Moon, Youbin</td>
<td>621</td>
</tr>
<tr>
<td>Moore, John</td>
<td>506</td>
</tr>
<tr>
<td>Moore, Richard</td>
<td>617</td>
</tr>
<tr>
<td>Mora, Ariana</td>
<td>182</td>
</tr>
<tr>
<td>Morasso, Maria</td>
<td>097, 669</td>
</tr>
<tr>
<td>Morehouse, Chris</td>
<td>221</td>
</tr>
<tr>
<td>Morel, Kimberly</td>
<td>444</td>
</tr>
</tbody>
</table>
AUTHOR INDEX

Morelli, Adrian 030, 541
Morgan, Bruce 696
Morimura, Soshhi 009
Morita, Akimichi 208, 216, 293, 575
Morziane, Shih 551
Morris, Rebecca J. 118
Morrisey, Edward 685
Morrow, Casey D. 582
Moser, Catherine D. 658
Moshtari, Ata S. 256
Mosleh, Homayoun 133, 613
Moss, Joel 168, 441
Mostaghimi, Arash 171
Moy, Adrian 409
Mozaafari, Nikoo 466
Mukkassa, Fuad 278
Mukherjee, Dion 071
Mukherjee, Nabanita 648
Mukherjee, Pranab K. 215
Nader, Maryam 207
Nagato, Gaku 669
Nagao, Keisuke 508
Nagata, Gaku 669
Nagayama, Masaharu 177
Naik, Haley B. 203
Naik, Vaibhav 203
Naik, Shweta 203
Naik, Neeta 203
Nakatani, Masashi 597
Nakatsui, Teruaki 193
Nakai, Tatsuya 590
Nair, Rajan P. 248, 263, 438, 440
Nair, N. 378
Nakachi, Ichiro 106
Nakajima, Saeko 206, 394
Nakamura, Mary S. 316, 317, 318
Nakatani, Masashi 597
Nakatsuji, Teruaki 193
Nam, Jin-Ju 600
Nam, Jong-Wook 422
Namkoong, Jin 433
Nanes, Benjamin A. 704
Narayanan, Deepak 436
Narayan, Suguna 373
Narayanan, Nandakumar 804
Nardin, Charlene A. 146, 148
Nardone, Beatrice 260
Narzt, Marie S. 594
Naseer, Sahar Y. 070
Nasir, Waisim 229
Nasti, Tahseen H. 651
Natalie, Christopher 156, 637
Natarajan, Balaji 203, 219
Nathan, Neera 168
Nattkemper, Leigh A. 187
Naughton, Gail 635
Naugler, Scott 258
Navati, Mahantesh 713
Nazzal, Ehab 124
Neary, Bridget 061
Nedjro, Susan 215
Neil, Jessica 005, 505
Nelson, Kate 545
Nemeth, Valerie N. 048
Nesterovitch, Andrew 567
Neuburg, Marcy 129
Neufang, Gitta 604, 727
Neumann, Claudia 359
Neves da Silva, Marlene 525, 563
Newman, Jessica 294
Newton, Victoria 387
Ng, Qimin 203
Ngheem, Paul 015, 196, 256
Nguyen, Catherine M. 095
Nguyen, Christie 145
Nguyen, Harrison 503
Nguyen, Heping Y. 338
Nguyen, Ngoc T. 412, 418
Nguyen, Nhan M. 238, 272
Nguyen, Nicholas 624
Nguyen, Qun 110
Ní, Xiao 101, 423
Nico, Timothy 038
Nicolay, Jean-François 547
Nie, Qing 693, 695
Nielsen-Scott, Anna 102
Nieves, Ashley 365
Nihal, Minakshi 654
Nikbakht, Neda 094
Nilsen, Ulla 549
Ning, Weihuang 490
Nirshel, Christopher 003, 004, 007
Nirula, Ajay 281
Nishi, Emi 208, 216
Nishigori, Chikako 621
Nishimura, Michiyo 047
Nissinen, Lisa 100
Nithitham, Joanne 443
Nittynen, Juha 249
Niu, Zhaoyang 570
Niyonsaba, Francois 519, 526
Njauw, Jenny C. 634
Njauw, Jenny C. 616
Nodi, Shinya 036, 085, 165, 280, 394, 686
Noh, Ji Yeon 017, 252, 556, 732
Nomura, Toshifumi 432
Norris, David 019, 079, 141, 264, 624, 640, 641, 648
North, Jeffrey 384
Nosanchuk, Joshua 531
Nosbaum, Audrey 011, 016
Nosgorodsky, Y 066
Nosratii, Adi 622
Noto, Paul B. 367
Nouri, Keyvan 610
Nowak, Ronald S. 495
Nuechel, Julian 484
Nunez-Cruz, Selene 059
Nyugen, Don X. 119

O

O'Brien, Kathryn 500, 729
O'Curran, Cassandra 662
O'Donnell, James K. 278
O'Gorman, Susan M. 210
O'Malley, John T. 082
Oberto, Gilles 354, 627
Oda, Yuko 699
Oddis, Chester V. 050
Oeljen, Landon K. 535
Offutt, Carlos 477
Okeyo, Mercy 411
Ogawa, Hideoki 340, 519, 526
Ogawa, Youichi 669
Ogdie, Alexis 289, 302
Ogurtsova, Aleksandra 599
Oh, Byungho 131
Oh, Chee Won 179
AUTHOR INDEX

Oh, Chil-Hwan 198
Oh, Dennis H. 611
Oh, In-kyung 601
Oh, Jang-Hee 217, 481, 482, 483
Oh, Ji Won 693, 695
Oh, Seung-Mi 365
Ohba, Yousuke 361
Ohita, Shoichiro 098
Ohkawa, Joyce 056, 073, 202, 596
Okon, Lauren G. 056
Okumura, Ko 526
Olfason, John H. 175
Olalala, Lawrence 403
Olazagasti, Jeannette M. 050, 658
Oldach, Jonathan 725
Olender, T 066
Oliver, Eric 668
OMalley, John T. 147
Ono-Vu, Katherine 611
Ong, Peck 350
Ong, SuFei 144
Orchard, David 228
Oresajo, Christian 603
Oso, Anthonv 120, 122, 125, 127, 142, 148
Orites, Roger 510
Ortiz-Urda, Susana 194, 409, 613
Osborn, Mark J. 408
Oses-Prieto, Juan 613
Otero-Vinas, Marta 724, 728
Otto, Michael 013
Ouyang, Hao 623
Ovits, Channa G. 698
Owen, Joshua L. 447
Oyoshi, Michiko 510
Ozdoganlar, Burak 550

P
Page, Carly 509, 510
Paglia, Melissa 402
Pagoto, Sherry 315
Pahl, Jana 140
Pais, K 155
Pal, Harish C. 638
Palak, Shah 347
Palazzo, Elisabetta 097
Paller, Amy S. 036, 165, 350, 373, 413, 444, 480, 644
Palmer, Brian C. 024
Palmeri, Mark 251
Palmqvist, Niklas 006
Pamelard, Fabien 376
Pan, Szu-Hua 671
Pan, Youdong 043
Pandarinathan, Lakshmi 487, 642
Pandya, Amit 276
Panoutsopoulos, Ioanna G. 247
Papoulou, Alexandru D. 187
Pappas-Taffer, Lisa 202
Paradisi, Andrea 417
Pardos, Carlos 275
Parikh, Shrutika 261
Parisi, Nicola 372, 569
Park, Bu M. 660
Park, Chang-Ook 017, 041, 043, 147, 252, 556, 732
Park, Chi-Hyun 482
Park, Heuijoon 118
Park, Ji-Eun 600
Park, Joo-Eun S. 346
Park, June J. 480
Park, Kyung-ho 102, 381
Park, Michelle 148
Park, Moon Hee 382
Park, Sang Min 299
Park, Sophia L. 565, 650
Park, Yeun-Hee 294
Park, Yoonkyung 520
Park, Young Min 022, 540
Parlet, Corey 545
Parisi, A 499
Parikh, Shruti 261
Pardos, Carlos 275
Paradisi, Andrea 417
Pappas-Taffer, Lisa 202
Parikh, Shrutika 261
Parisi, Nicola 372, 569
Park, Bu M. 660
Park, Chang-Ook 017, 041, 043, 147, 252, 556, 732
Park, Chi-Hyun 482
Park, Heuijoon 118
Park, Ji-Eun 600

www.jidonline.org
<table>
<thead>
<tr>
<th>Author</th>
<th>Pages</th>
</tr>
</thead>
<tbody>
<tr>
<td>Qi, Ji</td>
<td>160, 231, 312, 365, 599</td>
</tr>
<tr>
<td>Qian, Cheng</td>
<td>261</td>
</tr>
<tr>
<td>Qian, Ye</td>
<td>261</td>
</tr>
<tr>
<td>Qiang, Jian</td>
<td>592</td>
</tr>
<tr>
<td>Qiang, Lei</td>
<td>107, 347, 580</td>
</tr>
<tr>
<td>Qiao, Pei</td>
<td>077</td>
</tr>
<tr>
<td>Qiao, Shuxi</td>
<td>609, 650</td>
</tr>
<tr>
<td>Qin, Chuang</td>
<td>687</td>
</tr>
<tr>
<td>Qin, Jean</td>
<td>463</td>
</tr>
<tr>
<td>Qin, Min</td>
<td>531</td>
</tr>
<tr>
<td>Qin, Zhaoping</td>
<td>492</td>
</tr>
<tr>
<td>Qu, Kun</td>
<td>391, 451</td>
</tr>
<tr>
<td>Quagliano, Pietro</td>
<td>194</td>
</tr>
<tr>
<td>Quan, Taihao</td>
<td>492, 493</td>
</tr>
<tr>
<td>Quave, Cassandra L.</td>
<td>545</td>
</tr>
<tr>
<td>Que, Syril Koea</td>
<td>183</td>
</tr>
<tr>
<td>Quesenberry, Charles</td>
<td>305</td>
</tr>
<tr>
<td>Quijgle, Ashley</td>
<td>452</td>
</tr>
<tr>
<td>Quirk, Brendan</td>
<td>223</td>
</tr>
<tr>
<td>Qureshi, Abrar A.</td>
<td>167, 178, 299, 304, 311, 323, 324, 325</td>
</tr>
<tr>
<td>Raber, Inbar</td>
<td>234, 244</td>
</tr>
<tr>
<td>Rademaker, Alfred</td>
<td>260</td>
</tr>
<tr>
<td>Radoja, Nadezda</td>
<td>097</td>
</tr>
<tr>
<td>Rady, Peter L.</td>
<td>503</td>
</tr>
<tr>
<td>Rafael, Nicholas</td>
<td>350</td>
</tr>
<tr>
<td>Raff, Adam</td>
<td>171</td>
</tr>
<tr>
<td>Ragsdale, Bruce</td>
<td>438</td>
</tr>
<tr>
<td>Rahman, Heero N.</td>
<td>677, 678</td>
</tr>
<tr>
<td>Rai, Taranjit Singh</td>
<td>156</td>
</tr>
<tr>
<td>Rainer, Barbara</td>
<td>160, 231, 599</td>
</tr>
<tr>
<td>Raj, Nidhin</td>
<td>372</td>
</tr>
<tr>
<td>Rajah, Prabhakar</td>
<td>278</td>
</tr>
<tr>
<td>Ramachandran, Sanika</td>
<td>051, 081, 279</td>
</tr>
<tr>
<td>Ramadan, Mohamed</td>
<td>550</td>
</tr>
<tr>
<td>Ramaswami, Sitharam</td>
<td>511, 620</td>
</tr>
<tr>
<td>Ramirez-Valle, Francisco</td>
<td>555</td>
</tr>
<tr>
<td>Ramos, Lavo</td>
<td>146</td>
</tr>
<tr>
<td>Ramos, Raul</td>
<td>522</td>
</tr>
<tr>
<td>Randall, Valerie</td>
<td>656, 677, 678</td>
</tr>
<tr>
<td>Randhawa, Manpreet</td>
<td>499</td>
</tr>
<tr>
<td>Ranki, Annamari</td>
<td>458</td>
</tr>
<tr>
<td>Ransthoof, Julia</td>
<td>391</td>
</tr>
<tr>
<td>Ransthoof, Katherine J.</td>
<td>174, 209, 315</td>
</tr>
<tr>
<td>Rao, Smitha</td>
<td>653</td>
</tr>
<tr>
<td>Rapinsanda, Valentina</td>
<td>679</td>
</tr>
<tr>
<td>Rappersberger, Clemens</td>
<td>194, 613</td>
</tr>
<tr>
<td>Rappoport, Joshua</td>
<td>473</td>
</tr>
<tr>
<td>Rashighi, Mehdi</td>
<td>013</td>
</tr>
<tr>
<td>Rauch, Tibor</td>
<td>567</td>
</tr>
<tr>
<td>Rausch, Matthew</td>
<td>028</td>
</tr>
<tr>
<td>Rauscher, Frank J.</td>
<td>646</td>
</tr>
<tr>
<td>Rawlings, Anthony V.</td>
<td>339, 364, 372, 387</td>
</tr>
<tr>
<td>Razani, Bahram</td>
<td>573</td>
</tr>
<tr>
<td>Readhead, Ben</td>
<td>491</td>
</tr>
<tr>
<td>Readio, Nyssa</td>
<td>118</td>
</tr>
<tr>
<td>Reece, Barry</td>
<td>253</td>
</tr>
<tr>
<td>Reed, Ann M.</td>
<td>050</td>
</tr>
<tr>
<td>Rehder, Paul</td>
<td>458</td>
</tr>
<tr>
<td>Reichelt, Julia</td>
<td>388</td>
</tr>
<tr>
<td>Reichert, Olga</td>
<td>604, 727</td>
</tr>
<tr>
<td>Reilly, Devin</td>
<td>142</td>
</tr>
<tr>
<td>Reinholdt, Laura G.</td>
<td>442, 455</td>
</tr>
<tr>
<td>Resiman, Scott A.</td>
<td>185</td>
</tr>
<tr>
<td>Remedios, Kelly A.</td>
<td>029</td>
</tr>
<tr>
<td>Ren, Haobo</td>
<td>169</td>
</tr>
<tr>
<td>Renkenmit, Pawnee</td>
<td>206</td>
</tr>
<tr>
<td>Retuerto, Mauricio</td>
<td>215</td>
</tr>
<tr>
<td>Reymermier, Corinne</td>
<td>380</td>
</tr>
<tr>
<td>Reyon, Deepak</td>
<td>435</td>
</tr>
<tr>
<td>Rezaee, Melika</td>
<td>132, 135, 174, 425</td>
</tr>
<tr>
<td>Rezaee, Rod</td>
<td>292</td>
</tr>
<tr>
<td>Rezusta, Antonio</td>
<td>189</td>
</tr>
<tr>
<td>Ribeiro, Adele H.</td>
<td>363</td>
</tr>
<tr>
<td>Rice, Robert H.</td>
<td>366, 389</td>
</tr>
<tr>
<td>Richardson, Christopher</td>
<td>008</td>
</tr>
<tr>
<td>Richmond, Jillian</td>
<td>013</td>
</tr>
<tr>
<td>Rickard, David</td>
<td>506</td>
</tr>
<tr>
<td>Riddle, Megan</td>
<td>486</td>
</tr>
<tr>
<td>Ridky, Todd W.</td>
<td>149, 156, 474, 637</td>
</tr>
<tr>
<td>Rieger, Kenri</td>
<td>064</td>
</tr>
<tr>
<td>Rihani, FB</td>
<td>450</td>
</tr>
<tr>
<td>Risica, Patricia</td>
<td>322</td>
</tr>
<tr>
<td>Rivera Gonzalez, Guillermo</td>
<td>478</td>
</tr>
<tr>
<td>Roberts, Brett J.</td>
<td>488</td>
</tr>
<tr>
<td>Roberts, Janet</td>
<td>672</td>
</tr>
<tr>
<td>Roberts, Lewis R.</td>
<td>658</td>
</tr>
<tr>
<td>Robins, Harlan</td>
<td>082, 225</td>
</tr>
<tr>
<td>Robinson, Elizabeth S.</td>
<td>056, 202, 596</td>
</tr>
<tr>
<td>Robinson, James</td>
<td>625</td>
</tr>
<tr>
<td>Robinson, June K.</td>
<td>105, 158</td>
</tr>
<tr>
<td>Robinson, Steven</td>
<td>106, 624, 648</td>
</tr>
<tr>
<td>Robinson, William</td>
<td>106, 624, 648</td>
</tr>
<tr>
<td>Robinson-Bostum, Leslie</td>
<td>195, 617</td>
</tr>
<tr>
<td>Robres, Pilar</td>
<td>189</td>
</tr>
<tr>
<td>Rock, Fernando</td>
<td>507</td>
</tr>
<tr>
<td>Röcken, Martin</td>
<td>136, 140, 420</td>
</tr>
<tr>
<td>Rodríguez-Arámbula, Adriana</td>
<td>615</td>
</tr>
<tr>
<td>Rogers, John</td>
<td>249</td>
</tr>
<tr>
<td>Rogers, T</td>
<td>378</td>
</tr>
<tr>
<td>Roggenkamp, Dennis</td>
<td>604, 727</td>
</tr>
<tr>
<td>Rojas-Canales, Darling</td>
<td>030</td>
</tr>
<tr>
<td>Romar, George A.</td>
<td>227</td>
</tr>
<tr>
<td>Rompolas, Panteleimon</td>
<td>404, 674</td>
</tr>
<tr>
<td>Rooop, Dennis R.</td>
<td>114, 141, 366, 641</td>
</tr>
<tr>
<td>Rooopenian, Derry C.</td>
<td>435, 454</td>
</tr>
<tr>
<td>Ronke, Ellen</td>
<td>389, 460</td>
</tr>
<tr>
<td>Rosato, E</td>
<td>497</td>
</tr>
<tr>
<td>Roselino, Ana Maria</td>
<td>065</td>
</tr>
<tr>
<td>Rosen, Jamie</td>
<td>531</td>
</tr>
<tr>
<td>Rosenbach, Misha</td>
<td>283</td>
</tr>
<tr>
<td>Rosenboom, Joel</td>
<td>497, 705, 733</td>
</tr>
<tr>
<td>Rosenblum, Michael D.</td>
<td>011, 016, 029, 034, 095, 675</td>
</tr>
<tr>
<td>Rosowski, Kathryn A.</td>
<td>662, 694</td>
</tr>
<tr>
<td>Ross, Andrew L.</td>
<td>639</td>
</tr>
</tbody>
</table>
AUTHOR INDEX

Ross, N 395
Ross, Nicholas A. 259
Ross, Russell 351
Rothstein, Brooke 649
Rouzard, Karl 529, 568
Ruhin, Adam 451
Rudolf, Jana 679
Ruenger, Thomas M. 044, 434, 595
Rufait, Nicholas 688
Ruiz-Arguelles, Guillermo J. 230
Russell, Chris B. 281
Rybski, Kristin 124, 139
Ryde, Anna-Carin 006
Ryu, Junbin 351
Ryu, Sunhyo 520
Ryu, Yunhee 540

S
Sachar, Monioka 307
Sage, Peter 003
Saget, Julie 380, 485
Sahu, Ravi 590, 593
Saito, Naï 432
Sajda, Thomas 068
Sakabe, Jun-ichi 588
Sakaguchi, Azumi 340
Sakaguchi, Masanobu 621
Sakamoto, Atsushi 716
Sakamoto, Akiko 352, 508
Sakata, Shinichi 009, 058, 177, 188
Sakata, Emi 337
Sakata, Hiroshi 061
Sakata, Satoru 375
Sakata, Takako 502
Sakata, Shinichi 009, 058, 177, 188
Sakata, Shintaro 229
Sakata, Tatsuya 096
Sakata, Toshiaki 472
Sakata, Toshiaki 472
Sakata, Toshiaki 472
Schachner, Lawrence 657
Schaf, Christoph 717
Schah, Christopher 548
Schairer, David O. 713
Scharron, Thomas P. 273, 298, 328
Scharschmidt, Tiffany C. 013
Schau, Tobias 123
Schau, Tobias 123
Scheu, Alexander 420
Schneider, Ahmad 112, 126
Schikowski, Tamar 286, 288, 293
Schilling, Lisa M. 313
Schlapbach, Christoph 072
Schmidt, Nathan W. 407
Schmidt, T 218
Schmeltz, Chrys 182
Schnei, Lynda 350
Schneider, Samantha L. 639
Schopp, Ashley M. 129, 223
Schoenborn, Katrin 484
Schotfield, Paul N. 204, 442
Schopf, Rudolph E. 271
Schubert, Mark 173
Schuck, Desiree C. 363
Schulsky, William 541
Schulz, Claudia 420
Schulz, Jan-Niklas 484
Schwan, Josianna V. 648
Schwartz, Mary E. 450, 469
Schwarz, Agatha 518
Schwarz, Thomas 518
Scolyer, Richard 634
Scott, Glynis 622
Scott, Jeffrey F. 292
Scumpia, Philip O. 574
Sereistad, Mark 431, 443
Seiiffert-Sirha, Kristina 066, 069, 070
Seiler, F 416
Seiverling, Elizabeth S. 298
Selb, Alyssa 333
Selph, Jacqueline 267, 332, 584
Sen, George 430
Sengle, Gerhard 484
Seo, Eun Young 601
Seo, InSeok 623
Seo, Jin Young 131
Sepp, Norbert 666
Serna-Tarnayo, Cristian 570
Seroul, Pierre 339
Serre, Catherine, 355, 357, 358
Setaluri, Vijayasaradhi 470, 618
Sethi, Aisha 306
Seykora, John 149, 157, 416
Seymour, LeRoy J. 048
Shafizadeh, Tracy 397
Shah, Palak 107, 580
Shah, Parisha P. 156
Shahbazian, Jonathan 509
Shaheen, Abdullah 582
Shalbaf, Mohammad 656
Shalbaf, Omid 678
Shankar, S 157, 416
Shao, Yuan 492
Shapiro, Jerry 673
Sharma, Meena 576, 596
Sharma, Vinod K. 438
Sharov, Andrey 679, 709
Sharova, Tatyana Y. 709, 731
Sharpe, Arlene H. 003
Shaw, Fiona M. 146, 626
Shea, Christopher R. 347
Sheen, Yi-Shuan 109, 633
Shellen, Yisuf G. 648
Shemer, Avner 042, 055, 452, 562, 686
Shen, Chong 401, 427
Sherratt, Michael J. 387
Shiau, Chung-Wai 648
Shimada, Shinya 002
Shimizu, Hiroshi 361, 432
Shin, Daniel B. 289, 302, 310
Shin, Dong Youn 512
Shin, Jung U 017, 252, 556, 732
Shin, Kyong O. 660
Shin, Kyong-Oh 102
Shin, Min Kyeong 217, 481, 483
Shinkuma, Satoru 401, 419, 427

www.jidonline.org
<table>
<thead>
<tr>
<th>Author</th>
<th>Page Numbers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tabori, A.</td>
<td>692</td>
</tr>
<tr>
<td>Tada, Y.</td>
<td>009, 177</td>
</tr>
<tr>
<td>Takai, A.</td>
<td>662</td>
</tr>
<tr>
<td>Takakashi, Naoko</td>
<td>177, 188</td>
</tr>
<tr>
<td>Takakura, Nobuyuki</td>
<td>471</td>
</tr>
<tr>
<td>Takamori, Kenji</td>
<td>340, 519</td>
</tr>
<tr>
<td>Takashima, Shota</td>
<td>432</td>
</tr>
<tr>
<td>Takei, Kentaro</td>
<td>377</td>
</tr>
<tr>
<td>Takeuchi, Miwako</td>
<td>664, 689</td>
</tr>
<tr>
<td>Takeshita, Junko</td>
<td>289, 302, 310</td>
</tr>
<tr>
<td>Taketo, Mark M.</td>
<td>689</td>
</tr>
<tr>
<td>Takiguchi, Tetsuya</td>
<td>551</td>
</tr>
<tr>
<td>Takahisa, S.</td>
<td>036, 165</td>
</tr>
<tr>
<td>Talbot, C. Coover</td>
<td>599</td>
</tr>
<tr>
<td>Tamai, Katsuto</td>
<td>408</td>
</tr>
<tr>
<td>Tamimi, Iman A.</td>
<td>581</td>
</tr>
<tr>
<td>Tamura, Deborah</td>
<td>112</td>
</tr>
<tr>
<td>Tan, Caroline Z.</td>
<td>234</td>
</tr>
<tr>
<td>Tang, Hsin Yao</td>
<td>060</td>
</tr>
<tr>
<td>Tang, Jean Y.</td>
<td>120, 132, 135, 174, 209, 315, 418, 425</td>
</tr>
<tr>
<td>Tang, Lingzhen</td>
<td>619</td>
</tr>
<tr>
<td>Tar, Moses</td>
<td>713</td>
</tr>
<tr>
<td>Taravati, Keyon</td>
<td>095</td>
</tr>
<tr>
<td>Tataryski, P.</td>
<td>066</td>
</tr>
<tr>
<td>Taube, Janis M.</td>
<td>144, 274, 365</td>
</tr>
<tr>
<td>Taylor, Chase</td>
<td>711</td>
</tr>
<tr>
<td>Taylor, Kimberly E.</td>
<td>443</td>
</tr>
<tr>
<td>Taylor, Michael</td>
<td>616, 636</td>
</tr>
<tr>
<td>Taylor, Patricia</td>
<td>193</td>
</tr>
<tr>
<td>Teague, Jessica E.</td>
<td>026, 072, 082, 225, 415, 421</td>
</tr>
<tr>
<td>Tedeschi, Carine</td>
<td>336</td>
</tr>
<tr>
<td>Tedesco, Marinella</td>
<td>719</td>
</tr>
<tr>
<td>Tejesvi, Trilokraj</td>
<td>438, 440</td>
</tr>
<tr>
<td>Teles, Rosane M.</td>
<td>572</td>
</tr>
<tr>
<td>Tepper, Clifford G.</td>
<td>074</td>
</tr>
<tr>
<td>Terstegen, Lara</td>
<td>604, 727</td>
</tr>
<tr>
<td>Teske, Noelle</td>
<td>181, 186</td>
</tr>
<tr>
<td>Thakuria, Manisha</td>
<td>123</td>
</tr>
<tr>
<td>Thangapazham, Rajesh L.</td>
<td>441</td>
</tr>
<tr>
<td>Tharp, Michael</td>
<td>567</td>
</tr>
<tr>
<td>Theodosakis, Nicholas</td>
<td>632</td>
</tr>
<tr>
<td>Thirunar Palanivelu, Vetrichevel</td>
<td>707</td>
</tr>
<tr>
<td>Tholpady, Sunil S.</td>
<td>154, 477, 736</td>
</tr>
<tr>
<td>Thomas, Nancy E.</td>
<td>152</td>
</tr>
<tr>
<td>Thomas, Paul</td>
<td>473</td>
</tr>
<tr>
<td>Thompson, Paul</td>
<td>631</td>
</tr>
<tr>
<td>Thorleifsdottir, Ragna H.</td>
<td>175</td>
</tr>
<tr>
<td>Thorn Leeson, Daniel</td>
<td>385</td>
</tr>
<tr>
<td>Thyagarajan-Sahu, Anita</td>
<td>048</td>
</tr>
<tr>
<td>Tian, Chao</td>
<td>244</td>
</tr>
<tr>
<td>Tian, Tian</td>
<td>041, 043, 147</td>
</tr>
<tr>
<td>Tiao, Janice</td>
<td>056, 184</td>
</tr>
<tr>
<td>Tice, Colin</td>
<td>367</td>
</tr>
<tr>
<td>Tigelaar, Robert E.</td>
<td>031</td>
</tr>
<tr>
<td>Timares, Laura</td>
<td>651</td>
</tr>
<tr>
<td>Tigran, Michael H.</td>
<td>266</td>
</tr>
<tr>
<td>Title, Matthias</td>
<td>405</td>
</tr>
<tr>
<td>Tkacheva, Olga</td>
<td>030, 541</td>
</tr>
<tr>
<td>Tohyama, Mikko</td>
<td>472</td>
</tr>
<tr>
<td>Tokura, Yoshiki</td>
<td>010, 588</td>
</tr>
<tr>
<td>Tolar, Jakub</td>
<td>408, 411, 486</td>
</tr>
<tr>
<td>Tom, Wynn</td>
<td>219</td>
</tr>
<tr>
<td>Tomayoko, Mary</td>
<td>200</td>
</tr>
<tr>
<td>Tomonaga, Mitsutoshi</td>
<td>340, 519</td>
</tr>
<tr>
<td>Tomonaga, Shin-ichi</td>
<td>374</td>
</tr>
<tr>
<td>Tong, Lara</td>
<td>643</td>
</tr>
<tr>
<td>Tongling, Emily</td>
<td>301</td>
</tr>
<tr>
<td>Tommesen, Marcia</td>
<td>649</td>
</tr>
<tr>
<td>Toriz, Giillermo</td>
<td>224</td>
</tr>
<tr>
<td>Torkamani, Nilsolufar</td>
<td>688</td>
</tr>
<tr>
<td>Torkelson, Jessica</td>
<td>428</td>
</tr>
<tr>
<td>Torre, Eduardo</td>
<td>263</td>
</tr>
<tr>
<td>Torre-Cabala, Carlos</td>
<td>179</td>
</tr>
<tr>
<td>Torres-Alvarez, Bertha</td>
<td>615</td>
</tr>
<tr>
<td>Toth, Daniel</td>
<td>567</td>
</tr>
<tr>
<td>Trang, Trinh</td>
<td>312</td>
</tr>
<tr>
<td>Travers, Jeffrey B.</td>
<td>154, 590, 593</td>
</tr>
<tr>
<td>Trembly, Geneen H.</td>
<td>612</td>
</tr>
<tr>
<td>Tripathi, Raghav</td>
<td>334</td>
</tr>
<tr>
<td>Truong, Hong-An</td>
<td>011, 016, 029, 034, 675</td>
</tr>
<tr>
<td>Tsai, Ching-Yi</td>
<td>059</td>
</tr>
<tr>
<td>Tsai, Kenneth</td>
<td>110</td>
</tr>
<tr>
<td>Tsai, Hsin</td>
<td>134, 616, 636</td>
</tr>
<tr>
<td>Tsichachler, Erwin</td>
<td>388, 390, 594</td>
</tr>
<tr>
<td>Tso, Simon</td>
<td>411</td>
</tr>
<tr>
<td>Tsoi, Lam C.</td>
<td>248, 438, 440</td>
</tr>
<tr>
<td>Tsou, Hong</td>
<td>539</td>
</tr>
<tr>
<td>Tsbooi, Ryoji</td>
<td>368</td>
</tr>
<tr>
<td>Tsuchiyama, Kenichiro</td>
<td>700</td>
</tr>
<tr>
<td>Tsuda, Hideso</td>
<td>374</td>
</tr>
<tr>
<td>Tsukamoto, K</td>
<td>157</td>
</tr>
<tr>
<td>Tsunemi, Yuchiro</td>
<td>009</td>
</tr>
<tr>
<td>Tsuruta, Daisuke</td>
<td>666</td>
</tr>
<tr>
<td>Tu, Chia-Ling</td>
<td>699</td>
</tr>
<tr>
<td>Tucker, Danielle</td>
<td>116</td>
</tr>
<tr>
<td>Tuckey, Robert C.</td>
<td>345</td>
</tr>
<tr>
<td>Tung, Joyce</td>
<td>244</td>
</tr>
<tr>
<td>Turatti, Aline</td>
<td>065</td>
</tr>
<tr>
<td>Turner, Matthew J.</td>
<td>048</td>
</tr>
<tr>
<td>Turrentine, Jake E.</td>
<td>096</td>
</tr>
<tr>
<td>Two, Aimee</td>
<td>193, 282</td>
</tr>
<tr>
<td>Tworoger, Shelley</td>
<td>324</td>
</tr>
<tr>
<td>Tyldesley, Amanda</td>
<td>533, 553, 554</td>
</tr>
<tr>
<td>Tyring, Stephen K.</td>
<td>503</td>
</tr>
<tr>
<td>Uchida, Yoshikazu</td>
<td>102, 381</td>
</tr>
<tr>
<td>Udey, Mark C.</td>
<td>669</td>
</tr>
<tr>
<td>Udono, Heichiro</td>
<td>500</td>
</tr>
<tr>
<td>Ulerio, Grace</td>
<td>238, 272</td>
</tr>
<tr>
<td>Urugak-Arao, Noriko</td>
<td>401</td>
</tr>
<tr>
<td>Urmehara, Yoshie</td>
<td>340, 519</td>
</tr>
<tr>
<td>Ungar, Benjamin</td>
<td>042, 255</td>
</tr>
<tr>
<td>Ungewickell, Alexander</td>
<td>341</td>
</tr>
<tr>
<td>Urmee, Christian</td>
<td>120</td>
</tr>
<tr>
<td>Usbio, Hiroko</td>
<td>526</td>
</tr>
<tr>
<td>Vaid, Mudit</td>
<td>578</td>
</tr>
<tr>
<td>Valacchi, Giuseppe</td>
<td>603</td>
</tr>
<tr>
<td>Valdimarsson, Helgi</td>
<td>175</td>
</tr>
<tr>
<td>Valenti, Lionel</td>
<td>547</td>
</tr>
<tr>
<td>Valla-Dury, Lorelei</td>
<td>542</td>
</tr>
<tr>
<td>Van, Hieu</td>
<td>106</td>
</tr>
<tr>
<td>Van Allen, Margot</td>
<td>449</td>
</tr>
<tr>
<td>Van De Water, Livingston</td>
<td>706</td>
</tr>
<tr>
<td>Van Smeden, Jeroen</td>
<td>343</td>
</tr>
<tr>
<td>Vanbrocklin, Matthew</td>
<td>625</td>
</tr>
<tr>
<td>Vandenborg, Katherine</td>
<td>301</td>
</tr>
<tr>
<td>Vanderberghche, Mathieu</td>
<td>608</td>
</tr>
<tr>
<td>Vandergriff, Travis</td>
<td>199</td>
</tr>
<tr>
<td>Vandenven, Natalie</td>
<td>015, 196</td>
</tr>
<tr>
<td>Varki, Ajit</td>
<td>702</td>
</tr>
<tr>
<td>Vasquez, Kimberly S.</td>
<td>011</td>
</tr>
<tr>
<td>Vasquez, Rebecca</td>
<td>276</td>
</tr>
<tr>
<td>Vázquez, Nayeli</td>
<td>224</td>
</tr>
<tr>
<td>Vedak, Priyanka</td>
<td>171</td>
</tr>
<tr>
<td>Vegors, Jenny</td>
<td>546</td>
</tr>
<tr>
<td>Veloz, Antonio</td>
<td>644</td>
</tr>
<tr>
<td>Velho, Paulo</td>
<td>525, 563</td>
</tr>
<tr>
<td>Ventrella, Rosa</td>
<td>723</td>
</tr>
</tbody>
</table>
### AUTHOR INDEX

<table>
<thead>
<tr>
<th>Author Name</th>
<th>Page(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wada, Akino</td>
<td>716</td>
</tr>
<tr>
<td>Wagner, John</td>
<td>408</td>
</tr>
<tr>
<td>Wagner, John A.</td>
<td>020, 532</td>
</tr>
<tr>
<td>Wahl, James K.</td>
<td>488</td>
</tr>
<tr>
<td>Wainwright, Derek</td>
<td>047</td>
</tr>
<tr>
<td>Wakamatsu, Kazumasa</td>
<td>606, 635</td>
</tr>
<tr>
<td>Wakefield, Joan</td>
<td>400</td>
</tr>
<tr>
<td>Walker, Joanna L.</td>
<td>307</td>
</tr>
<tr>
<td>Wallace, Hilary</td>
<td>707</td>
</tr>
<tr>
<td>Wallisch, Silvia</td>
<td>606, 635</td>
</tr>
<tr>
<td>Walsh, Laura</td>
<td>351</td>
</tr>
<tr>
<td>Wan, Fangyi</td>
<td>144</td>
</tr>
<tr>
<td>Wan, Yinheng</td>
<td>629</td>
</tr>
<tr>
<td>Wang, Annie</td>
<td>167</td>
</tr>
<tr>
<td>Wang, Bingcheng</td>
<td>723</td>
</tr>
<tr>
<td>Wang, Dian</td>
<td>462</td>
</tr>
<tr>
<td>Wang, Eddy H.</td>
<td>673</td>
</tr>
<tr>
<td>Wang, Etienne</td>
<td>720</td>
</tr>
<tr>
<td>Wang, Frank</td>
<td>254</td>
</tr>
<tr>
<td>Wang, Gang</td>
<td>012, 023, 076, 077, 078, 319, 383, 587</td>
</tr>
<tr>
<td>Wang, Grace Y.</td>
<td>116</td>
</tr>
<tr>
<td>Wang, Honglin</td>
<td>088</td>
</tr>
<tr>
<td>Wang, Huijun</td>
<td>456</td>
</tr>
<tr>
<td>Wang, Jeffery W.</td>
<td>083</td>
</tr>
<tr>
<td>Wang, Jenny W.</td>
<td>636, 678</td>
</tr>
<tr>
<td>Wang, Ji-an</td>
<td>168, 441</td>
</tr>
<tr>
<td>Wang, Joshua</td>
<td>646</td>
</tr>
<tr>
<td>Wang, L</td>
<td>157</td>
</tr>
<tr>
<td>Wang, Li</td>
<td>544</td>
</tr>
<tr>
<td>Wang, Qixuan</td>
<td>693, 695</td>
</tr>
<tr>
<td>Wang, Sjia</td>
<td>288, 293</td>
</tr>
<tr>
<td>Wang, Sung-Min</td>
<td>537</td>
</tr>
<tr>
<td>Wang, Timothy</td>
<td>250, 314</td>
</tr>
<tr>
<td>Wang, Weiyi</td>
<td>570</td>
</tr>
<tr>
<td>Wang, Xiao-Qi</td>
<td>371, 480, 644</td>
</tr>
<tr>
<td>Wang, Xiaowen</td>
<td>319</td>
</tr>
<tr>
<td>Wang, Xinyi</td>
<td>490, 712</td>
</tr>
<tr>
<td>Wang, Yanhan</td>
<td>513</td>
</tr>
<tr>
<td>Wang, Ying</td>
<td>430</td>
</tr>
<tr>
<td>Wang, Yu</td>
<td>509, 510</td>
</tr>
<tr>
<td>Wang, Yunmei</td>
<td>037</td>
</tr>
<tr>
<td>Wang, Zhengke</td>
<td>498</td>
</tr>
<tr>
<td>Wang, Zhenping</td>
<td>560, 608</td>
</tr>
<tr>
<td>Ward, Chris</td>
<td>221</td>
</tr>
<tr>
<td>Ward, Christopher M.</td>
<td>666</td>
</tr>
<tr>
<td>Ward, Keith</td>
<td>185</td>
</tr>
<tr>
<td>Ward, Nicole L.</td>
<td>033, 037, 263, 495, 530, 561</td>
</tr>
<tr>
<td>Warren, Lachlan J.</td>
<td>228</td>
</tr>
<tr>
<td>Warren, Maxine</td>
<td>479</td>
</tr>
<tr>
<td>Warschau, E</td>
<td>378</td>
</tr>
<tr>
<td>Warshaw, Erin M.</td>
<td>291</td>
</tr>
<tr>
<td>Warton, E. Margaret</td>
<td>305</td>
</tr>
<tr>
<td>Washburn, Newell</td>
<td>550</td>
</tr>
<tr>
<td>Wasserman, Weyth</td>
<td>734</td>
</tr>
<tr>
<td>Watanabe, Daisuke</td>
<td>702</td>
</tr>
<tr>
<td>Watanabe, Rei</td>
<td>026, 041, 225, 415</td>
</tr>
<tr>
<td>Waterfield, Michael</td>
<td>028</td>
</tr>
<tr>
<td>Watkins, Stephanie</td>
<td>047</td>
</tr>
<tr>
<td>Watson, Rachel E.</td>
<td>387</td>
</tr>
<tr>
<td>Watt, Stephen</td>
<td>486</td>
</tr>
<tr>
<td>Webb, Corey</td>
<td>529, 568</td>
</tr>
<tr>
<td>Webb, R. Chad</td>
<td>249</td>
</tr>
<tr>
<td>Webber, Lorraine</td>
<td>221</td>
</tr>
<tr>
<td>Weber-Sanders, Melissa</td>
<td>277, 563</td>
</tr>
<tr>
<td>Wei, Chungwen</td>
<td>061</td>
</tr>
<tr>
<td>Wei, Gabrielle</td>
<td>531</td>
</tr>
<tr>
<td>Wei, Maria L.</td>
<td>622</td>
</tr>
<tr>
<td>Wei, Zhi</td>
<td>646</td>
</tr>
<tr>
<td>Weick, Jack</td>
<td>124</td>
</tr>
<tr>
<td>Wehrmann, Ana Cristina</td>
<td>363</td>
</tr>
<tr>
<td>Weiler, Nicole</td>
<td>344</td>
</tr>
<tr>
<td>Weinberg, Wendy C.</td>
<td>142</td>
</tr>
<tr>
<td>Weiner, Adam</td>
<td>606, 635</td>
</tr>
<tr>
<td>Weinstock, Martin A.</td>
<td>178, 195, 291, 307, 322, 617</td>
</tr>
<tr>
<td>Weisman, Jeffery A.</td>
<td>536</td>
</tr>
<tr>
<td>Wek, Ronald C.</td>
<td>398</td>
</tr>
<tr>
<td>Welch, Elizabeth Z.</td>
<td>069</td>
</tr>
<tr>
<td>Wenck, Horst</td>
<td>604, 727</td>
</tr>
<tr>
<td>Wendelschafer-Crabb, Gwen</td>
<td>247</td>
</tr>
<tr>
<td>Weng, Qing Yu</td>
<td>171</td>
</tr>
<tr>
<td>Weng, Zhiping</td>
<td>571</td>
</tr>
<tr>
<td>Wengel, Christina</td>
<td>006</td>
</tr>
<tr>
<td>Werth, Victoria</td>
<td>056, 067, 073, 080, 184, 202, 291, 576, 596</td>
</tr>
<tr>
<td>West, Dennis P.</td>
<td>260</td>
</tr>
<tr>
<td>Westerhof, Wiete</td>
<td>047</td>
</tr>
<tr>
<td>Wetter, David A.</td>
<td>235</td>
</tr>
<tr>
<td>Weyerbacher, Jonathan</td>
<td>154, 590</td>
</tr>
<tr>
<td>Wheeler, D. A.</td>
<td>110</td>
</tr>
<tr>
<td>Wheeler, Hayley</td>
<td>064</td>
</tr>
<tr>
<td>Whelan, Harry</td>
<td>223</td>
</tr>
<tr>
<td>Whelan, Timothy M.</td>
<td>535</td>
</tr>
<tr>
<td>White, Steven R.</td>
<td>347</td>
</tr>
<tr>
<td>Whitson, Ramon</td>
<td>132</td>
</tr>
<tr>
<td>Widellitz, Randal</td>
<td>717</td>
</tr>
<tr>
<td>Wieder, Thomas</td>
<td>136, 140, 420</td>
</tr>
<tr>
<td>Wikramanayake, Tongyu C.</td>
<td>370, 610</td>
</tr>
<tr>
<td>Wikstroem, Peter</td>
<td>364</td>
</tr>
<tr>
<td>Wilbert, D.</td>
<td>155</td>
</tr>
<tr>
<td>Wilbert, Dawn</td>
<td>124</td>
</tr>
<tr>
<td>Wilcox, George L.</td>
<td>247</td>
</tr>
<tr>
<td>Wiles, Michael V.</td>
<td>435</td>
</tr>
<tr>
<td>Williams, Joshua D.</td>
<td>609, 650</td>
</tr>
<tr>
<td>Williams, Kevin J.</td>
<td>067</td>
</tr>
<tr>
<td>Williamson, David</td>
<td>225</td>
</tr>
<tr>
<td>Winge, M. C.</td>
<td>412</td>
</tr>
<tr>
<td>Winthrop, Kevin</td>
<td>258</td>
</tr>
<tr>
<td>Wolchok, Jedd</td>
<td>146</td>
</tr>
<tr>
<td>Wolpowitz, Deon</td>
<td>205, 269</td>
</tr>
<tr>
<td>Wolterink, Liza</td>
<td>552</td>
</tr>
<tr>
<td>Wondrak, Georg T.</td>
<td>565, 609, 650</td>
</tr>
<tr>
<td>Wong, Gerard C.</td>
<td>407</td>
</tr>
<tr>
<td>Wong, Henry K.</td>
<td>027</td>
</tr>
<tr>
<td>Wong, HK Helene</td>
<td>499</td>
</tr>
<tr>
<td>Wong, Jillian W.</td>
<td>622</td>
</tr>
<tr>
<td>Wong, Sunny</td>
<td>111</td>
</tr>
<tr>
<td>Wood, Fiona</td>
<td>707</td>
</tr>
<tr>
<td>Woodley, David T.</td>
<td>408, 490, 500, 712, 729</td>
</tr>
<tr>
<td>Woodward, David</td>
<td>656, 678</td>
</tr>
</tbody>
</table>
AUTHOR INDEX

Word, Andrew P. 199
Wrammert, Jens 046
Wright, Natalie A. 242, 279
Wright, Sheila 486
Wu, Ching Shuang 701
Wu, Diane 417
Wu, Dinghong 093
Wu, Hsin-Jung 477, 736
Wu, Joseph 113, 463
Wu, Julie H. 503
Wu, Pinru 003, 007
Wu, Shaowei 178, 299, 304, 311, 323, 325
Wu, Shu-Hui 437
Wu, Xuesong 117, 126, 534, 544
Wu, Yueh-Feng 676
Wyborski, Russell 663

X
Xia, Li 456
Xian, Wuqing 407
Xiao, Chunying 053
Xiao, Yueyuan 456
Xing, Luzhou 019, 089, 090
Xing, Xiangying 263, 399, 552
Xiong, Fang 498
Xu, Guwen 456
Xu, Guoliang 709
Xu, Hui 591
Xu, Jin 244, 265
Xu, Linglei 020
Xu, Mingang 685
Xu, Wen 143
Xu, Yanan 456
Xu, Yang 139
Xu, Yaqhui G. 618
Xu, Yiru 139
Xu, Yuhuan 687

Y
Yaguchi, Tomonori 002
Yakuobovskaya, Marianna 491
Yamada, Masao 551
Yamamoto, Ai 293
Yamamoto, Mami 368
Yamamoto, Takenobu 551
Yamanishi, Hanuyo 368
Yamaaski, Kensi 700
Yamazaki, Takeshi 700
Yan, Zihao 262
Yang, Catherine 195
Yang, Chao 026
Yang, Gink 538
Yang, Hanjun 139
Yang, Hoseong Steven 274
Yang, Liang-Tung 437
Yang, Nicole 365
Yang, Ning 141, 687
Yang, Shi 614
Yang, Thomas 674
Yang, X. 157, 416
Yang, Yajun 288
Yang, Yong 456
Yang, Zhuhua 456
Yao, Catherine 120, 132
Yao, Cheng 482
Yardley, Nathan P. 150
Yarker, Joanne 679
Yeh, Chih-Chun 109, 633
Yeh, Iwei 622
Yelistratova, Lola 256
Yen, Chen-Mei 671
Yeung, Howa 283, 284

Yin, Jinghua 456
Yin, Natalie 657
Yin, Xianyong 431
Ying, Zuolin 101
Yoo, Kazuyuki 352
Yokouchi, Mariko 604
Yokoyama,Wayne 021
Yokouzoe, Hiroo 564
Yoshida, Takeshi 213, 346, 350
Yoshimasa, Takashi 062
Yoshizaki, Ayumi 058
Yosipovitch, Gil 187
You, Zhaoyang 032
Young, Chen N. 229
Young, Christie 389
Young, Christina 460
Young, Richard A. 636
Youssoufian, Leila 464, 466, 692
Yu, Hsin-Su 103
Yu, Pei-Yi 539
Yu, Richard 673
Yu, Yang 407
Yufit, Talynka 631, 724, 728, 731
Yun, Seok Kyun 600
Yuspa, Stuart H. 097, 137, 153
Yusuf, Nabia 581, 582

Z
Zamarrón, Alicia 151
Zane, Lee 507
Zarhaifian, Misha 086
Zare, Richard N. 209
Zargar Shoshhtari, Homayoun 326
Zeeli, T 066, 218
Zehnder, Ashley 412
Zeinali, S 464, 466
Zender, Chad 292
Zeng, Wangyong 620
Zengler, Karsten 193
Zhai, Zili 640
Zhang, Chen 104
Zhang, Jennifer Y. 040, 113, 463
Zhang, Jiajing 451
Zhang, Jieyu 468
Zhang, Juan 288
Zhang, Lianfeng 687
Zhang, Lingjuan 337, 322
Zhang, Tingyu 636
Zhang, Weigang 456
Zhang, Xiang 423
Zhang, Xiaoli 027
Zhang, Xiaoling 113, 463
Zhang, Xiaoru 602
Zhang, Xu 687
Zhang, Xuejun 431
Zhang, Yajun 075
Zhang, Yi 032
Zhang, Yuan 076
Zhao, Baizhong 107, 347
Zhao, Jiahui 456
Zhao, Tao 456
Zhao, Wei 367
Zhao, Xinyi 668
Zhao, Yi 367
Zhao, Zhongming 138
Zhen, Hanson 428
Zhenji 723
Zheng, Liangtao 456
Zheng, Qi 060, 071, 553, 554
Zheng, Wenxin 144
Zheng, Yajun 367
Zheng, Zhenlong 131
Zhou, Eray Yihui 456

www.jidonline.org S147
<table>
<thead>
<tr>
<th>Author</th>
<th>Page Numbers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Zhou, Hua</td>
<td>524</td>
</tr>
<tr>
<td>Zhou, Jin</td>
<td>139</td>
</tr>
<tr>
<td>Zhou, Jing</td>
<td>436, 444, 458</td>
</tr>
<tr>
<td>Zhou, Li</td>
<td>093</td>
</tr>
<tr>
<td>Zhou, Yasheen</td>
<td>507</td>
</tr>
<tr>
<td>Zhu, Gefei</td>
<td>130, 234</td>
</tr>
<tr>
<td>Zhu, Jiajun</td>
<td>156</td>
</tr>
<tr>
<td>Zhu, Yucui</td>
<td>115, 150</td>
</tr>
<tr>
<td>Zhu, Zheng</td>
<td>305</td>
</tr>
<tr>
<td>Zhuang, Linghang</td>
<td>367</td>
</tr>
<tr>
<td>Zhuang, Yong</td>
<td>663</td>
</tr>
<tr>
<td>Zic, John A.</td>
<td>138</td>
</tr>
<tr>
<td>Zillikens, D</td>
<td>066</td>
</tr>
<tr>
<td>Zippin, Jonathan H.</td>
<td>146, 148, 626</td>
</tr>
<tr>
<td>Zito, Giovanni</td>
<td>119</td>
</tr>
<tr>
<td>Zou, Mengchen</td>
<td>729</td>
</tr>
<tr>
<td>Zubek, Amanda</td>
<td>694</td>
</tr>
<tr>
<td>Zuk, Alexandra</td>
<td>484</td>
</tr>
<tr>
<td>Zuo, Yangang</td>
<td>091</td>
</tr>
<tr>
<td>Zwerner, Jeffrey</td>
<td>138</td>
</tr>
<tr>
<td>Keyword</td>
<td>Page Numbers</td>
</tr>
<tr>
<td>---------</td>
<td>--------------</td>
</tr>
<tr>
<td>Acne vulgaris</td>
<td>014, 197, 207, 212, 267, 273, 296, 328, 407, 531, 543, 548, 656</td>
</tr>
<tr>
<td>Adipose</td>
<td>471, 478, 522, 716, 719</td>
</tr>
<tr>
<td>Adverse Drug Reaction</td>
<td>051, 162, 179, 194, 235, 240, 257, 273, 417</td>
</tr>
<tr>
<td>AKT</td>
<td>107, 113, 115, 150, 423, 625, 629, 692</td>
</tr>
<tr>
<td>Aldo-keto reductase</td>
<td>684</td>
</tr>
<tr>
<td>Allergic Contact Dermatitis</td>
<td>192, 215, 367, 414, 549, 564</td>
</tr>
<tr>
<td>Allergy</td>
<td>048</td>
</tr>
<tr>
<td>Alopecia, non-scarring</td>
<td>008, 019, 052, 079, 238, 264, 272, 277, 657, 658, 670, 672, 673, 686, 690</td>
</tr>
<tr>
<td>Alopecia, scarring</td>
<td>089, 090, 665, 666, 684</td>
</tr>
<tr>
<td>Antimalarials</td>
<td>235</td>
</tr>
<tr>
<td>Antimicrobial peptide</td>
<td>102, 193, 348, 400, 407, 518, 519, 520, 526, 546, 562</td>
</tr>
<tr>
<td>Aryl Hydrocarbon Receptor</td>
<td>319, 375, 588, 589</td>
</tr>
<tr>
<td>Bioengineered Tissue</td>
<td>355, 356, 357, 358, 647, 715, 725</td>
</tr>
<tr>
<td>Biologics</td>
<td>037, 051, 061, 216, 258, 271, 278, 417, 616, 655</td>
</tr>
<tr>
<td>Blistering Disease</td>
<td>060, 061, 065, 077, 078, 083, 084, 091, 200, 285, 479, 571</td>
</tr>
<tr>
<td>Botulinum toxin</td>
<td>667</td>
</tr>
<tr>
<td>BRAF</td>
<td>465, 617, 618, 626, 632, 638, 644</td>
</tr>
<tr>
<td>Burns</td>
<td>261, 707, 730</td>
</tr>
<tr>
<td>C. albicans</td>
<td>521</td>
</tr>
<tr>
<td>Calcium-Sensing Receptor</td>
<td>353, 699</td>
</tr>
<tr>
<td>Cancer cell invasion</td>
<td>119, 122, 129, 146, 412, 474, 498, 638</td>
</tr>
<tr>
<td>Cathelicidin</td>
<td>206, 522, 574</td>
</tr>
<tr>
<td>Cell adhesion</td>
<td>068, 071, 363, 382, 475, 488, 694, 704, 714</td>
</tr>
<tr>
<td>Cell Based Therapy</td>
<td>047, 059, 405, 408, 411, 418, 659, 719, 736</td>
</tr>
<tr>
<td>Cell cycle</td>
<td>097, 113, 344, 374, 474, 506, 589, 616, 624, 663</td>
</tr>
<tr>
<td>Cell migration</td>
<td>026, 104, 113, 500, 555, 557, 608, 697, 698, 703, 714, 728, 729</td>
</tr>
<tr>
<td>Cell Senescence</td>
<td>121, 122, 140, 420</td>
</tr>
<tr>
<td>Cell-Cell Communication</td>
<td>058, 673, 723</td>
</tr>
<tr>
<td>Ceramide</td>
<td>376, 397, 400, 608, 660</td>
</tr>
<tr>
<td>Chemokine</td>
<td>010, 012, 033, 050, 163, 441, 532, 652</td>
</tr>
<tr>
<td>Chemotherapy</td>
<td>227, 307, 362, 617, 626, 640, 645, 650, 657</td>
</tr>
<tr>
<td>Children</td>
<td>036, 165, 166, 432</td>
</tr>
<tr>
<td>Cigarette smoke</td>
<td>313</td>
</tr>
<tr>
<td>CLASI</td>
<td>186</td>
</tr>
<tr>
<td>co-morbidity</td>
<td>073, 219, 260, 263, 278, 289, 306, 310, 329</td>
</tr>
<tr>
<td>Cohort Study</td>
<td>178, 181, 182, 186, 191, 222, 276, 304, 307, 316, 317, 318, 323, 406</td>
</tr>
<tr>
<td>collagen</td>
<td>058, 081, 084, 254, 405, 418, 432, 435, 476, 485, 487, 492, 494, 576, 577, 596, 600, 627, 710</td>
</tr>
<tr>
<td>Copy Number Variation</td>
<td>447</td>
</tr>
<tr>
<td>Corneocytes</td>
<td>366, 368</td>
</tr>
<tr>
<td>COX2</td>
<td>588, 615, 678</td>
</tr>
<tr>
<td>CTCL</td>
<td>101, 117, 126, 138, 147, 177, 179, 188, 222, 225, 237, 332, 415, 421, 423, 534</td>
</tr>
<tr>
<td>cutaneous nerve fibers</td>
<td>108, 205, 727</td>
</tr>
<tr>
<td>cytokines</td>
<td>006, 010, 040, 044, 054, 056, 072, 089, 140, 216, 281, 514, 516, 527, 532, 543, 620, 628</td>
</tr>
<tr>
<td>Dendritic Cell</td>
<td>001, 003, 007, 025, 031, 032, 040, 044, 103, 125, 179, 271, 379, 521, 538, 565</td>
</tr>
<tr>
<td>Dermal Papilla</td>
<td>476, 660, 674, 687</td>
</tr>
<tr>
<td>Dermatitis</td>
<td>024, 161, 227, 240, 359, 368</td>
</tr>
<tr>
<td>Dermatomyositis</td>
<td>050, 056, 064, 073, 080, 087, 172, 202, 410</td>
</tr>
<tr>
<td>Dermoscopy</td>
<td>183, 387</td>
</tr>
<tr>
<td>desmocollin</td>
<td>382, 488</td>
</tr>
<tr>
<td>desmoglein</td>
<td>018, 066, 068, 092, 164, 479, 488</td>
</tr>
<tr>
<td>Desmoplakin</td>
<td>475</td>
</tr>
<tr>
<td>Disease Severity</td>
<td>171, 184, 251, 267, 402, 458</td>
</tr>
<tr>
<td>Dilx3</td>
<td>097, 669</td>
</tr>
<tr>
<td>DNA damage</td>
<td>067, 116, 496, 580, 586, 606, 607, 611, 635, 650</td>
</tr>
<tr>
<td>Drug Allergy</td>
<td>162, 206</td>
</tr>
<tr>
<td>Drug delivery</td>
<td>063, 338, 351, 362, 373, 396, 536, 713, 715</td>
</tr>
<tr>
<td>EGFR</td>
<td>139, 473, 489, 589</td>
</tr>
</tbody>
</table>
KEYWORD INDEX

Endoplasmic Reticulum Stress 087, 571
Eosinophil 067, 083, 439, 556
Eph Receptor 100, 473, 723
Epidemiology 191, 204, 228, 231, 237, 239, 250, 279,
283, 284, 285, 286, 287, 288, 290, 291,
292, 293, 294, 295, 296, 297, 298, 299,
301, 302, 303, 304, 305, 307, 308, 310,
311, 314, 316, 317, 318, 320, 321, 322,
323, 324, 325, 327, 330, 332, 333, 334
Epidermal Barrier 180, 217, 335, 338, 339, 342, 343, 345,
347, 349, 351, 354, 355, 357, 358, 359,
360, 362, 364, 368, 370, 372, 373, 375,
379, 381, 386, 388, 390, 391, 396, 400,
402, 452, 562, 569, 653
Epidermal Morphogenesis 133, 337, 371, 378, 380, 381, 389, 404,
477, 679, 681
Epidermal Progenitor Cells 118, 430, 679, 680, 688
Epidermolysis Bullosa 200, 228, 361, 408, 411, 418, 419, 426,
428, 435, 466, 486, 490, 712
Extracellular matrix 253, 254, 363, 385, 387, 477, 481, 482,
483, 484, 486, 487, 490, 492, 493, 498,
502, 577, 600, 601, 702, 710, 712, 718
Follicular Growth 677, 678, 695
FoxP3 034, 065, 518
Gene Copy Number Variation 106
Gene Inhibition 659, 661
Gene-Environment Interaction 393, 597
Genetic Association 064, 195, 248, 435, 436, 438, 442, 443,
449, 690
Genome wide association study 070, 238, 244, 431, 461
Genomic Instability 106, 128, 136, 145
Genomics 057, 101, 110, 134, 135, 156, 198, 200,
263, 431, 440, 444, 446, 447, 448, 449,
450, 451, 459, 464, 465, 470, 554, 661,
683, 708, 734
Glucocorticoid Receptor 491
Graft-versus-host skin disease 038, 044, 173, 262
Growth factor 045, 052, 109, 125, 188, 472, 478, 480,
489, 500, 729, 735
HaCaT cells 575, 711
Hair Follicle 277, 370, 371, 389, 449, 459, 467, 584,
610, 641, 657, 658, 639, 660, 666, 668,
671, 672, 674, 675, 676, 677, 678, 681,
682, 687, 688, 690, 691, 693, 694, 695,
696, 717
Hedgehog 111, 115, 132, 141, 274, 687
Hemangioma 436
Herpes Zoster 202
Hidradenitis Suppurativa 221, 306, 309
High-Throughput Sequencing 060, 082, 110, 192, 425, 444, 452
Higher Order Chromatin Organization 156, 709
Histone deacetylase 393, 403, 602
Host defense 456, 521, 545, 560, 570, 572
Human Skin Graft 428, 719
Hydration 217, 249, 316, 317, 339, 369, 390, 499
Ichthyosis 195, 458
Immunization 035, 039, 043
Immunomodulation 001, 006, 020, 024, 028, 030, 049, 086,
093, 221, 238, 281, 407, 565
Immunosuppression 022, 158, 414, 591
Immunotherapy 002, 046, 050, 051, 059, 076, 089, 090,
094, 095, 123, 127, 136, 164, 172, 192,
194, 655
Infantile Hemangioma 436
Inflammation 005, 014, 023, 026, 042, 049, 062, 066,
074, 076, 077, 078, 090, 127, 144, 163,
170, 173, 176, 185, 190, 198, 199, 203,
214, 218, 220, 242, 243, 248, 344, 359,
364, 367, 376, 395, 399, 510, 511, 514,
516, 528, 529, 530, 534, 538, 540, 547,
552, 558, 559, 561, 566, 567, 568, 571,
573, 590, 615, 640, 669, 676, 702, 727
Innate immunity 077, 078, 086, 091, 504, 509, 513, 520,
531, 535, 540, 541, 543, 544, 560, 562,
567, 570, 574
Integrins 474, 484, 496, 501, 557, 706
Interferon 057, 064, 086, 136, 161, 206, 420, 551,
574, 698, 711
Interleukin 069, 177, 335, 384, 523, 552, 569, 576,
615, 651
Internet 158, 226, 312
Irritant 379
Itch 187, 188, 205, 213, 236, 269, 340, 369,
517, 519, 535
Keratinocytes 012, 088, 103, 144, 195, 259, 337, 340,
341, 349, 356, 357, 365, 374, 377, 380,
382, 383, 388, 393, 398, 399, 401, 403,
413, 437, 450, 460, 469, 475, 479, 489,
506, 511, 523, 526, 540, 546, 551, 557,
559, 560, 586, 587, 598, 602, 603, 609,
684, 694, 698, 699, 700, 701, 706, 716,
720, 727, 735
Kit7 385, 583
Lipid 067, 209, 219, 275, 342, 343, 376, 397,
594, 656
**KEYWORD INDEX**

<table>
<thead>
<tr>
<th>Keyword</th>
<th>Page Numbers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lipid Rafts</td>
<td>335</td>
</tr>
<tr>
<td>MCL-1</td>
<td>621, 648</td>
</tr>
<tr>
<td>Melanin</td>
<td>075, 453, 585, 606, 623, 637, 653</td>
</tr>
<tr>
<td>Merkel cell</td>
<td>015, 123, 124, 196, 241, 256, 680</td>
</tr>
<tr>
<td>Microarray</td>
<td>069, 070, 079, 264, 266, 394, 429, 477, 599, 601, 736</td>
</tr>
<tr>
<td>Microbiology</td>
<td>041, 176, 189, 503, 525, 548, 563</td>
</tr>
<tr>
<td>Microbiome</td>
<td>011, 038, 180, 193, 215, 508, 513, 533, 537, 542, 553, 554, 582</td>
</tr>
<tr>
<td>Microneedles</td>
<td>035, 223, 550</td>
</tr>
<tr>
<td>miRNA</td>
<td>129, 130, 355, 358, 383, 413, 463, 469, 470, 528, 578, 579, 598, 627, 711</td>
</tr>
<tr>
<td>Monoclonal Antibody</td>
<td>164</td>
</tr>
<tr>
<td>Mouse Models</td>
<td>031, 037, 038, 054, 091, 114, 141, 147, 152, 155, 204, 388, 394, 422, 437, 441, 442, 453, 454, 455, 462, 468, 478, 494, 495, 509, 517, 530, 534, 544, 564, 625, 638, 661, 673, 681, 726</td>
</tr>
<tr>
<td>Myeloid Derived Suppressor Cells</td>
<td>096</td>
</tr>
<tr>
<td>Neutrophils</td>
<td>002, 024, 373, 413, 480, 531</td>
</tr>
<tr>
<td>Natural Extract</td>
<td>022, 217, 385, 481, 545, 547</td>
</tr>
<tr>
<td>Neoplasm</td>
<td>174, 191, 416</td>
</tr>
<tr>
<td>Nerve</td>
<td>111, 187, 247, 269, 336, 532, 561, 691</td>
</tr>
<tr>
<td>Neurokin-1 Receptor</td>
<td>030, 541</td>
</tr>
<tr>
<td>Neuropeptide</td>
<td>020, 247, 344</td>
</tr>
<tr>
<td>Next-Generation Sequencing</td>
<td>071, 138, 225, 442, 444, 447, 533, 553, 554, 708</td>
</tr>
<tr>
<td>Non-Melanoma Skin Cancers</td>
<td>007, 120, 130, 131, 133, 135, 150, 154, 183, 199, 209, 250, 287, 299, 315, 331, 334, 425, 583</td>
</tr>
<tr>
<td>Noncoding RNA</td>
<td>409, 434, 595</td>
</tr>
<tr>
<td>Notch Signaling</td>
<td>121</td>
</tr>
<tr>
<td>OT-1</td>
<td>031</td>
</tr>
<tr>
<td>Oxidative Stress</td>
<td>075, 149, 157, 185, 437, 493, 590, 593, 594, 603, 609, 619, 722</td>
</tr>
<tr>
<td>p21</td>
<td>586</td>
</tr>
<tr>
<td>p38 MAP kinase</td>
<td>068, 592</td>
</tr>
<tr>
<td>p63</td>
<td>142, 451, 662</td>
</tr>
<tr>
<td>Pachyonychia Congenita</td>
<td>469</td>
</tr>
<tr>
<td>Pain</td>
<td>324</td>
</tr>
<tr>
<td>Pathway Analysis</td>
<td>104, 187, 264, 461, 613, 677</td>
</tr>
<tr>
<td>Patient Safety</td>
<td>226, 258, 301</td>
</tr>
<tr>
<td>Pediatric Dermatology</td>
<td>161, 207, 320, 348, 424</td>
</tr>
<tr>
<td>Photocarcinogenesis</td>
<td>151, 210, 578, 579, 581, 591, 592, 597</td>
</tr>
<tr>
<td>Photodamage</td>
<td>160, 210, 224, 247, 253, 366, 581, 585, 587, 596, 600, 601, 604, 609, 611</td>
</tr>
<tr>
<td>Physician Behavior</td>
<td>273, 322</td>
</tr>
<tr>
<td>Pigmentation</td>
<td>087, 224, 311, 372, 453, 599, 623, 627, 630, 635, 637, 647, 689</td>
</tr>
<tr>
<td>Polymavirus</td>
<td>124, 256, 503</td>
</tr>
<tr>
<td>Post-Chemotherapy Alopecia</td>
<td>610</td>
</tr>
<tr>
<td>Protease Receptor</td>
<td>498</td>
</tr>
<tr>
<td>Proteomics</td>
<td>252, 341, 473, 671</td>
</tr>
<tr>
<td>Psychodermatology</td>
<td>073, 306</td>
</tr>
<tr>
<td>Psychological stress</td>
<td>271</td>
</tr>
<tr>
<td>PTEN</td>
<td>495</td>
</tr>
<tr>
<td>Quality Reporting Initiatives</td>
<td>167</td>
</tr>
<tr>
<td>Radiotherapy</td>
<td>185, 593</td>
</tr>
<tr>
<td>Reactive Oxygen Species</td>
<td>151, 341, 496, 575, 593, 721</td>
</tr>
<tr>
<td>Regeneration</td>
<td>117, 404, 670, 671, 676, 682, 689, 691, 693, 709, 717, 721, 722, 728, 736</td>
</tr>
<tr>
<td>Regulatory T cell</td>
<td>009, 011, 016, 028, 029, 065, 518, 591, 675</td>
</tr>
<tr>
<td>Retinoic Acid</td>
<td>424, 499</td>
</tr>
<tr>
<td>RNA</td>
<td>501</td>
</tr>
<tr>
<td>RNA-seq</td>
<td>095, 153, 282, 440</td>
</tr>
<tr>
<td>ROR</td>
<td>584</td>
</tr>
<tr>
<td>Rosacea</td>
<td>197, 244</td>
</tr>
<tr>
<td>S100 generic</td>
<td>353</td>
</tr>
<tr>
<td>Scar</td>
<td>329, 707, 732</td>
</tr>
<tr>
<td>Sebaceous gland</td>
<td>334, 656</td>
</tr>
<tr>
<td>Seborrhic dermatitis</td>
<td>269, 370</td>
</tr>
</tbody>
</table>

**www.jidonline.org**
Senescence 142, 156, 377, 434, 594

Serine Proteinase Inhibitor 364

Shh 120, 150

Signaling 027, 031, 045, 054, 139, 146, 148, 377, 401, 403, 460, 472, 492, 493, 524, 573, 592, 607, 619, 620, 629, 644, 685, 701

siRNA 450, 487, 642

Skin Homeostasis 339, 352, 371, 430, 439, 451, 458, 463, 499, 605, 630, 637

Skin Models 083, 111, 342, 404, 405, 433, 476, 505, 539, 566, 604, 647, 695, 700, 724, 725

Skin tumor cells 004, 100, 132, 137, 151, 153, 155, 223, 225, 612

Skin-resident T cells 013, 017, 019, 026, 029, 034, 035, 039, 040, 041, 043, 072, 147, 208, 227, 262, 415, 555

Sphingosine-1-Phosphate 102

Squamous cell carcinoma 097, 100, 102, 105, 107, 119, 129, 133, 139, 143, 146, 149, 157, 158, 178, 182, 416, 580, 583

Staphylococcus Aureus 212, 213, 350, 509, 520, 522, 545, 548

Stem cell 117, 118, 143, 384, 401, 408, 427, 428, 430, 467, 624, 641, 646, 648, 662, 666, 668, 675, 685, 688, 689, 700, 708, 716, 720, 724, 731, 735

Sunless and Indoor Tanning 270, 284, 314

Th1 030, 460, 564

Th17 005, 020, 027, 041, 042, 082, 085, 093, 221, 505

Th2 048, 085, 255, 686

Tight Junction 346, 352, 381

Tissue Homeostasis 391, 664

TLR 467, 512, 524, 551, 581

Tolerance 003, 011, 018, 028, 058, 061

Topical 005, 348, 396, 416, 505, 529, 565, 568

Translational Regulation 398

Translational Research 004, 013, 059, 101, 110, 176, 209, 223, 251, 265, 280, 351, 410, 415, 421, 423, 446, 486, 516, 536, 538, 632, 639, 682
ABSTRACT

REVIEWERS
The SID is grateful to the following individuals for review of abstracts.

Committee on Scientific Programs
S. Wright Caughman, MD, ex officio
Richard Gallo, MD/PhD, ex officio
Anthony Gaspari, MD, Co-Chair
Sam Hwang, MD/PhD
Dan Kaplan, MD/PhD
Ethan Lerner, MD/PhD
My Mahoney, PhD, Co-Chair
Sarah Millar, PhD
Paul Nghiem, MD
Abrar Qureshi, MD/MPH
Alice Pentland, MD, ex officio
Nicole Ward, PhD
Alice Pentland, MD, ex officio
Abrar Qureshi, MD/MPH
Paul Nghiem, MD/PhD
Sarah Millar, PhD
Paul Nghiem, MD

GOVERNANCE

Officers and Directors
S. Wright Caughman, MD, President
Alexa Kimball, MD/MPH, Vice President
Mark Udey, MD/PhD, President-Elect
Anthony Gaspari, MD, Vice President-Elect
Alice Pentland, MD, Secretary-Treasurer

Ad Hoc Reviewers
John Harris, MD/PhD
Kiyoshi Arizumi, PhD
Xiao-Jing Wang, MD/PhD
Stephen Tying, MD/PhD
Joel Gelfand, MD
Maria I. Morasso, PhD
Mei Chen, PhD
Eli Sprecher, MD/PhD
James K. Wahl, III, PhD
Anna Di Nardo, MD
Jeffrey Travers, MD/PhD
Brian Pollack, MD/PhD
Valentia Greco, MD/PhD
Vladimir Botchkarev, MD/PhD
Michael Rosenblum, MD/PhD
Jan Dutz, MD
Kenneth Tsai, MD/PhD
Sewon Kang, MD
Robert Kirsner, MD/PhD
Terry Lechler, PhD
M. Joyce Rico, PhD
Amy Paller, MD
C. Michael DiPersio, PhD
Lloyd Miller, MD/PhD
Santosh Katiyar, PhD
Andrey T Slominski, MD/PhD
Bruce Morgan, PhD
Marie Tuttle, MD

SID Administrative Staff
Jim Rumsey, Executive Director, Chief Operating Officer
Rebecca Minnillo, DM/MPA, Executive Director, Chief Program and Development Officer
Maria Asher, Manager, Program Services
Robyn Cipolletti, Director, Association Services
Rachel Cobb, Meetings Support
Stephanie Flanagan, Manager, Member Services
Deborah Kovacs, Manager, Association Services

JID Staff
Elizabeth Nelson Blalock, Managing Editor, JID
Sarah Forngeng, JID Editorial Office Assistant

Journal Editorial Board
Editor
Barbara A. Gilchrest

Advisory Board
Paul R. Bergstresser
Lowell A. Goldsmith
Erwin Tschachler

Deputy Editors
Angela M. Christiano
Thomas Werfel

Section Editors
Masayuki Amagai
Lisa Beck
Vladimir Botchkarev
Paul E. Bowden
Richard Clark
Tatiana Elifova
Meenhard Herlyn
Sam Hwang
Ethan A. Lerner
John McGrath
W. H. Irwin McLean
Tamar Nijsten
Thomas Schwarz
Vijayasaradhi Setaluri
John R. Stanley
Robert Swerlick
Jouni Uitto
Hywel Williams
Stuart Yuspa

Statistical Editor
Beverley Adams-Huet

JID Connector Editor
Kavitha Reddy

JID Jottings Editor
Lowell A. Goldsmith

Cells to Surgery Quiz Editor
Keyvan Nouri

Meet the Investigator Editor
Pooja Chitgopeker

Meeting Reports Editor
Gerald S. Lazarus

Milestones Editor
Hensin Tsao

Podcast Editor
Robert Dellavalle

Research Techniques Made Simple
Kathryn Schwarzenberger (Editor)
Arlene Ruiz de Luzuriaga (Associate Editor)

Visual Ox Quiz Editor
Robert S. Kirsner, Miami, FL

Medical Writer
Heather Yarnall Schultz

Editors Emeriti
Marion B. Sulzberger, 1938-1949
Naomi M. Kanof, 1949-1967
Richard B. Stoughton, 1967-1972
Irwin M. Freedberg, 1972-1977
Ruth K. Freinkel, 1977-1982
Howard P. Baden, 1982-1987
David J. Margolis, MD/PhD
Andrew P. Kowalczyk, PhD
Maranke i. Koster, PhD
Janet A. Fairley, MD
Anthony E. Oro, MD/PhD
M. Joyce Rico, MD/ MBA
John Seykora, MD/PhD
Martin Weinstock, MD/PhD

Associate Editors
Martine Bagol
Boris Bastian
Jürgen Becker
Carola Berking
Mark Beherberg
Tilo Biedermann
Wendy B. Bollag
Luca Borradori
Jan Nico Bouwes Bavinck
Joke Bouwsma
Leena Bruckner-Tudereman
Julide Celebi
Cheng-Ming Chuang
Rachael A. Clark
Thomas N. Darling
Jeffrey M. Davidson
Mitchell F. Denning
Richard L. Eckert
James T. Elder
Alexander H. Enk
Kenneth Feingold
David E. Fisher
Gary J. Fisher
Carsten Flohr
Richard Gallo
Luis A. Garza
Spiro Getios
Michel F. Gilliet
Michael Girardi
Matthias Goebeler
Kathleen J. Green
Alain Hovnanian
Alan D. Irvine
Rivkah Isserof
Kenji Kabashima
Veli-Matti Kiihiiri
Sarolta K. Karpati
Kenneth A. Katz
Tatsuyoshi Kawamura
Reinhard Kimbauer
Andrew P. Kowalczyk
Thomas Krieg
Molly Kulesz-Martin
Martin Leverkus
David Margolis
Alain Mauviel
Akimichi Morita
Paul Nghiem
Manabu Nozawa
Amy S. Paller
Andrey A. Panteleyev
Vincent Piguet
Carlo Pinelli
Dennis Roop
Sam T. Saini
Fernanda Sakamoto
Yardena Samuels
Helmut Schaider
Kristof Schlaphack
Martin Schmelz
Jochen Schmitt
Glynis Scott
Julia A. Segre
John Seykorkil
Jan C. Simon
Eli Sprecher
Richard Spritz
Phyllis L. Spuls
Committee on Membership
Maryam Asgari, MD/MPH, Chair
Richard Gallo, MD/PhD, ex-officio
Lloyd Miller, MD/PhD
George Sen, PhD
Becky Minnillo, DM/MPA, Staff Liaison
V. Mishima
T. Nishikawa
D. Norris
S. Ohi
H. Ogawa
S. Pinnell
M. Prunieras
W. Quevedo, Jr.
H. Rorsman
W. Shelley
B. Shroot
S. Shuster
F. Snyder
D. Stevanovic
G. Stirling
J. Strauss
H. Tagami
N. Thyresson
J. Uitto
E. Van Scott
J. Voorhees
P. Weary
G. Weinstein
C. Wheeler, Jr.
K. Wolff
K. L. Yang

Committee on Nominations
Kathleen Green, PhD, Chair
Thomas Kupper, MD
Kim Yancey, MD
Becky Minnillo, DM/MPA, Staff Liaison

Honorary Members
H. Baden
E. Bauer
P. Bergstresser
E. Beutner
D. Bickers
O. Braun-Falco
J. Braverman
A. Breathnach
R. A. Briggaman
W. Bullough
H. D. Chen
L. H. Chiung
E. Christophers
R. Degos
L. Diaz
R. Dobo
E. Eady
A. Eisen
A. ElMofty
E. Epstein
J. Fernandez
I. Freedberg
R. Freinkel
B. Gilchrest
I. Gigli
L. Goldsmith
R. Goltz
M. Greaves
H. Green
J. Grunenhoff
G. Hambrick, Jr.
J. Hanifan
F. Hu
Y. Ishibashi
S. Jablonska
R. Jordon
S. Katz
A. Kligman
K. Kraemer
G. Krueger
A. Kuikita
C. Lapière
G. Lazarus
A. Lerner
J. Leyden
W. Lohitz, Jr.
I. Magnus

SID AWARDS
Stephen Rothman Memorial Award Recipients
Presented for distinguished service to investigative cutaneous medicine.
1967 Marion Sulzberger
1968 Donald Pillsbury
1969 J. W. McMillan
1970 Thomas Fitzpatrick
1971 Aaron Lerner
1972 William Montagna
1973 Rolf Baer
1974 Hermann Pinkus
1975 Eugene Van Scott
1976 Albert Kligman
1977 Irvin Blank
1978 George Odland
1979 Clayton Wheeler, Jr.
1980 Clarence Livingood
1981 Isadore Bernstein
1982 J. Lamar Callaway
1983 Richard Stoughton
1984 A. Gedeon Matoltsy
1985 Herman Beerman
1986 Otto Braun-Falco
1987 Walter Shelley
1998 Stephen Katz
1998 Klaus Wolff
1999 Lowell Goldsmith
2000 Richard Dobson
2001 Robert Briggaman
2002 Eugene Bauer
2003 Georg Stinfl
2004 Stuart Yuspa
2005 John Voorhees
2006 Thomas Lawley
2007 Barbara Gilchrest
2009 Luis Diaz
2010 Dennis Roop
2011 John Stanley
2012 Paul Bergstresser
2014 Jouni Uitto

Sid Kanof Clinical Investigator Award
This award is given to enlighten present and future workers about the importance of clinical investigation. It honors an individual who has made significant contributions to our understanding of clinical medicine.
1993 Alvan Feinstein
1994 R. Michael Blaese
1995 Judah Folkman
1996 John Wilson
1997 C. Garrison Fathman
1998 Jeffrey Bluestone
1999 Brian Strom
2000 William Kelley
2001 James Ostell
2002 Leena Peltonen
2003 Judith Campisi
2004 Brian Druker
2005 Joseph Nadeau
2006 John Schiller
2007 Thomas Pearson
2009 Mahlon DeLong
2010 Douglas Lowy
2011 David Lane
2012 Luis Parada
2014 Mark Chance
Julius Stone Lectureship
This award is intended to promote the advancement of knowledge in immunology as it relates to the skin and skin disease.
1999  Eli Gilboa
1999  Stephen Johnston
1999  Jeffrey Trent
2000  Nigel Bunnell
2000  Ronald Crystal
2000  Ralph Steinman
2001  Roland Martin
2000  nigel Bunnett
2000  Ronald Crystal
2000  Ralph Steinman
2001  Roland Martin
2002  Gerald Crabtree
2004  Adrian Hayday
2005  Polly Matzinger
2005  Bob Rowland
2006  Alexander Rudensky
2007  Donald y.M. leung
2009  Jamey Marth
2010  Rafi Ahmed
2011  Casey Weaver
2012  Rebecca Buckley
2014  Alice P. Pentland

William Montagna Lectureship
This annual award is intended to honor and reward young active investigators. Primary emphasis is given to researchers in skin biology.
1975  Kenneth Halprin
1976  Frank Parker
1977  Arthur Eisen
1978  Irma Gigli
1979  Marvin Karasek
1980  Irwin Freedberg
1981  Stephen Katz
1982  John Parrish
1983  Douglas Lowy
1984  Gerald Lazarus
1985  Eugene Bauer
1986  Georg Stingl
1987  Jouni Uitto
1988  Stuart Yuspa
1989  Tung-Tien Sun
1990  Karen Holbrook
1991  Luis Diaz
1992  Dennis Roop
1993  Ervin Epstein, Jr.
1994  John Stanley
1995  Elaine Fuchs
1996  Thomas Kupper
1997  Barbara Gilchrest
1998  Robert Modlin
1999  Fiona Watt
2000  Thomas Luger
2001  Peter Elias
2002  Kathleen Green
2003  Masayuki Amagai
2004  Akira Takashima
2005  Paul Khvare
2006  Richard Gallo
2007  Joseph Goldstein
2008  Pierre Coulombe
2009  Angela Christiano
2010  W.H. Irwin McLean
2011  Howard Chang
2012  Andrzei Dlugosz
2014  Xiao-Jing Wang

Herman Beerman Lectureship
This lecture is given by a distinguished medical scholar, traditionally from fields other than dermatology.
1961  Rene Dubos
1962  Hans Selye
1963  Rupert Billingham
1964  Curt Stern
1965  Albert Szent-Gyorgyi
1966  Jerome Gross
1967  G.J.V. Nossal
1968  John Buettner-Janusch
1969  Henry Kunkel
1970  Norman Wessells
1971  Aiden Breathnach
1972  Frank Dixon
1973  H. Hugh Fudenberg
1974  Charles Cochrane
1975  David Katz
1976  Bert O’Malley
1977  Russell Ross
1978  Hilary Koprowski
1979  Michael Brown
1980  Phil Leder
1981  Pedro Cuatrecasas
1982  Frank Ruddle
1983  Lawrence Lichtenstein
1984  Robert Gallo
1985  Thomas Waldmann
1986  Torsten Wiesel
1987  Leroy Hood
1988  Joseph Goldstein
1989  Pierre Chambon
1990  Ronald Herberman
1991  K. Frank Austen
1992  Bert Vogelstein
1993  Charles Janeway, Jr.
1994  Solomon Snyder
1995  Eric Lander
1996  Irving Weissman
1997  Michael Karin
1998  Günter Blobel
1999  Philippa Marrack
2000  Robert Langer
2001  William Haseltine
2002  Ronald DePinho
2003  Thomas Jessell
2004  Robert Weinberg
2005  Timothy Ley
2006  Amita Sehgal
2007  Stuart Schreiber
2009  Daniel Kastner
2010  Raymond Schinazi
2011  Jennifer Lippincott-Schwartz
2012  Mina Bissell
2013  Allan Balmain
2014  Hopi Hoekstra

Eugene M. Farber Psoriasis Research Award
This award is presented at the Annual Meeting to young investigators whose focus is on psoriasis research.
2003  David Jones
2004  Thomas McCormick
2005  Edmund Lee
2006  Michael Allen
2007  Curdin Conrad
2008  Shigetoshi Sano
2009  Helen Young
2010  Amos Gilhar
2011  Rajan Nair

Eugene M. Farber Lectureship
This lecture is presented by an investigator whose work is relevant to expanding our insights into the pathophysiology and treatment of psoriasis.
2007  Brian Nickoloff
2008  Enno Christophers
2009  James T. Elder
2010  James Krueger
2011  Kevin Cooper
2012  Frank Nestle
2014  Joel Gelfand

Albert M. Kligman / Phillip Frost Leadership Lecture & Award
This award is made to an individual in acknowledgment of significant contributions to the understanding of structure and function of skin in the past five years.
2008  Jouni Uitto
2009  Stephen Katz
2010  John R. Stanley
2011  Peter Elias
2012  Robert Lavker
2013  Elaine Fuchs
2014  Robert Modlin

SID/Galderma Acne Research Award
2002  Diane Thiboutot
2003  Jenny Kim
2004  Michaela Downie
2005  Andrzei Dlugosz
2006  Sewon Kang
2007  Philip Liu

SID/Galderma Rosacea Research Award
2009  Kenshi Yamasaki

SID Governance
Theme: Advance Dermatology through Science
Dates: December 11 (Fri) – 13 (Sun), 2015
Venue: Okayama Convention Center

2015

40th JSID
The 40th Annual Meeting of the Japanese Society for Investigative Dermatology

Tanioku Kihei Memorial Lecture
Thomas S. Kupper
(Department of Dermatology,
Harvard Medical School)

President
Keiji Iwatsuki
Department of Dermatology,
Okayama University
Graduate School of Medicine,
Dentistry and Pharmaceutical Sciences

Secretariat
Secretary general: Shin Morizane
Department of Dermatology,
Okayama University
Graduate School of Medicine,
Dentistry and Pharmaceutical Sciences
Email: jsid40@dermatol.or.jp
TEL: +81-86-235-7282
FAX: +81-86-235-7283