



**FOCiS<sup>®</sup>**

**2021**

**VIRTUAL**

**ANNUAL MEETING**

**JUNE 8 - 11, 2021**

**SCIENTIFIC PROGRAM**

Dear Colleagues,

Welcome to the 21st Annual Meeting of the Federation of Clinical Immunology Societies (FOCIS 2021), the leading forum for translational immunology!

This past year has been unprecedented in the challenges presented to science, medicine, and human health services. The FOCIS 2021 Virtual Annual Meeting allows the worldwide immunology community to not only reflect and celebrate the tremendous achievements made but also provide a glimpse of the future and potential for the translation of immunology for human health.

FOCIS 2021 is excited and proud to bring together clinicians, researchers, trainees, industry representatives, and others engaged in the broad disciplines of basic and clinical immunology to share knowledge across traditional disease borders and identify commonalities between life-changing treatments and therapies for those impacted by immune-mediated diseases.

**Please join me in extending our deepest appreciation to the FOCIS 2021 Scientific Program Committee for putting together an outstanding program that achieves these goals. This year's program showcases:**

- **Cutting-edge education and hot topics across the broad spectra of translational immunology, including recent global developments in understanding COVID-19 and its treatment.**

Joining our world-class plenary, thematic, symposia and oral abstract presenters are four notable experts in the field giving keynote addresses: Adrian Hill, DM, FMedSci, FRS, University of Oxford; Arlene Sharpe, MD, PhD, Harvard Medical School; Tadatsugu Taniguchi, PhD, University of Tokyo; and Bruce Walker, MD, Ragon Institute.

- **Innovative and easy-to-navigate virtual platform with a 3-D virtual exhibition.** Be sure to discover the recent technologies from our industry supporters and colleagues at their virtual booths!
- **Interactive poster talks with even more ways to engage with presenters.**
  - Two-minute, pre-recorded overview of the presenter's research given during Poster Talks sessions. Each is grouped with other similar-themed posters, with live Q&A following the final presentation.
  - Daily Poster Receptions on Wednesday, June 9, and Thursday, June 10, where attendees can connect directly with the author via live video and text chats.
- **More networking and in-between conversation opportunities for attendees to connect.**
- **Session recordings for on-demand viewing.** Available recordings will be indicated in the online program agenda.

2020 and now 2021 have been years like no other. But our ability to respond nimbly and swiftly to the COVID-19 pandemic is a shining example of what we can achieve together and is a highlight of this year's FOCIS meeting. It has become more evident that the connections between basic and clinical immunology are critical for our progress and a dedicated society. The means for the exchange between the two is key for our future success.

We are optimistic as we look forward to next year. Planning is underway for the FOCIS 2022 Annual Meeting, and we are working toward a safe return to an in-person meeting format in San Francisco, June 21-24, 2022. Mark your calendars now and plan to join us for what will be a unique and much anticipated celebration!

Thank you for taking part in FOCIS 2021 and helping to further the mission of FOCIS. Welcome to our 2nd virtual meeting.



Sincerely,

A handwritten signature in black ink that reads "Mark L. Anderson".

Mark Anderson, MD, PhD, FOCIS President

## FOCIS 2021 Supporters

FOCIS gratefully acknowledges the support that allows FOCIS to fulfill its mission to foster interdisciplinary approaches to both understand and treat immune-based diseases, and ultimately to improve human health through immunology.

### DIAMOND SPONSOR



### GOLD SPONSORS



Supported by a grant from AbbVie

### SILVER SPONSORS



This activity is supported by an independent educational grant from Takeda Pharmaceuticals U.S.A., Inc.



### BRONZE SPONSORS



### COPPER SPONSORS





## FOCIS 2021 Scientific Program Committee



**Jacques Banichereau, PhD**  
The Jackson Laboratory  
for Genomic Medicine  
Chair



**Jane Grogan, PhD**  
Graphite Bio  
Co-Chair



**Kavita Dhodapkar, MD**  
Emory University  
Abstract Chair



**Pamela Guerrierio, MD, PhD**  
National Institutes of Health  
Abstract Co-Chair



**Mark Anderson, MD, PhD**  
University of California,  
San Francisco



**Silvia Gregori, PhD**  
San Raffaele Telethon  
Institute for Gene Therapy



**Nir Hacohen, PhD**  
Massachusetts  
General Hospital



**Miriam Merad, MD, PhD**  
The Mount Sinai  
Medical Center



**William Robinson, MD**  
Stanford University



**Maria-Grazia Roncarolo, MD**  
Stanford University



**Megan Sykes, MD**  
Columbia University



**Hans-Dieter Volk, MD, PhD**  
Charité – Universitätsmedizin  
Berlin

## FOCIS 2021 General Information

### Evaluations

Delegates will receive email reminders and links to the evaluations daily during the meeting. Evaluations are also available through the mobile app.

### Virtual Poster Receptions

**Wednesday, June 9, 4:45 – 5:30 pm PT**

**Thursday, June 10, 4:45 – 5:30 pm PT**

Note: Posters will be available for viewing throughout the meeting. The poster authors have been asked to be present during the above poster reception hours to answer questions live.

### Release

Registration to attend or participate in, FOCIS meetings and other activities constitutes an agreement by the registrant to FOCIS' use and distribution (both now and in the future) of the registrant or attendee's image or voice in photographs, videotapes, electronic reproductions and audio tapes of such events and activities, unless expressly communicated in writing to the FOCIS staff.



## LILLY FOR BETTER

The human race has always been curious, hopeful and resilient. Discovery is our purpose on this planet. It's our calling and the spirit that's defined Lilly since day one. After more than a century and nearly 100 medicines and countless innovations, we're still searching for the next great discovery that will make life better for people around the world.

[lilly.com](https://lilly.com)

2019 CA Approved for External Use PRINTED IN USA ©2019, Eli Lilly and Company. ALL RIGHTS RESERVED.

*Lilly*





## SCIENTIFIC PROGRAM

**All times listed are in US Pacific Daylight Time (PT), 7 hours behind UTC.**

 Indicates the presentation will not be recorded.

### Monday, June 7

**7:00 am – 4:00 pm**  
**Systems Immunology Course**  
(separate registration required)



**8:30 am – 4:30 pm**  
**Basic Immunology in Medicine: Update 2021 Course**  
(separate registration required)



### Tuesday, June 8

**8:00 am – 4:30 pm**  
**Cancer Immunity and Immunotherapy Course**  
(separate registration required)



Organized in collaboration with



**8:00 am – 12:00 pm**  
**Big Data in Immunology Workshop**  
(separate registration required)



### Member Society Symposia

**7:00 am – 10:00 am**


**Complement in Human Diseases – New Tricks for an Old Dog**

Chairs: Alfred Kim, MD, PhD, Washington University School of Medicine; Joshua Thurman, MD, University of Colorado

Organized by



**7:00 am Overview of Complement Pathways and Associations with Human Disease**  
Viviana Ferreira, DVM, PhD, University of Toledo

**7:45 am The Complosome and Mitochondrial Activity**  
 Claudia Kemper, PhD, National Heart, Lung and Blood Institute

**8:30 am Local Complement Activation Modulates Tissue-specific Responses in Inflammation and Injury**  
Hrshikesh Kulkarni, MD, Washington University School of Medicine

**9:15 am Complement Therapeutics**  
Claire Harris, PhD, Newcastle University

7:00 am – 9:45 am

## Sex as a Biological Variable in Health and Disease

*Chairs: Lori West, MD, University of Alberta; Deirdre Sawinski, MD, University of Pennsylvania*

Organized by  **Women in Transplantation** an initiative of Transplantation

7:00 am **X-chromosome Inactivation**

Monserrat Anguera, PhD, University of Pennsylvania

7:30 am **Sex Differences in the Gut Microbiome – Impact of the 'Microgenderome' on Immunity**

Katie Flanagan, PhD, University of Tasmania

8:00 am **Q&A Session**

8:15 am **Break**

8:30 am **Pregnancy as a Model for Studying Tolerance, Maternal T Cell Exhaustion as Part of the Mechanism, Uterine NK Cells, Pathogenesis of Pre-eclampsia**

Paige Porrett, MD, PhD, University of Alabama, Birmingham

9:00 am **Why Autoimmune Diseases are More Prevalent in Women**

Rhonda Voskuhl, MD, PhD, University of California, Los Angeles

9:30 am **Q&A Session**

7:00 am – 9:55 am

## Cell Interactions at Mucosal Barriers

*Chairs: Samuel Huber, MD, PhD, University Medical Center Hamburg-Eppendorf; Eduardo Villablanca, PhD, Karolinska Institutet*

Organized by  **SOCIETY FOR MUCOSAL IMMUNOLOGY**

7:00 am **Macrophages Protect the Intestinal Epithelium from Fungi Toxicity**

Ann Maria Lennon, PhD, Institut Curie

7:35 am  **Impact of Apoptotic Cell Identity on Macrophage Function: Tell Me What You Eat and I Will Tell You Who You Are**

Lidia Bosurgi, PhD, Medical Center Hamburg-Eppendorf

8:10 am **Expansion of B Cells Hinder the Cross Talk Between the Stroma and Epithelial Cells During Mucosal Healing**

Eduardo Villablanca, PhD, Karolinska Institutet

8:45 am **Stem Cells and T Helper Cells Crosstalk at the Intestinal Barrier**

Moshe Biton, PhD, Weismann Institute of Science

9:20 am  **The Consequences of the IFN Response to the Lung Epithelium Repair Following Damage**

Ivan Zanoni, PhD, Harvard Medical School

7:00 am – 10:00 am

## New Frontiers of Allergy and Immunology in the Shadow of the Pandemic

*Chairs: Eva Untersmayr-Elsenhuber, MD, PhD, Medical University of Vienna; Jürgen Schwarze, MD, University of Edinburgh*

Organized by  **EAACI** EUROPEAN ACADEMY OF ALLERGY AND CLINICAL IMMUNOLOGY

7:00 am  **The Influence of Allergens and Allergic Inflammation on SARS-CoV-2 and Other Viral Infections**

Milena Sokolowska, MD, PhD, University of Zurich

8:00 am **Obesity, Asthma and COVID-19**

Liam O'Mahony, MD, PhD, Cork University

9:00 am **Mechanisms of Anaphylaxis to COVID-19 Vaccines**

Thomas Eiwegger, MD, University of Toronto

7:00 am – 10:00 am

## The Path Towards Personalized Medicine, How Close are We?

*Chairs: Darragh Duffy, PhD, Institut Pasteur; Matthew Albert, MD, PhD, Insitro*

Organized by  **Milieu Intérieur** Vers une médecine personnalisée

7:00 am **Factors Driving DNA Methylation Variation in Human Blood**

Etienne Patin, PhD, Institut Pasteur

7:30 am **Linking Immune Disease GWAS Variants to T Cell Function with Single Cell Transcriptomics**

Gosia Trynka, PhD, Wellcome Sanger Institute

8:00 am **Bifidobacteria-mediated Immune System Imprinting Early in Life**

Petter Brodin, MD, PhD, Karolinska Institutet

8:30 am **Decoding the Developing Human Immune System**

Muzlifah Haniffa, MD, PhD, Newcastle University

9:00 am **Defining the Landscape of Tissue Inflammation in Rheumatoid Arthritis**

Soumya Raychaudhuri, MD, PhD, Brigham and Women's Hospital

9:30 am **Redefining Monitoring for Allograft Health and Rejection**

Minne Sarwal, MD, PhD, University of California, San Francisco

7:00 am – 10:30 am

## The Impact of Ageing on Immune Function

Chair: Arne Akbar, MD, University College London


Organized by  




7:00 am **Welcome**

Arne Akbar, MD, University College London

7:05 am **T Cell Metabolism in Aging and Senescence**

 Maria Mittelbrunn, PhD, Centre for Molecular Biology, Severo Ochoa

7:35 am **The Role of Immunosenescence in SARS-CoV-2**

 Vaccination and Allergic Reactions to Vaccine  
Eva Untersmayr-Esenhuber, MD, PhD, Medical University of Vienna

8:05 am **Immunoaging in the Era of COVID**

Andrea Cossariza, MD, PhD, University of Modena

8:40 am **Break**

9:00 am **HIV Infection and Immune Ageing**

Victor Appay, PhD, Immuno ConcEpT

9:30 am **The Impact of the CRELD1 Molecule on T Cell Aging and Homeostasis**

Anna Aschenbrenner, PhD, University of Bonn, Life & Medical Sciences Institute

10:00 am **Ageing and Neutrophil Function**

Janet Lord, PhD, University of Birmingham

12:30 pm – 4:00 pm

## Member Society Symposia

12:30 pm – 4:00 pm

### The Role of Viral Immunity in Inflammation of Immune Privileged Sites

Chairs: Kathryn Pepple, PhD, University of Washington;  
Phoebe Lin, MD, PhD, Oregon Health and Science University

Organized by  

12:30 pm **Introduction**

Kathryn Pepple, PhD, University of Washington

12:35 pm **Immune Responses in Viral Uveitis: To Learn and Love**

Jolanda De Groot-Mijines, Utrecht University

12:55 pm **A Tale of Two Viral Uveitis Syndromes: Ocular Disease and Immunologic Response in Ebola and Herpes**

Steven Yeh, MD, University of Nebraska Medical Center

1:15 pm **Immune Response to Ebola Infection**

Rafi Ahmed, PhD, Emory University School of Medicine

1:35 pm **The Zoster Eye Disease Study (ZEDS): A Randomized Controlled Trial of Suppressive Valacyclovir to Reduce Complications of Herpes Zoster Ophthalmicus (HZO)**

Elizabeth Cohen, MD, New York University Langone Medical Center

1:55 pm **Innate Immune Response to TLR9 Ligands in the Mouse Eye**

Holly Chinnery, PhD, University of Melbourne

2:15 pm **Break**

2:30 pm **Gene Therapy Associated Inflammation in Patients**

Paul Yang, MD, PhD, Oregon Health and Science University

2:50 pm **Combating Ocular Gene Therapy Associated Inflammation**

Ying Kai Chan, PhD, Wyss Institute

3:10 pm **Host Immune Responses to Suprachoroidal AAV in Nonhuman Primates**

Glenn Yiu, MD, PhD, University of California Davis Health

3:30 pm **Group Discussion**


3:50 pm **Closing Remarks**

Phoebe Lin, MD, PhD, Oregon Health and Science University

12:30 pm – 4:00 pm

## How Immune Repertoires can Inform Human Immunology

Chair: Encarnita Mariotti-Ferrandiz, PhD, Sorbonne University

Organized by 

12:30 pm **Symposium Learning Objectives**

Encarnita Mariotti-Ferrandiz, PhD, Sorbonne University

12:35 pm **Introduction to the AIRR Community and the Purpose of this Symposium**

Lindsay Cowell, PhD, University of Texas Southwestern Medical Center

12:45 pm **Computational and Machine Learning Approaches for Identifying Disease or Antigen-specific Information in Immune Receptor Repertoires; Application in Autoimmune Diseases**

Victor Greiff, PhD, Oslo University

1:10 pm **TCR Signatures as Biomarkers of Autoimmune Diseases**

Encarnita Mariotti-Ferrandiz, PhD, Sorbonne University

1:35 pm **Application of AIRR-seq to Cancer, Particularly Cancer Biomarker Identification**

Lindsay Cowell, PhD, University of Texas Southwestern Medical Center

2:00 pm **Break**


2:15 pm **B Cell Clonal Networks: Lessons Learned from SARS-CoV-2**

Nina Luning Prak, MD, PhD, University of Pennsylvania

2:40 pm **Characterizing Germline Variation in Adaptive Immune Receptor Genes**

Corey Watson, PhD, University of Louisville

3:05 pm **AIRR Community Data Standards – Past, Present and Future**

 Christian Busse, MD, PhD, German Cancer Research Center

3:30 pm **The AIRR Data Commons – Towards FAIR AIRR-seq Data**

Brian Corrie, PhD, Simon Fraser University

3:55 pm **Final Questions and Closing**



12:30 pm – 4:00 pm

## Reshaping Immune Cells and Refining Immunotherapies to Tackle Autoimmunity, Transplantation and Cancer

Chair: Elaine Reed, PhD, University of California, Los Angeles;  
Barbara Detrick, PhD, The Johns Hopkins University

Organized by



12:30 pm Introduction

Barbara Detrick, PhD, Johns Hopkins University

12:35 pm **New Frontiers in Cellular Immunotherapy: Targeting Cancer with Engineered Natural Killer Cells**

Katy Rezvani, MD, PhD, University of Texas

1:15 pm **Donor-derived Regulatory Dendritic Cell Infusion in Liver Transplantation: Modulation of Anti-donor Reactivity**

Angus Thomson, PhD, University of Pittsburgh

1:55 pm Break

2:10 pm **Targeting Autoimmunity: Redesigning IL-2 to Enhance T Regs for Next Generation Therapy**

Jamie Spangler, PhD, Johns Hopkins University

2:50 pm **Feasibility, Long-term Safety and Immune Monitoring for Regulatory T Cell Therapy in Living Donor Transplantation**

Fadi Issa, PhD, University of Oxford

3:30 pm Final Questions and Closing

12:30 pm – 3:00 pm

## Neuroimmune Interactions in Health and Disease

Chair: Francisco Quintana, PhD, Brigham and Women's Hospital

Organized by



12:30 pm **Grey Matters – Ageing and MS**

Jennifer Gommerman, PhD, University of Toronto

12:50 pm **Unlocking Drivers of Neurodegeneration in Neuroinflammatory Diseases**

Katerina Akassoglou, PhD, University of California, San Francisco

1:10 pm **New Insights into CNS Immune Surveillance**

Jonathan Kipnis, PhD, Washington University School of Medicine

1:30 pm **Microglia, Memories, and the Extracellular Space**

Anna Molofsky, MD, PhD, University of California, San Francisco

1:50 pm **Neuronal Regulation of Innate Immunity**

David Artis, PhD, Weill Cornell Medical College

2:10 pm **Connecting Diverse Microglia States to Function in Health and Disease**

Beth Stevens, PhD, Boston Children's Hospital

2:30 pm **CNS Cell Connectomics in Health and Disease**

Francisco Quintana, PhD, Brigham and Women's Hospital

2:50 pm Discussion and Closing

2:00 pm – 4:00 pm

## Progress in IL-6-targeting Therapies – Bilateral Translation Between Bench and Clinic

Chairs: Yoshiya Tanaka, MD, PhD, University of Occupational and Environmental Health; Isao Matsumoto, MD, PhD, University of Tsukuba

Organized by



2:00 pm **History from Discovery of IL-6 to Launch an Anti-IL-6 Receptor Antibody Tocilizumab for the Treatment of Rheumatoid Arthritis**

Keishi Fujio, MD, PhD, University of Tokyo

2:24 pm **IL-6 and its Targeting Therapy in Systemic Juvenile Idiopathic Arthritis and Adult Still's Disease**

Masaaki Mori, MD, PhD, Tokyo Medical and Dental University

2:48 pm **IL-6 and its Targeting Therapy from Large Vessel Vasculitis to Microscopic Polyangiitis**

Hajime Yoshifuji, MD, PhD, Kyoto University

3:12 pm **IL-6 and its Targeting Therapy in Autoimmune Diseases in the CNS, Including Neuromyelitis Optica and Multiple Sclerosis**

Norio Chihara, MD, PhD, Kobe University Graduate School of Medicine

3:36 pm **Further Application of IL-6-targeting Therapy for Cytokine Storms Derived by COVID-19 as well as CAR-T Therapy**

Sujin Kang, PhD, University of Osaka

12:30 pm – 4:00 pm

## Spatial Genomics in Understanding Disease and Transplantation

Chair: Fadi Issa, DPhil, University of Oxford

Organized by



12:30 pm Introduction

Fadi Issa, DPhil, University of Oxford

12:35 am **The History and Future of Spatial Genomics**

Long Cai, PhD, California Institute of Technology

1:15 pm **High-plex Spatial Multi-omics, a Technique Poised to Revolutionize the Next Generation of Clinical Histological Assays**

Joseph Beecham, PhD, NanoString Technologies

1:55 pm Break

2:10 pm **Super Resolution Tissue Imaging**

Garry Nolan, PhD, Stanford University

2:50 pm **Spatial Analysis of the Bone Marrow Niche**

Simon Haas, PhD, Heidelberg Institute

3:30 pm Panel Discussion and Close

5:00 pm - 5:45 pm

## Opening Keynote Address: Childhood-Onset Rheumatic Diseases: A Fertile Ground for Therapeutic Target Identification

Virginia Pascual, MD, Weill Cornell Medicine

Chair: Mark Anderson, MD, PhD, University of California, San Francisco

## Wednesday, June 9

All times listed are in US Pacific Daylight Time (PT), 7 hours behind UTC.

### 7:00 am Special Address from Anthony Fauci, MD, National Institute of Allergy and Infectious Diseases

Chair: Mark Anderson, MD, PhD, FOCIS President

7:05 am - 7:50 am

### Keynote Address: Viral Vectored Vaccines for COVID-19

 Adrian Hill, DM, FMedSci, FRS, University of Oxford

Chair: Megan Sykes, MD, Columbia University

8:00 am - 9:55 am

### COVID Pathophysiology

Chair: E. John Wherry, PhD, University of Pennsylvania Medical School

Sponsored by



### 8:00 am Antibody Responses to SARS-CoV-2 Infection and Vaccination

Florian Krammer, PhD, Icahn School of Medicine at Mount Sinai

### 8:30 am Genetic Studies Illuminating Pathways Important for Controlling COVID-19 Disease



Helen Su, MD, PhD, National Institute of Allergy and Infectious Diseases

### 9:00 am Role of Innate Immunity in COVID-19 Severity

Benjamin Terrier, MD, PhD, University of Paris

### 9:30 am SARS-CoV-2 Neutralizing Antibodies for Treatment and Prophylaxis of COVID-19

Ajay Nirula, MD, PhD, Eli Lilly Company

9:55 am - 10:00 am

Break

10:00 am - 11:30 am

### COVID Vaccines

Chair: Robert Balderas, MBA, BD Biosciences

Sponsored by



### 10:00 am Vaccines and Monoclonals to Regain Our Freedom

Rino Rappouli, PhD, GlaxoSmithKline

### 10:30 am COVID-19 Vaccine Research and Development

John Mascola, MD, National Institute of Allergy and Infectious Diseases

### 11:00 am Development of the Modern mRNA Vaccine Against COVID-19

Andrea Carfi, PhD, Moderna Therapeutics

## FOCIS Partner Programs

11:30 am - 1:00 pm

### Lupus Insight Prize Ceremony

Sponsored by



11:30 am Opening Remarks and Presentation of the 2021 Lupus Insight Prize to Martin Kregel, MD, PhD  
Gary Koretzky, MD, PhD, Cornell University

### 11:40 am Causes and Consequences of Host-microbiota Interactions in Lupus

Martin Kregel, MD, PhD, University of Münster

### 12:20 pm Clinical Diversity of Lupus and the Gut Microbiome

Gregg Silverman, MD, New York University Langone Health

### 12:45 pm Mechanisms Linking the Microbiome and SLE

Ilana Brito, PhD, Cornell University

11:45 am - 12:45 pm

### Meet the Editors from JEM

Stephanie Houston, PhD, JEM Senior Scientific Editor

Gaia Trincucci, PhD, JEM Scientific Editor

Montserrat Cols, PhD, JEM Scientific Editor

Sponsored by



## Industry Tutorials

11:45 am - 12:45 pm

### T-resident Memory Cells in Solid Tumors:

Just "Exhausted" or the Key to Cancer Immunotherapy

William O'Gorman, PhD, Genentech

Sponsored by



11:45 am - 12:45 pm

### Characterization of Shared Immunogenic Frameshift Mutations in Cancers with Microsatellite Instability

Cansu Cimen Bozkus, PhD, Mount Sinai School of Medicine

Sponsored by



11:45 am - 12:45 pm

### Advancing Transplant Diagnostics with Novel Technologies

Timo Olieslagers, PhD, Maastricht Universitair Medisch Centrum Tissue Typing Laboratory

Jonathan S. Maltzman, MD, PhD, Stanford University

Sponsored by



12:45 pm - 1:00 pm

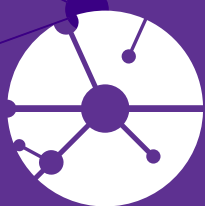
Break



# Lupus Research Alliance Opportunities

To apply or nominate:

[HTTP://BIT.LY/LUPUS-RESEARCH](http://bit.ly/lupus-research)



**LUPUS  
RESEARCH  
ALLIANCE**

LRA does not impose geographic restriction on its applicants. Researchers working outside of the US are encouraged to apply.

## **GLOBAL TEAM SCIENCE AWARDS**

**UP TO \$3 MILLION  
UP TO 3 YEARS**

**Letters of Intent Due: September 1, 2021**

Supports interdisciplinary, collaborative, and highly synergistic projects that push the boundaries of innovation and bridge research and clinical efforts in lupus.

Successful Teams will focus on unraveling human lupus heterogeneity by applying cutting-edge technologies to address critical questions that could bring about break throughs in lupus care, research or drug development.



**\$100,000**

**Nominations Due: January 20, 2022**


Aims to identify and recognize an outstanding investigator who has developed a significant novel research insight in scientific domains relevant to lupus within the past five years.

1:00 pm – 2:45 pm

## Inflammatory Diseases

Chair: Jordan Pober, MD, PhD, Yale University





Sponsored by **NEKTAR**

- 1:00 pm The Expanding Spectrum of Autoinflammatory Interferonopathies**  
Raphaella Goldbach-Mansky, MD, MHS, National Institute of Allergy and Infectious Diseases
- 1:25 pm Abstract Presentation: Cross-tissue, Single-cell Stromal Atlas Identifies Shared Pathological Fibroblast Phenotypes in Four Chronic Inflammatory Diseases**  
Ilya Korsunsky, PhD, Harvard Medical School
- 1:40 pm Nucleic Acid Sensing Pathways in Health and Disease**  
Kate Fitzgerald, PhD, University of Massachusetts Medical School
- 2:05 pm Abstract Presentation: IFN-gamma and TNF-alpha Drive a CXCL10<sup>+</sup> CCL2<sup>+</sup> Macrophage Phenotype Expanded in Severe COVID-19 Lungs and Other Diseases with Tissue Inflammation**  
Fan Zhang, PhD, Harvard Medical School
- 2:20 pm Inflammasomes as Sensors for Cell Stress**  
 Eicke Latz, MD, PhD, University of Bonn

1:00 pm – 2:45 pm

## Signaling and Cross Talk

Chair: Nicolai van Oers, PhD, University of Texas Southwestern Medical Center

- 1:00 pm Transcriptional Networks in Tumour-infiltrating T Cells**  
 Anjana Rao, PhD, La Jolla Institute for Immunology
- 1:25 pm Abstract Presentation: CCR6<sup>+</sup> Type 3 Innate Lymphoid Cells Switch Cold Tumors into Hot Tumors**  
 Mélanie Bruchard, PhD, INSERM U1231
- 1:40 pm Mitochondrial Stress Signaling in Innate and Cancer Immunity**  
 Gerald Shadel, PhD, Salk Institute for Biological Studies
- 2:05 pm Abstract Presentation: Lung Pathology Due to hRSV Infection Impairs Blood-brain Barrier Permeability Enabling Astrocyte Infection and a Long-lasting Inflammation in the CNS**  
 Melvin Zhang, PhD, Pfizer
- 2:20 pm Antigen and Epitope Selection for Cancer Immunotherapy**  
Jennie Lill, PhD, Genentech

1:00 pm – 3:00 pm

## Allergy

Chair: Megan Levings, PhD, The University of British Columbia

Sponsored by **AMGEN**

- 1:00 pm The Antibody Response to Food Allergens**  
Stephanie Eisenbarth, MD, PhD, Yale University School of Medicine
- 1:25 pm Abstract Presentation: Transcriptome-based Identification of Novel Endotypes in Adult Atopic Dermatitis**  
Alain Lefevre Utile, MD, INSERM U976
- 1:40 pm Novel Roles of Antibody Glycosylation in Allergy**  
Robert Anthony, PhD, Massachusetts General Hospital
- 2:05 pm Abstract Presentation: Development of a Human Skin Commensal Microbe for Bacteriotherapy of Atopic Dermatitis and Use in a First-in-human Randomized Clinical Trial**  
 Teruaki Nakatsuji, PhD, University of California, San Diego
- 2:20 pm Th2 Targeting in Inflammatory Skin Diseases and Beyond**  
Emma Guttman, MD, PhD, Mount Sinai
- 2:45 pm Abstract Presentation: Staphylococcus Enterotoxin Beta Alone Can Generate Robust IL-13 and IFN- $\gamma$  Production from Circulating T Cells of Adult Atopic Dermatitis Patients**  
Harshita Patel, Research Institute of The McGill University Health Center

2:45 pm – 3:15 pm

## Break

3:15 pm – 4:30 pm

## Flow Cytometry Course

Chairs: Holden Maecker, PhD, Stanford University; J. Philip McCoy, PhD, National Heart, Lung and Blood Institute

- 3:15 pm Cytometric Identification of Bregs and B Cell Exhaustion**  
Tullia Bruno, PhD, University of Pittsburgh
- 3:45 pm Discussion**
- 3:50 pm CAR-T Cell Flow Cytometry**  
Bitu Sahaf, PhD, Stanford University



3:15 pm – 4:45 pm

Oral Abstract Sessions

Autoimmunity (Part I)

Chair: Jeff Bluestone, PhD, Sonoma Biotherapeutics

Sponsored by  Bristol Myers Squibb™

- 3:15 pm **HLA Autoimmune Risk Alleles Restrict the Hypervariable Region of T Cell Receptors**  
Kazuyoshi Ishigaki, MD, PhD, Harvard Medical School
- 3:26 pm **T Cell and Myeloid Cell Subsets as Key Players During Multiple Sclerosis (MS) Disease Onset: A Cerebrospinal Fluid Transcriptomic Study**  
Hanane Touil, PhD, Columbia University
- 3:37 pm **Do Global Changes Induced by T Cell-targeted Therapies Reflect Alterations in the Antigen-specific CD8 T Cell Compartment? A Preliminary Report of T1D Autoantigen Response Profiles in Two Completed Clinical Trials**  
Alice Wiedeman, PhD, Benaroya Research Institute
- 3:48 pm **Identification of Novel Epitopes and Their Associated Mhc-restricted T Cell Clonotypes in the Periphery of Patients with Type 1 Diabetes**  
Daniel Rivera, Repertoire Immune Medicines
- 3:59 pm **Multiparametric Single-cell Proteomics of Circulating and Tissue Lymphocytes of Patients with a Primary Immunodeficiency Reveals Differential Inflammatory Responses**  
Stephanie van Dam, MD, University Medical Center, Utrecht
- 4:10 pm **Children and Adults with Eosinophilic Esophagitis Share a Conserved Interferon Signature**  
Melanie Ruffner, MD, PhD, Children's Hospital of Philadelphia
- 4:21 pm **A Novel Protein Complex Containing ZFYVE21 Modulates NLRP3 Inflammasome Activity on Rab5 Endosomes**  
Dan Jane-Wit, MD, PhD, Yale University
- 4:32 pm **Single-cell Transcriptional and Protein Expression Profiling Reveals Cell Type-specific Phenotypes and Interferon Signatures Associated with Disease Activity in Juvenile Dermatomyositis**  
Jessica Neely, MD, University of California, San Francisco

3:15 pm – 4:45 pm

Late Breaking Abstract Session (Part I)

Chair: Pamela Guerrero, MD, PhD, National Institute of Allergy and Infectious Diseases

Sponsored by 

- 3:15 pm **IL-18 Signaling is Required for Helios<sup>+</sup>Foxp3<sup>+</sup> TREG Cell-mediated Control of TH1 and TH17 Immune Responses in Viral and Parasitic Infectious Disease**  
Fernando Alvarez, DVM, PhD, McGill University

- 3:30 pm **Improved Non-viral CAR-reprogramming of Conventional and Regulatory T Cells Using CRISPR-Cas and Double-stranded DNA**  
Jonas Kath, MD, Charité - Universitätsmedizin Berlin
- 3:45 pm **A Novel PD-1:MAdCAM Bifunctional Antibody for the Treatment of T1D**  
Daniel Rios, PhD, Pandion Therapeutics
- 4:00 pm **Immune Profiling of Migrating and Graft-associated  $\gamma\delta$  T Cells after Human Intestinal Transplantation Reveals Unique Innate and Adaptive Features**  
Jianing Fu, PhD, Columbia University
- 4:15 pm **Reducing the Risk of Progressive Multifocal Leukoencephalopathy in Relapsing-remitting Multiple Sclerosis Patients Treated with Natalizumab**  
Aina Teniente-Serra, PhD, Hospital Universitari Germans Trias i Pujol
- 4:30 pm **A Recombinant BCG Vaccine is Safe and Immunogenic in Neonatal Calves and Reduces the Clinical Disease Caused by the Respiratory Syncytial Virus**  
Fabian Díaz, PhD, Pontificia Universidad Católica de Chile

3:15 – 4:45 pm

COVID-19

Chair: Helen Su, MD, PhD, National Institute of Allergy and Infectious Diseases

Sponsored by  GILEAD

- 3:15 pm **Clinical Characteristics and Biological Markers Predict the Outcome of 13,642 Adult Patients with COVID-19**  
Junghee Shin, MD, PhD, Yale University School of Medicine
- 3:30 pm **Comprehensive Decoding of the Immune Synapse to SARS-CoV-2: Epitope Discovery, HLA Restriction, and the Relationship to Endemic Coronaviruses and New Emerging Variants**  
Daniel Pregibon, PhD, Repertoire Immune Medicines
- 3:45 pm **Long-term Implications of COVID-19 in Asthmatic Patients**  
Shu Cao, Stanford University
- 4:00 pm **Single-cell RNA Sequencing of Blood Antigen-presenting Cells in Severe COVID-19 Reveals Multi-process Defects in Antiviral Immunity**  
Melissa Saichi, INSERM U976
- 4:15 pm **Immunopathology in MIS-C: Elevated Alarmin and Cytotoxicity Signatures and Autoreactivity that Correlates with Severity**  
Nina Brodsky, MD, Yale University
- 4:30 pm **PD-1<sup>high</sup>CXCR5<sup>+</sup>CD4<sup>+</sup> Peripheral Helper T (Tph) Cells Promote Tissue-homing Plasmablasts in COVID-19**  
Hirimitsu Asashima, Yale University



# *Creating Possible*

Gilead Sciences is proud to support the  
FOCIS 2021 Annual Meeting.

© 2021 Gilead Sciences, Inc.



## The Power to Propel Your Research

Discover the properties and dynamics of the immune repertoire with the quantitative power of immunoSEQ. In our lab or yours, our proven solution reveals the breadth and depth of T- and B-cell receptors to help you interpret the vast immune system with clarity. Adaptive Biotechnologies champions your research so you can accelerate your path to discovery.

Set your research in motion at [immunoseq.com](https://immunoseq.com)

immunoSEQ®

**Adaptive**  
biotechnologies™

For Research Use Only. Not for use in diagnostic procedures.



**3:15 pm – 4:45 pm**

**Immuno-oncology**

*Chair: Kavita Dhodapkar, MD, Emory University*

Sponsored by 

**3:15 pm Mantis Viewer: Software for Analysis of Multiplexed Tissue Imaging for Cancer Immunotherapy**

Robert Schiemann, Parker Institute for Cancer Immunotherapy

**3:30 pm Generating Macrophage-induced Anti-tumor Immunity in Ovarian Cancer with Mannosylated Nanoparticles**

Evan Glass, Vanderbilt University

**3:45 pm Platelet Expressed TLT-1 Induces CD8<sup>+</sup> T Cell Immunosuppression Promoting Tumor Growth**



Tarun Tyagi, PhD, Yale University

**4:00 pm Defining the Phenotype, Specificity and Avidity of Anti-tumor CD8<sup>+</sup> T Cells in Melanoma**

Giacomo Oliveira, PhD, Dana Farber Cancer Institute

**4:15 pm Engineered Variant Domain Fusion Proteins Provide Checkpoint Inhibition and Tumor Antigen-dependent CD28 Costimulation Resulting in Potent Anti-tumor Immunity**

Steven Levin, PhD, Alpine Immune Sciences

**4:30 pm Multicellular Immune Hubs and Their Organization in MMRd and MMRp Colorectal Cancer**

Jonathan Chen, MD, PhD, Massachusetts General Hospital

### Poster Talks

**3:15 pm – 3:45 pm**

**Adaptive Immunity – Basic Science Advances**

*Chair: Francisco Quintana, PhD, Brigham and Women's Hospital*

**3:15 pm Regulatory T Cells in Colon Cancer: A Case of Multiple Personality Disorder**

Khashayarsha Khazaie, Mayo Clinic

**3:17 pm An AP-1 Independent Gene Module Regulated by an NFAT2 Positive Feedback Loop Driven by Persistent TCR Stimulation is Required for Tfh Maintenance**



Abhinav Seth, Yale University

**3:19 pm ROCK2 Specific Inhibition Attenuates AngII-induced Hypertension in Mice**

Daniel Fehrenbach, Vanderbilt University Medical Center

**3:21 pm immuneML: An Ecosystem for Machine Learning Analysis of Adaptive Immune Receptor Repertoires**

Milena Pavlovic, University of Oslo

**3:23 pm Characterization of Phenotype and αβTCR of HLA-B\*27-restricted CD8 T Cell Clones Associated with Spondyloarthropathies**

Jose Garrido Mesa, King's College London

**3:25 pm Novel Interaction Partners of the SH2 Domain in T Cell Specific Adaptor Protein**

Hanna Chan, University of Oslo

**3:27 pm Alternative Oral Immunotherapy for Hemophilia A**

Thais Bertolini, Indiana University – Purdue University Indianapolis

**3:29 pm B Cell Abnormalities in a Patient with Gaucher Disease Type 1**

Tatiana Kalashnikova, Alberta Children's Hospital

**3:31 pm Live Q&A with Poster Authors**

**3:15 pm – 3:45 pm**

**Late Breaking Poster Talks (Part I)**

*Chair: Terri Laufer, MD, University of Pennsylvania*

**3:15 pm Single Cell Analysis of mTECs Carrying Dominant Mutations in Functionally Distinct Domains of AIRE Enable a Mechanistic Understanding of TSA Expression**

Yi Wang, University of California, San Francisco

**3:17 pm Development of a Xeno-free and Serum-free Serum Replacement for T and NK Cell Culture**

Vanda Lopes, BioLegend

**3:19 pm Allele-specific Expression Changes Dynamically During T Cell Activation in HLA and Other Autoimmune Loci**

Maria Gutierrez-Arcelus, Boston Children's Hospital

**3:21 pm Adding Plinabulin (Plin) to Pegfilgrastim (Peg) Reverses the Immune-suppressive Potential of Peg While Offering Superior Prevention of Chemotherapy-induced Neutropenia (CIN) Versus Peg Alone**

Ramon Mohanlal, BeyondSpring Pharmaceuticals

**3:23 pm Dissecting the Regulatory Immune Landscape of Adipose Tissues by Mass Cytometry After Vertical Sleeve Gastrectomy in Nonhuman Primates (NHPs)**

Amar Singh, University of Minnesota

**3:25 pm Comprehensive Immune Survey of the Visceral Adipose Tissue (VAT) by Mass Cytometry After Vertical Sleeve Gastrectomy (VSG) in Nonhuman Primates (NHPs)**

Amar Singh, University of Minnesota

**3:27 pm Formulating a Gene Signature for Diagnosis of Autoimmune and Infectious Diseases**

Riya Gupta, Stanford University

**3:29 pm A Microparticle Strategy to Induce Tolerogenic Dendritic Cells for Rheumatoid Arthritis**

Allen Tu, University of California, Davis

**3:31 pm Immune Phenotyping of SARS-CoV-2 Infection in Pregnant Women Admitted for Delivery in Hamilton, Ontario, Canada**

Jessica Breznik, McMaster University

**3:33 pm Antibody and T Cell Responses to a Single Dose of the AZD1222/Covishield Vaccine in Previously SARS-CoV-2 Infected and Naïve Health Care Workers in Sri Lanka**

Chandima Jeewandara, University of Sri Jayawardenapura

**3:35 pm Live Q&A with Poster Authors**

3:45 pm – 4:15 pm

## Immuno-oncology and Systems Biology

Chair: Todd Giorgio, PhD, Vanderbilt University

**3:45 pm Cancer Cell Autonomous TLR9 Activation During Mitophagy Dictates Efficacy of Chemoimmunotherapy in Cold Tumors**

Emeric Limagne, PhD, Georges-François Leclerc Cancer Center

**3:47 pm Unleashing Inflammasome Activation Through TMEM176B Blockade Triggers Th17-dependent Tumor Immunity in the Context of PD-1 Blockade**

Marcelo Hill, Institute Pasteur de Montevideo

**3:49 pm Single Cell Proteogenomic Analysis Elucidates Treatment Options and Identifies a Potential Therapeutic Escape Mechanism in a Multiple Myeloma Patient**

Jonathan Scolnick, National University of Singapore

**3:51 pm Defining Maximally Powered Single-cell RNA-seq Studies with scPOST**

Nghia Millard, Harvard Medical School

**3:53 pm Transplant Patient with Metastatic Cancer Responds to Cemiplimab after Failing a Different Anti PD-1 Immunotherapy**

Katie O'Connell, Eastern Virginia Medical School

**3:55 pm Characterization of Immune Checkpoint Inhibitor-associated Arthritis in Electronic Health Record Data**

Steven Tran, Northwestern University Feinberg School of Medicine

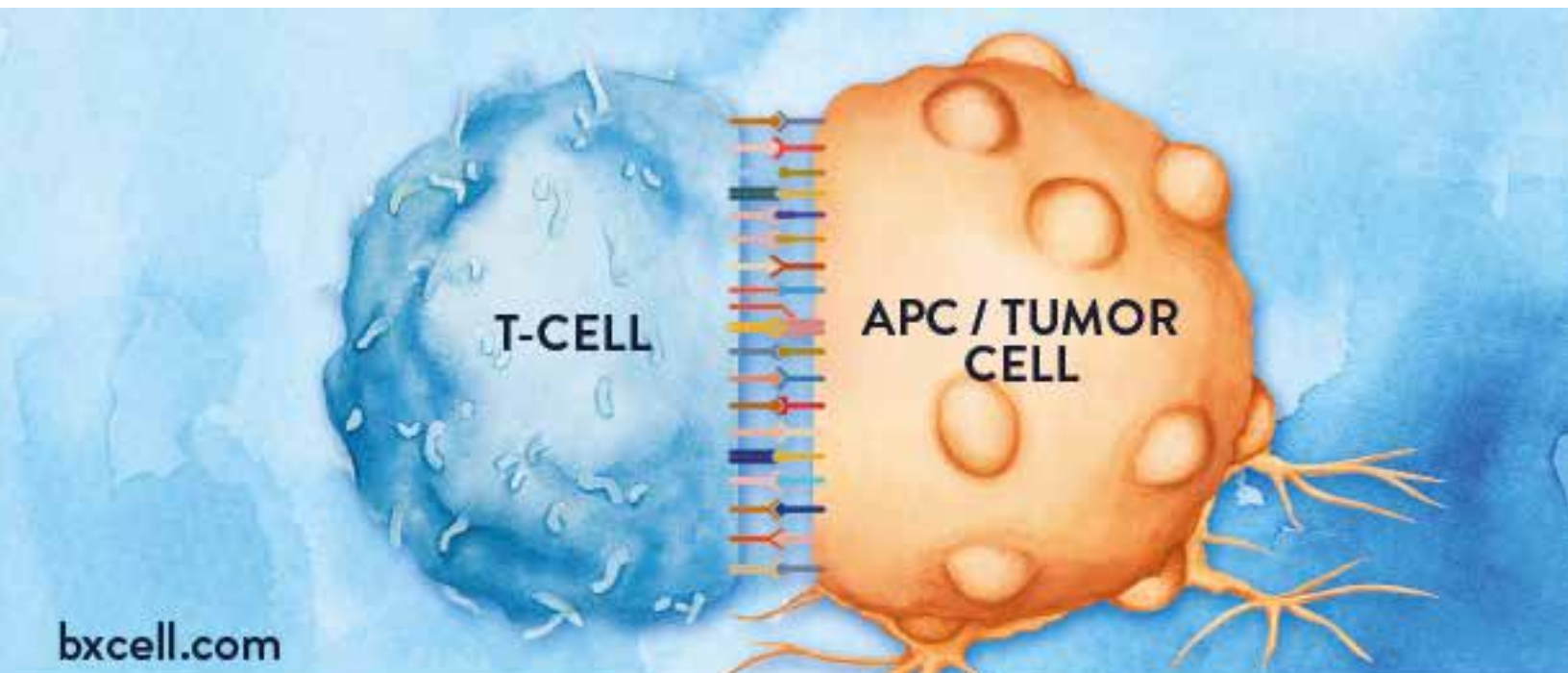
**3:57 pm Identification of Disease-associated Cell States from Single-cell Data Using Co-abundant Transcriptional Neighborhoods**

Laurie Rumker, Harvard University

**3:59 pm Alphataxin, a Small-molecule Drug that Elevates Tumor-infiltrating CD4<sup>+</sup> T Cells, in Combination with Anti-PD-1 Therapy, Suppresses Murine Renal Cancer and Metastasis**

Cynthia Bristow, Alpha-1 Biologics

**4:01 pm Live Q&A with Poster Authors**



bxcell.com

**Antibodies for *in vivo* research since 1997.**

Targeting immune checkpoints and more.





**4:15 pm – 4:45 pm**

### **Stem Cell and Organ Transplantation and Cellular Therapies**

*Chair: Joji Fujisaki, MD, PhD, Beth Israel Deaconess Medical Center*

**4:15 pm Harnessing Innate Lymphoid Cells to Prevent Graft-versus-host Disease**

Kyle Reid, University Health Network

**4:17 pm Immunologic Endotypes of Ischemia-Reperfusion Injury in Human Liver Transplantation**

Rebecca Sosa, University of California, Los Angeles

**4:19 pm Sequential Analysis of Renal Allograft Rejection at Single Cell Resolution**

Tiffany Shi, Cincinnati Children's Hospital Medical Center

**4:21 pm Transplantation and CMV Enhance CD8 T Cell Aging**

Lauren Higdon, Stanford University

**4:23 pm Lentiviral Gene Therapy for Inherited Purine Nucleoside Phosphorylase Immune Deficiency**

Robyn Loves, The Hospital for Sick Children

**4:25 pm Lipid Nanoparticle-mediated mRNA Delivery for CAR T Cell Engineering**

Savan Patel, University of Pennsylvania

**4:27 pm Receptor Engineered TRuC Tregs Maintain a Regulatory and Suppressive Phenotype in Murine Hemophilia A Model**

Jyoti Rana, Indiana University – Purdue University Indianapolis

**4:29 pm Donor-specific Anti-HLA Alloantibody in Kidney Transplant Recipients with COVID-19 Exhibit Different Immunoglobulin Class and Subclass Profiles Compared with Anti-SARS-CoV-2 Antibodies**

Alin Girnita, Stanford University

**4:31 pm Live Q&A with Poster Authors**

**4:45 pm – 5:30 pm**

### **Poster Reception with Authors Present**

Please visit the Virtual Poster Hall during this time where select poster authors are available for discussing their research live via video chat. The posters are available for viewing during the duration of the FOCIS Annual Meeting and any poster talks that gave approval for recording will also be available for on-demand viewing for 30 days after the meeting.

## **Thursday, June 10**

**All times listed are in US Pacific Daylight Time (PT), 7 hours behind UTC.**

**7:00 am – 7:45 am**

### **Keynote Address: Harnessing Host Immunity for HIV Cure**

Bruce Walker, MD, Ragon Institute

*Chair: Jonathan Maltzman, MD, PhD, Stanford University*

## **Congratulations!**

**Mahendra Rathore, PhD, Mayo Clinic, Rochester**

**Winner of the annual C. Garrison Fathman Fellows Fund Trainee Travel Award!**



The C. Garrison Fathman Fellows Fund was established to enable trainees and fellows to attend FOCIS Annual Meetings, educational courses, and to participate in exchange programs that advance human health through immunology.

Your contribution supports trainees and fellows throughout immunology. Donate online at [www.focisnet.org](http://www.focisnet.org) or by calling (414) 359-1670, extension 1108.



**8:00 am – 9:30 am Cell Therapy**

*Chair: Matt Porteus, MD, PhD, Stanford University*

*Sponsored by*



**8:00 am What Makes a Stem Cell a Stem Cell?**

John Dick, PhD, Princess Margaret Cancer Centre

**8:30 am New CAR Models**

Michel Sadelain, MD, PhD, Memorial Sloan Kettering Cancer Center

**9:00 am Development of Precision T Cell Therapeutics for Solid Tumors with Synthetic Biology**

Kole Roybal, PhD, University of California, San Francisco

**9:30 am – 10:00 am**

**Break**

**10:00 am – 11:30 am Immunology of Tumors**

*Chairs: Wayne Yokoyama, MD, Washington University Medical Center*

*Sponsored by*



**10:00 am Natural Killer Cell Engagers**

Eric Vivier, PhD, Hospitals Innate Pharma, Aix-Marseille University

**10:30 am On the Path to Better Cancer Vaccines**

Catherine Wu, MD, Dana Farber Cancer Institute

**11:00 am Rational Search for Myeloid Targets to Enhance Anti-tumor Immunity**



Miriam Merad, MD, PhD, Mount Sinai



# By putting lives first, we've created a legacy that lasts

For 130 years, we have tackled some of the world's biggest health challenges and provided hope in the fight against disease, for both people and animals. Today, we continue our commitment to be the premier research-intensive biopharmaceutical company in pursuit of medical breakthroughs that benefit patients and society for today, tomorrow and generations to come.



Copyright © 2021 Merck Sharp & Dohme Corp., a subsidiary of Merck & Co., Inc., Kenilworth, NJ, USA.  
All rights reserved. HQ-NON-00309 02/20



## Sanofi, a global Biopharmaceutical company

Sanofi is dedicated to supporting people through their health challenges.

We are a global biopharmaceutical company focused on human health.

We prevent illness with vaccines, provide innovative treatments to fight pain and ease suffering. We stand by the few who suffer from rare diseases and the millions with long-term chronic conditions.

With more than 100,000 people in 100 countries, Sanofi is transforming scientific innovation into healthcare solutions around the globe.

## FOCIS Partner Programs

11:45 am – 12:45 pm

**Navigating the Iceberg; Strategies for Promoting Gender Equity, Inclusion and Respect in Science | Jointly Presented by Women@FOCIS and Women in Transplantation, an Initiative of The Transplantation Society**

A Joint Presentation with  **Women in Transplantation** an initiative of The Transplantation Society

*Chairs: Anita Chong, PhD, University of Chicago;  
Megan Sykes, MD, Columbia University*

11:45 am **Welcome, Introductions and Session Overview**

11:55 am **Breakout Group Discussions**

Terri Laufer, MD, University of Pennsylvania  
Megan Levings, PhD, The University of British Columbia  
Elaine Reed, PhD, University of California, Los Angeles  
Maria-Grazia Roncarolo, MD, Stanford University

12:15 pm **Report Back and Q&A**

12:40 pm **Closing Remarks**

## Industry Tutorials

11:45 am – 12:45 pm

**Turning Large-scale Immune Repertoire Data into Actionable Insights: Lessons from COVID-19, Other Infectious Diseases, and Autoimmunity**

Thomas Snyder, PhD, Adaptive Biotechnologies

Sponsored by 

11:45 am – 12:45 pm

**Latest Findings and Innovative Solutions in SARS-CoV-2 Research**

Christina Conforti, PhD, Miltenyi Biotec  
Ryan Natrass, PhD, Miltenyi Biotec  
Lorenz Fülle, PhD, University Hospital Bonn

Sponsored by



11:45 am – 12:45 pm

**Diagnosis, Treatment and Immunopathogenesis of Chronic COVID-19 (PASC)**

Miguel Tam, PhD, BioLegend  
*Chair: Bruce Patterson, MD, InCellDX*

Sponsored by  **BioLegend®**

12:45 pm – 1:00 pm

**Break**

1:00 pm – 2:45 pm

**Genetics and Immunity**

*Chair: Frank Nestle, MD, Sanofi*

Sponsored by  **Genentech**  
*A Member of the Roche Group*

1:00 pm **Anticytokine Autoantibodies: What Are They Doing and What Should We Do About It?**


Steven Holland, MD, National Institute of Allergy and Infectious Diseases

1:25 pm **Abstract Presentation: Investigation of Autoimmune Variants in Primary Human T Cells with Genome Editing and Simultaneous Single-cell Sequencing of DNA, mRNA, and Antibody Derived Tags**

Yuriy Baglaenko, PhD, Brigham and Women's Hospital

1:40 pm **Understanding Immune Response Variation in Humans Through the Lens of Genomics**

Lluís Quintana-Murci, PhD, Institut Pasteur

2:05 pm  **Abstract Presentation: Understanding the Immune Synapse with DECODE Provides Unique Insights into the T Cell Repertoire in Cancer Patients, Defines Immunological Memory in Infectious Disease and Identifies Auto-reactive T Cells in Autoimmune Diseases**

Joanna Swain, PhD, Repertoire Immune Medicines

2:20 pm **Linking Immune Disease GWAS Variants to T Cell Function with Single Cell Transcriptomics**

Gosia Trynka, PhD, Wellcome Sanger Institute

1:00 pm – 2:45 pm

**Human Microbiome**

*Chair: Guillermo Docena, PhD, University of La Plata*

1:00 pm  **Microbiota Centered Therapeutic Interventions in Immuno-oncology**

Laurence Zitvogel, MD, PhD, Institut Gustave Roussy

1:25 pm **Abstract Presentation: Epigenetic Mechanisms of Colorectal Cancer Tumor Promotion by *Parvimonas micra*, an Opportunistic Pathogenic Bacterium of the Oral Cavity**

Iradj Sobhani, MD, PhD, University of Paris

1:40 pm **The Early Life Gut Microbiota and Childhood Asthma – From Microbes to Mechanisms**

Susan Lynch, PhD, University of California, San Francisco

2:05 pm **Abstract Presentation: Lactococcus Lactis Producing Proinsulin and IL-10 Therapy Increases Antigen Specific Regulatory T Cells in Monotherapy and in Combination with an Anti-CD3 Monoclonal Antibody (Teplizumab) in Newly Diagnosed T1D Patients**

Kevan Herold, MD, Yale University

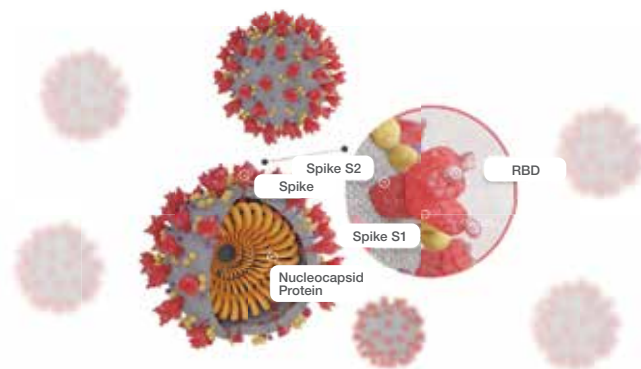
2:20 pm  **Hyperactive Dendritic Cells and the Control of Anti-tumor Immunity**

Jonathan Kagan, PhD, Boston Children's Hospital



# LABScreen™ COVID Plus

## Seeing COVID-19 Antibodies Through a Better Lens



To care for the most at-risk patients, researchers and healthcare professionals need a better lens for deeper insight into the SARS-CoV-2 virus.

The LABScreen™ COVID Plus panel includes five targets and is the most comprehensive COVID-19 antibody test available<sup>1</sup>. The assay detects specific COVID-19 antibodies and fragments that have been identified as clinically relevant: the spike, S1, S2, receptor-binding domain (RBD), and nucleocapsid targets.

Our collaborators recently published a peer-reviewed article in Transplantation about the development of the LABScreen COVID Plus assay<sup>2</sup>.

Read the paper at: [go.1lambda.com/MultiplexAssayPaper](https://go.1lambda.com/MultiplexAssayPaper)

To learn more, please visit the One Lambda booth.

<sup>1</sup> Product is CE marked for IVD in the EU. Product not cleared by US FDA. Product is CE marked but not 510(k)-cleared and not available for sale in the U.S. Availability of product in each country depends on local regulatory marketing authorization status.

<sup>2</sup> Bray RA, Lee JH, Brescia P, Kumar D, Nong T, Shih R, Woodle ES, Maltzman JS, Gebel HM. Development and Validation of a Multiplex, Bead-Based Assay to Detect Antibodies Directed Against SARS-CoV-2 Proteins. Transplantation. 2020 Dec 2. doi: 10.1097/TP.0000000000003524. Epub ahead of print. PMID: 33273320.

© 2021 One Lambda, Inc., A Thermo Fisher Scientific Brand. All rights reserved. Luminex and xMAP are registered trademarks of Luminex Corporation. All other trademarks are the property of Thermo Fisher Scientific and its subsidiaries. Specifications, terms and pricing are subject to change. Not all products are available in all countries. Please consult your local sales representative for details.



A Thermo Fisher Scientific Brand

## Trust BioLegend Reagents Every Step of the Way



## Advance Your Immunology Research

with thousands of peer-reviewed  
reagents from BioLegend

For nearly two decades, BioLegend has been a trusted partner with researchers around the world, providing the applications that have helped yield over 80,000 peer-reviewed publications. With thousands of off-the-shelf reagents and countless customization options, we are equipped to help you reach any immunology goal your lab aspires to.

**Investigate** SARS-CoV-2 mechanisms with immunoassays for host serological antibodies and viral spike proteins and nucleocapsids.

**Characterize** on a single-cell basis with TotalSeq™ antibodies for protein and genetic analysis.

**Discover** immune cell function with recombinant proteins and fluorophore-conjugated antibodies for flow cytometry and microscopy.

Learn More: [biolegend.com](https://biolegend.com)



BioLegend products are manufactured in an ISO 13485:2016-certified facility to ensure the highest quality standards.  
[biolegend.com](https://biolegend.com)




1:00 pm – 2:45 pm

## Stem Cell Transplantation

Chair: Maria-Grazia Roncarolo, MD, Stanford University


Sponsored by  **ONE LAMBDA**

A Thermo Fisher Scientific Brand

**1:00 pm**  **Immune Privileged Hematopoietic Stem Cells, Niche, and Tregs— Promising Therapeutic Targets for Transplantation, Injury and Cancer**  
Joji Fujisaki, MD, PhD, Harvard Medical School

**1:25 pm**  **Abstract Presentation: *In Vitro*-generated, Alloantigen-specific Type 1 Regulatory T Cells Persist Long-term in Patients**  
Alma-Martina Cepika, MD, PhD, Stanford University School of Medicine

**1:40 pm** **Mitochondrial Regulation of the Hematopoietic Stem Cells**  
Hans-Willem Snoeck, MD, PhD, Columbia University

**2:05 pm**  **Abstract Presentation: Preclinical Safety and Efficacy Validation of CD4LVFOX P3 Cells as an Innovative Treg-like Cell-based Gene Therapy for IPEX Syndrome**  
Yohei Sato, MD, PhD, Stanford University

**2:20 pm** **Regulatory T Cells in Allogeneic Hematopoietic Cell Transplantation**  
Bruce Blazar, MD, University of Minnesota

2:45 pm – 3:15 pm  
Break

3:15 pm – 4:30 pm

## Flow Cytometry Course

Chairs: Holden Maecker, PhD, Stanford University; J. Philip McCoy, PhD, National Heart, Lung and Blood Institute

**3:15 pm** **Flow and CyTOF Characterization of COVID-19 Patient Blood**  
Holden Maecker, PhD, Stanford University

**3:45 pm** **Discussion**

**3:50 pm** **Dimensionality Reduction Algorithms**  
Priyanka Balasubrahmanyam, Stanford University

3:15 pm – 4:45 pm

## Oral Abstract Sessions

### Adaptive Immunity – Basic Science Advances

Chair: Jane Buckner, MD, Benaroya Research Institute

**3:15 pm** **Generation of Human Germinal Centers Allowing Functional B Cell Maturation in Immunodeficient Mice**  
Chloé Samson, Mondor Biomedical Research Institute

**3:28 pm** **Coronary Plaque T Cell Repertoire Displays Viral Specificities**  
Patricia Nguyen, MD, Stanford University

**3:41 pm** **Thymus Hypoplasia Due to 22q11.2 Deletion Syndrome Corrected by Mesenchymal Cell Replacement**  
Pratibha Bhalla, PhD, University of Texas Southwestern Medical Center

**3:54 pm** **The Roles of BHLHE40 in Tr1 Cell Biology**  
Robert Freeborn, PhD, Stanford University

**4:07 pm** **Thymic Epithelial Cells Require Autophagy-related Protein Vps34 for Homeostasis and CD4 T Cell Selection**  
Luke Post oak, Vanderbilt University

**4:20 pm** **An *in vitro* Neonatal Gut Model to Understand Necrotizing Enterocolitis**  
Zohreh Sharafian, British Columbia Children's Hospital Research Institute

**4:33 pm** **Human B Lymphocyte Dysfunction and Leptin**  
Bonnie Blomberg, PhD, University of Miami

3:15 pm – 4:45 pm

## Autoimmunity (Part II)

Chair: Jessica Hamerman, PhD, Benaroya Research Institute

**3:15 pm** **Treatment of Immune-mediated Diseases with Tolerogenic Acellular Artificial Antigen-presenting Cells that Provide IL-2 and TGF-beta Will Generate Protective CD4 and CD8<sup>foxp3+</sup> Regulatory T Cells**  
David Horwitz, MD, General Nanotherapeutics, LLC

**3:26 pm**  **Dysregulated Follicular Regulatory T Cells and Antibody Responses Promote CNS Autoimmunity**  
Jianmei Leavenworth, MD, PhD, University of Alabama at Birmingham

**3:37 pm** **Scaled Phip-seq Enables Detection of Rare Autoantigens in Kawasaki Disease and Multisystem Inflammatory Syndrome**  
Sara Vazquez, University of California, San Francisco

**3:48 pm** **Cell Type Classification and Discovery Across Diseases, Technologies and Tissues Reveals Conserved Gene Signatures and Enables Standardized Single-cell Readouts**  
Mathew Chamberlain, PhD, Sanofi

**3:59 pm** **Effect of Citrullination on the Processing and Presentation of Rheumatoid Arthritis Autoantigens**  
Ashley Curran, Johns Hopkins School of Medicine

**4:10 pm** **Single Cell Analysis of CD8 T Cells Reveals Epitope Specific Signatures of Teplizumab Treatment in New-onset Type 1 Diabetes in the Abate Study**  
Hai Nguyen, PhD, Benaroya Research Institute

**4:21 pm** **Selective Expansion of Regulatory T Cells by Kidney-tethered IL-2 Mutein**  
Jyothsna Visweswaraiyah, PhD, Pandion Therapeutics

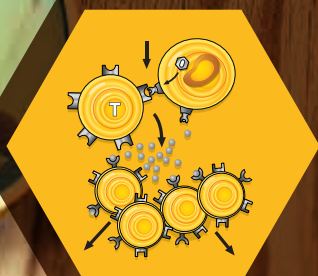
**4:32 pm** **Vixarelimab, an Anti-osmr-beta Fully Human Monoclonal Antibody, Inhibits Osm-induced Activation of Intestinal Fibroblasts in TNF-refractory Ulcerative Colitis**  
Kent Bondensgaard, PhD, Kiniska Pharmaceuticals Corp.

Science demands diversity.



[GENE.COM/DIVERSITY-INCLUSION](https://www.gene.com/diversity-inclusion)

**Genentech**  
*A Member of the Roche Group*



**Advanced Course in Basic  
& Clinical Immunology**

**March 7-9, 2022**

Estancia La Jolla • San Diego, California

3:15 pm – 4:45 pm

## Infectious Diseases

Chair: Dennis Metzger, PhD, Albany Medical College

- 3:15 pm** **New Insights on Herpes Simplex Virus Type 1 Contribution to Autoimmune Neurodegenerative Disease and Novel Antiviral Approaches Against this Virus**  
Pablo Gonzalez, PhD, University Católica de Chile
- 3:30 pm** **Preservation of Lymphocyte Functional Fitness in Perinatally Infected HIV<sup>+</sup> Pediatric Patients with Sub-optimal Viral Control**  
Aaruni Khanolkar, PhD, Ann and Robert H. Lurie Children's Hospital of Chicago
- 3:45 pm** **Human Pre-existing Memory T Cells Generate Heterogeneous Responses**  
Laura Su, MD, PhD, University of Pennsylvania
- 4:00 pm** **Mefformin Confer Protection by Enhancing CD8 T Cell Response in Ocular HSV-1 Infected Mice and Decrease Herpetic Encephalitis**  
Engin Berber, PhD, University of Tennessee
- 4:15 pm** **Multimodal Profiling of 500K Memory T Cells Identifies a Reduced Th17-like State Associated with Tuberculosis Progression**  
Aparna Nathan, Harvard Medical School
- 4:30 pm** **Epigenetic Regulation of Macrophage Priming During *Staphylococcus aureus* Infection**  
Liana Chan, PhD, Lundquist Institute for Biomedical Innovation

3:15 pm – 4:30 pm

## Late Breaking Abstract Session (Part II)

Chair: Stephanie Houston, PhD, The Rockefeller University

Sponsored by  **JEM** Journal of Experimental Medicine

- 3:15 pm** **B-1 Cells: Novel Subset of Thymic B Cell Population**  
Debopam Ghosh, PhD, Stanford University
- 3:30 pm** **T-SIGn Tumor Reengineering Therapy and Anti-EGFR CAR-T Cells Synergize in Combination Therapy to Clear A549 Lung Tumor Xenografts and Lung Metastases in NSG Mice**  
Maria Stella Sasso, PhD, PsiOxus
- 3:45 pm** **CUE-401: A Novel IL-2/TGF-beta Fusion Protein for the Induction of CD4<sup>+</sup> FOXP3<sup>+</sup> Regulatory T Cells**  
Anish Suri, PhD
- 4:00 pm** **Lung Pathology due to hRSV Infection Impairs Blood-brain Barrier Permeability Enabling Astrocyte Infection and a Long-lasting Inflammation in the CNS**  
Karen Bohmwald, PhD, Pontificia University Católica de Chile
- 4:15 pm** **Follicular Helper T Cell Signature of Replicative Exhaustion, Apoptosis and Senescence in Common Variable Immunodeficiency**  
Georgia Fouteri, PhD, San Raffaele Scientific Institute

## Poster Talks

3:15 pm – 3:45 pm

## Autoimmune Diseases

Chair: Eva Martinez-Caceres, MD, PhD, Autonomous University of Barcelona

- 3:15 pm** **Non-class-switched, Clonally-expanded B Cells are Found Among Memory B Cells in Anti-tRNA Synthetase Syndrome Patients**  
Rachel Bonami, Vanderbilt University Medical Center
- 3:17 pm** **Pathogenic Th17 Cells in Autoimmune Myasthenia Gravis Exhibit a Pro-inflammatory Transcriptomic Signature that Drive Disease Pathogenesis**  
Yingkai Li, Duke University
- 3:21 pm** **Expression of Pro-resolution Genes by Type 1 Conventional Dendritic Cells Differentiates Uveitis Subtypes**  
Lynn Hassman, Washington University
- 3:23 pm** **Technical Validation and Utility of a DR0401 Tetramer Assay for Type 1 Diabetes: A Multi-center Study**  
Ruth Ettinger, Benaroya Research Institute
- 3:25 pm** **High-Dimensional Analysis Reveals Abnormal B Cell Subsets Associated with T and Myeloid Cell Subsets in the Idiopathic Inflammatory Myopathies**  
Rachel Bonami, Vanderbilt University Medical Center
- 3:27 pm** **RIPK3 (Receptor-interacting Protein Kinase 3)-deficiency in Antigen-presenting Cells Dampens the Pro-inflammatory T Cell Response Following Antigen Presentation**  
Celeste Pilon, McGill University
- 3:29 pm** **Spirulina Stimulates TNF $\alpha$  and IFN $\gamma$  Production via Toll-like Receptor-4 Activation of Classical Monocytes and Monocyte-derived Dendritic Cells in Dermatomyositis Patients *in vitro***  
DeAnna Diaz, University of Pennsylvania
- 3:31 pm** **Autoreactive B Cells Escape Peripheral Checkpoint in Sjögren's Syndrome**  
Nedra Chriti, University of Western Brittany
- 3:33 pm** **Live Q&A with Poster Authors**



3:15 pm – 3:45 pm

## Late Breaking Poster Talks (Part II)

Chair: Asha Pillai, University of Miami School of Medicine

- 3:15 pm Association Between the use of Aspirin and Obstructive Lung Diseases in Diabetic Patients**  
Maria Ramos-Nino, St. George's University
- 3:17 pm Immunomodulatory Hydrogels for Bone Regeneration in Response to Bisphosphonate-related Osteonecrosis of the Jaw**  
Katherine Griffin, University of California, Davis
- 3:19 pm IL-17 is Expressed in Insulin-containing Islets of Donors with Type 1 and Type 2 Diabetes**  
Estefania Quesada-Masachs, La Jolla Institute for Immunology
- 3:21 pm Upregulation of HLA Class II on Beta Cells in Pancreata from Organ Donors with Type 1 Diabetes**  
Estefania Quesada-Masachs, La Jolla Institute for Immunology
- 3:23 pm Transfection of Vitamin D3-induced Tolerogenic Dendritic Cells for the Silencing of Potential Tolerogenic Genes Role of CSF1R**  
Federico Fondelli, Germans Trias I Pujol University Hospital and Research Institute
- 3:25 pm Inflammatory Adipocytes and Macrophages in the Visceral Adipose Tissue of Obese Human Subjects Suppress the Development of Treg Cells**  
Amar Singh, University of Minnesota
- 3:27 pm The Opposing Roles of MDSCs and pDCs in Male and Female Systemic Lupus Erythematosus**  
Jessica Jones, Cleveland Clinic Lerner College of Medicine
- 3:29 pm Role of Chronic Stress on Anti-Tumor T Cell Responses in Ovarian Cancer**  
Alexandra Aquino-Acevedo, Ponce Health Sciences University
- 3:31 pm Restoration of Follicular T Cell Compartment in Patients with Wiskott Aldrich Syndrome After Gene Therapy**  
Maria Pia Cicalese, San Raffaele Scientific Institute
- 3:33 pm CD4 T Cell-SARS-CoV-2-peptide-challenge-response in Individuals with Mild/Moderate COVID-19 Symptoms Alters with Age**  
Ryan Natrass, University Hospital of Bonn at the Institute of Virology
- 3:35 pm Live Q&A with Poster Authors**



3:45 pm – 4:15 pm

### COVID-19

Carrie Lucas, PhD, Yale University School of Medicine

3:45 pm **High Throughput Single Cell Antibody Discovery Method to Identify Anti-SARS-CoV-2 Antibodies**

Wyatt McDonnell, 10x Genomics Inc.

3:47 pm **Anti-SARS-CoV-2 Antibodies in Kidney Transplant Recipients**

Jonathan Maltzman, Stanford University

3:49 pm **A Single Center Evaluation of Allergic Reactions in Healthcare Workers after the Pfizer-BioNTech COVID-19 Vaccine**

Nina Hein, University of Miami

3:51 pm **Evaluation of Complement Pathway Activation Indicators in COVID-19 Patients**

Sadhana Sharma, All India Institute of Medical Sciences

3:53 pm **Targeting TMEM176B Controls Inflammasome-dependent T Cell Dysfunction in Coronavirus Infection**

Daniela Olivera, University of the Republic (Uruguay)

3:55 pm **Immunomodulatory Capacity of Human Placental Mesenchymal Stem Cells on COVID-19 Infected Patients**

Judith Montánchez, Hospital de León

3:57 pm **Localized Delayed Hypersensitivity Reactions to the COVID-19 Vaccine: A Case Series**



Alicia Little, Yale University

3:59 pm **Immunosuppression in Doctors Working with COVID-19 Patients**

Valentin Sadykov, National Medical Research Center for Obstetrics, Gynecology and Perinatology

4:01 pm **Live Q&A with Poster Authors**

4:15 pm – 4:45 pm

### Innate Immunity – Basic Science Advances

Chair: Pamela Guerrero, PhD, National Institutes of Health

4:15 pm **TRIM21 as a Regulator of UVB-driven IFN Responses in Lupus**

Gantsetseg Tumurkhuu, Cedars-Sinai Medical Center

4:17 pm **TIM-3 Modulate Human Macrophage Pro-inflammatory Phenotype**

Michela Comi, Yale School of Medicine

4:19 pm **The Negative mTOR Regulator DDIT4L Limits Innate Immune Activation in Neonatal Monocytes**

Christina Michalski, University of British Columbia

4:21 pm **JAK but not NFκB Mediates Prolonged Endothelial Cell Activation after Cytokine Stimulation**

Nicole Valenzuela, University of California, Los Angeles

4:23 pm **Maternal Asthma Risk in Relation to Infant and Early Life Hematopoietic Progenitor Cell Profiling: Evidence for *in utero* Innate Immune Memory**

Loubna Akhabir, McMaster University

4:25 pm **Single Cell Analysis of NEC Mucosa Reveals Inflammatory CD16<sup>+</sup> CD163<sup>+</sup> Monocytes Traffic to Sites of Inflammation**

Oluwabunmi Olaloye, Yale University

4:27 pm **An Adoptive Platelet Transfer Assay to Study Platelet-mediated Immune Regulation in NASH Mice**

Justin McCallen, National Cancer Institute

4:29 pm **Transcriptional Profiles of CD14<sup>+</sup> Cells *in situ* in Melanoma Reveal Plasticity, Localization Dependent Function and Specific T Cell Interactions**

Jan Martinek, The Jackson Laboratory

4:31 pm **Genetic Polymorphism and Deficiency of Human Complement C4B in Health and Disease**

Danlei Zhou, Nationwide Children's Hospital

4:33 pm **Live Q&A with Poster Authors**

4:45 pm – 5:30 pm

### Poster Reception with Authors Present

Please visit the Virtual Poster Hall during this time where select poster authors are available for discussing their research live via video chat. The posters are available for viewing during the duration of the FOCIS Annual Meeting and any poster talks that gave approval for recording will also be available for on-demand viewing for 30 days after the meeting.

## Friday, June 11

**All times listed are in US Pacific Daylight Time (PT), 7 hours behind UTC.**

7:00 am – 7:10 am

### State of FOCIS

Mark Anderson, MD, PhD, University of California, San Francisco, FOCIS President

7:10 am – 7:55 am

### Keynote Address: Multifaceted Functions of the PD-1 Pathway



Arlene Sharpe, MD, PhD, Harvard Medical School

Chair: Jacques Banchereau, PhD, The Jackson Laboratory for Genomic Medicine

Sponsored by



7:55 am – 8:00 am  
Break

8:00 am – 9:30 am

### Systems Immunology

Chair: Olivier Lantz, Curie Institute

Sponsored by **Janssen Immunology**

PHARMACEUTICAL COMPANIES OF **Johnson & Johnson**

8:00 am **The Power of ONE: Immunology in the Age of Single Cell Genomics**



Ido Amit, PhD, Weizmann Institute

8:30 am **Systems Immunology of Immunity to COVID-19 Infection and Vaccination**

Bali Pulendran, PhD, Stanford University

9:00 am TBD

9:30 am – 10:00 am

Break

10:00 am – 11:30 am

Immunoaging

Chair: Bonnie Blomberg, PhD, Miami University

10:00 am **Immune Dysfunction in Brain Aging and Degeneration**



Tony Wyss-Coray, PhD, Stanford University

10:30 am **NAD Metabolism and Aging in the Immune System**

Eric Verdin, MD, Buck Institute

11:00 am **mTOR Inhibitor Therapy to Enhance Antiviral Immunity in Older Adults**

Joan Mannick, MD, Life Biosciences

## FOCIS Partner Programs

11:45 am – 12:45 pm

**What Can I do to get my Project Funded?**

Thomas Esch, PhD, National Institute of Allergy and Infectious Diseases

Organized by  National Institute of Allergy and Infectious Diseases

12:45 pm – 1:00 pm

Break

1:00 pm – 2:45 pm

Autoimmunity

Chair: Qizhi Tang, PhD, University of California, San Francisco

Sponsored by 

1:00 pm **Resident Memory T Cells in Human Health and Disease**

Rachael Clark, MD, PhD, Brigham and Women's Hospital

1:25 pm **Abstract Presentation: Regulatory T Cell Heterogeneity and Key Regulators of Ereg Differentiation in an Autoimmune Inflammatory Environment**

Lisanne Lutter, MD, University Medical Center, Utrecht

1:40 pm **Shining an Immunodeficiency Light on Autoimmune Pathogenesis**

Ken Smith, PhD, University of Cambridge

2:05 pm **Abstract Presentation: Granzyme K<sup>+</sup> CD8 T Cells Form the Core Population of Inflamed Human Tissue-associated CD8 T Cells**

Anna Helena Jonsson, MD, PhD, Brigham and Women's Hospital

2:20 pm **Pathogenic Mechanisms in RA Illuminated by HLA**

Jane Buckner, MD, Benaroya Research Institute

1:00 pm – 2:45 pm

Humoral Immunity

Chair: William Robinson, MD, Stanford University

1:00 pm **A Novel Role of Neuritin in the Prevention of Autoimmunity and Anaphylaxis**

Carola Vinuesa, PhD, Australian National University

1:25 pm **Abstract Presentation: Machine Learning-based Single Cell and Integrative Analysis Reveals That Functional Predisposition of Circulating Myeloid Dendritic Cells at Baseline Predicts Protective Response to Hepatitis B Vaccine**

Richard Scheuermann, PhD, J. Craig Venter Institute

1:40 pm **SARS-CoV-2 Evolution in an Immunocompromised Host Reveals Mechanisms for Antibody Neutralization Escape**

Jonathan Abraham, MD, PhD, Harvard University

2:05 pm **Abstract Presentation: Temporal Dissection of the T Cell-intrinsic Factors That Maintain T Follicular Helper Cell Identity and Germinal Centers**

Dirk Baumjohann, PhD, University Hospital Bonn

2:20 pm **Immunology Taught by Parasites**

Antonio Lanzavecchia, MD, National Institute of Molecular Genetics

1:00 pm – 3:00 pm

Viral Immunology

Chair: Abul Abbas, MD, University of California, San Francisco

1:00 pm **Pathogenic and Protective Pattern of Cellular Immunity in Immunocompetent and Immunocompromised COVID-19 Patients**

Nina Babel, MD, Ruhr University Bochum

1:25 pm **Abstract Presentation: Immune Dysregulation in Myalgic Encephalomyelitis/Chronic Fatigue (ME/CFS) and Long COVID-19 Syndromes: CD8 T Cell over Activation and Exhaustion, Increased CD4<sup>+</sup>CD8<sup>+</sup> T Cell and Aberrant Cytokines**

Anna Gil, University of Massachusetts Medical School

1:40 pm **Inhibition of Host Responses by SARS-CoV-2**

Adolfo Garcia-Sastre, PhD, Icahn School of Medicine at Mount Sinai

2:05 pm **Abstract Presentation: Pro-inflammatory Monocyte Response to Increased TLR Signaling in Severe COVID-19 Patients**



Ibtehaj Naqvi, MD, PhD, Duke University Medical Center

2:20 pm **Monoclonal Antibodies to Conserved Viral Epitopes for Current and Future Pandemics**

Herbert Virgin, MD, PhD, Vir Biotechnology

2:45 pm **Abstract Presentation: Dynamic Host Response Determines Susceptibility to SARS-CoV-2 Infection**

Nagarjuna Cheemarla, PhD, Yale University

3:00 pm **Adjourn**



## Speaker, Organizer and Contributor Disclosure Index

It is the policy of FOCIS to ensure balance, independence, objectivity and scientific rigor in all educational activities. All faculty members participating in FOCIS-sponsored activities are required to disclose to FOCIS and the audience any real or potential conflict of interest that may have a direct bearing on the subject matter they are presenting. This pertains to relationships with pharmaceutical companies, device manufacturers or other corporations whose products or services are related to the subject matter of the presentation topic. The intent of this policy is not to prevent a speaker with a potential conflict of interest from making a presentation. It is intended that any potential conflict should be identified openly so that the audience members may form their own judgments about the presentation with full disclosure of the facts. Presentations which provide information in whole or in

part related to non-approved uses for drug products and/or devices must clearly acknowledge the unlabeled indications or the investigative nature of their proposed uses to the audience. Speakers who plan to discuss non-approved uses for commercial products and/or devices must disclose this intent to the FOCIS audience.

The following presenters have indicated a relationship in which the context of their presentations could be perceived by some as a real or apparent conflict of interest, but do not consider that it will influence their presentations. If a presenter is not listed, he or she had no relationship to disclose. The number following each company name represents the specific relationship from the key below.

**Blazar, Bruce:** Bluerock Therapeutics (1, 6)

**Buckner, Jane:** Bristol-Myers Squibb (1, 6); GentiBio (1, 5); Janssen (6)

**Fitzgerald, Kate:** GlaxoSmithKline (6)

**Goldbach-Mansky, Raphaela:** Eli Lilly (6); IMF (6)

**Lynch, Susan:** Siolta Therapeutics Inc. (1, 4, 5)

**Mannick, Joan:** resTORbio (2, 4, 5)

**Pulendran, Bali:** GlaxoSmithKline (1); Medicago (1)

**Roybal, Kole:** Aresenal Biosciences (1, 4, 5); Gilead (5); Venrock (1, 4); Ziopharm Oncology (1, 4)

**Terrier, Benjamin:** AstraZeneca (1); Bristol-Myers Squibb (6); GlaxoSmithKline (1); LFB (1, 6); Roche Chugai (1); Terumo BCT (6); Vifor Pharma (1)

**Virgin, Herbert:** Vir Biotechnology (2)

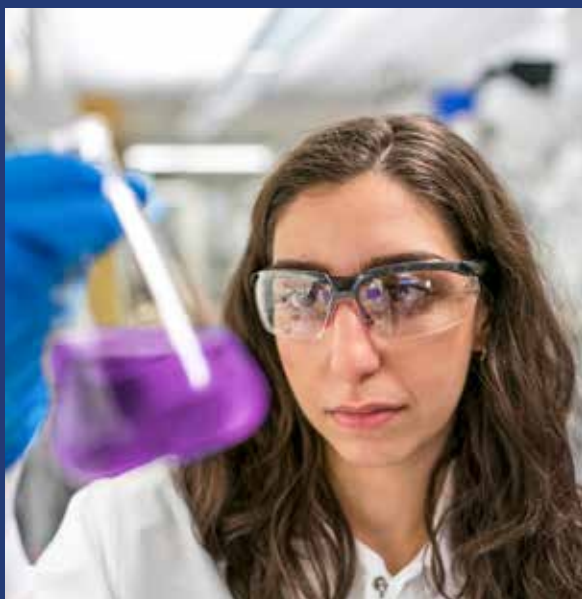
**Vivier, Eric:** Innate Pharma (2)

**Wu, Catherine:** BioNTech (4); Pharmacyclics (6)

**Key: 1 – Consultant / Advisor; 2 – Employee; 3 – Lecture Fees; 4 – Equity / Owner; 5 – Patents/Royalty; 6 – Grant Support**

22 YEARS 5 TREATMENTS 31 INDICATIONS 5 million PATIENTS TREATED

## Innovating for patients around the world.



We're the company who defined immunology innovation. Now, we're working to redefine it.

Be part of the next revolution and help us to serve millions more.

**Learn how to join our team at**  
**[www.careers.jnj.com](http://www.careers.jnj.com)**

janssen  Immunology

PHARMACEUTICAL COMPANIES OF Johnson & Johnson

# FOCIS<sup>®</sup>

## MEMBER RECEPTION



**Wednesday, June 9**  
**4:45 pm - 5:30 pm PDT**  
**Connect & Collaborate**

**Not a FOCIS member yet? Join today at [www.focisnet.org/membership](http://www.focisnet.org/membership)**

### FOCIS 2021 Exhibit Information

#### Virtual Exhibit Hall

The virtual exhibit hall and booths are open to registrants throughout the entirety of FOCIS 2021. Each exhibitor will have a booth within the virtual Exhibit Hall. Registrants may browse through the hall to find companies.

#### Play the Exhibit Hall Scavenger Hunt game for your chance to win prizes.

Here is how it works. A FOCIS coin is placed at each booth. Each coin is 10 points. When you find a coin at a booth, click on it to claim points. Visit all booths to collect the most points. Plus, earn 50 bonus points at each booth by answering a question related to the exhibitor. Still looking to score more points? If you attend one of the live Industry Tutorials or FOCIS Partner Program sessions, we will add another 50 points to your total. You can attend one of these sessions each day on Wednesday, Thursday, or Friday. The 10 highest-scoring attendees will receive prizes. The grand prize is a \$500 American Express Gift Card. Other prizes include \$250, \$100 American Express Gift Cards, free 3-night stay at the FOCIS 2022 host hotel (San Francisco Marriott Marquis), and complimentary registration to FOCIS 2022. In the event of a tie, the player to earn points the quickest will win a tie-break. The scavenger hunt game will open on Monday, June 7 and close on Friday, June 11, at 11:59 p.m. PT. Winners will be contacted via email after FOCIS 2021.

#### Exhibitors

10x Genomics  
Adaptive Biotechnologies  
Bio X Cell  
BioLegend  
Bristol-Myers Squibb  
GenScript  
Hycult Biotech  
Immudex  
lonpath  
Janssen  
Lupus Research Alliance  
Miltenyi Biotec  
Nektar Therapeutics  
OM1  
One Lambda  
Science Immunology/AAAS  
Thermo Fisher Scientific



## FOCIS 2021 Program Overview

### Monday, June 7

7:00 am – 4:00 pm **Systems Immunology Course**  
(separate registration required)

8:30 am – 4:30 pm **Basic Immunology in Medicine: Update 2021 Course**  
(separate registration required)

### Tuesday, June 8

7:00 am – 9:45 am **Sex as a Biological Variable in Health and Disease**

7:00 am – 9:55 am **Cell Interactions at Mucosal Barriers**

7:00 am – 10:00 am **New Frontiers of Allergy and Immunology in the Shadow of the Pandemic**

7:00 am – 10:30 am **Complement in Human Diseases – New Tricks for an Old Dog**

7:00 am – 10:30 am **The Impact of Ageing on Immune Function**

8:00 am – 4:30 pm **Cancer Immunity & Immunotherapy Course**  
(separate registration required)

8:00 am – 12:00 pm **Big Data in Immunology Workshop**  
(separate registration required)

12:30 pm – 4:00 pm **How Immune Repertoires Can Inform Human Immunology**

12:30 pm – 3:00 pm **Neuroimmune Interactions in Health and Disease**

12:30 pm – 4:00 pm **Reshaping Immune Cells and Refining Immunotherapies to Tackle Autoimmunity, Transplantation and Cancer**

12:30 pm – 4:00 pm **Spatial Genomics in Understanding Disease and Transplantation**

12:30 pm – 4:00 pm **The Role of Viral Immunity in Inflammation of Immune Privileged Sites**

2:00 pm – 4:00 pm **Progress in IL-6-targeting Therapies – Bilateral Translation Between Bench and Clinic**

5:00 pm – 5:45 pm **Opening Keynote Address: Dr. Virginia Pascual**

### Wednesday, June 9

7:00 am – 7:05 am **Special Message from Dr. Anthony Fauci**

7:05 am – 7:50 am **Keynote Address: Dr. Adrian Hill**

8:00 am – 9:55 am **COVID Pathophysiology**

10:00 am – 11:30 am **COVID Vaccines**

1:30 am – 1:00 pm **Lupus Insight Prize Ceremony**

11:45 am – 12:45 pm **Meet the Editors from JEM**

11:45 am – 12:45 pm **Industry Tutorial: 10x Genomics**

11:45 am – 12:45 pm **Industry Tutorial: GenScript**

11:45 am – 12:45 pm **Industry Tutorial: One Lambda**

1:00 pm – 2:45 pm **Thematic Session: Inflammatory Diseases**

1:00 pm – 2:45 pm **Thematic Session: Signaling and Cross Talk**

1:00 pm – 2:45 pm **Thematic Session: Allergy**

3:15 pm – 4:30 pm **Flow Cytometry Course**

3:15 pm – 4:45 pm **Oral Abstract Session: Autoimmunity (Part I)**

3:15 pm – 4:45 pm **Oral Abstract Session: COVID-19**

3:15 pm – 4:45 pm **Oral Abstract Session: Immuno-oncology**

3:15 pm – 4:45 pm **Session: Late Breaking Oral Abstract Session (Part I)**

3:15 pm – 4:45 pm **Poster Talks: Adaptive Immunity – Basic Science Advances**

3:15 pm – 4:45 pm **Poster Talks: Immuno-oncology and Systems Biology**

3:15 pm – 4:45 pm **Poster Talks: Stem Cell and Organ Transplantation and Cellular Therapies**

4:45 pm – 5:30 pm **Poster Presentations with Authors Present**

5:30 pm – 6:30 pm **FOCIS Virtual Member Reception**

### Thursday, June 10

7:00 am – 7:45 am **Keynote Address: Dr. Bruce Walker**

8:00 am – 9:30 am **Cell Therapy**

10:00 am – 11:30 am **Immunology of Tumors**

11:45 am – 12:45 pm **Women@FOCIS/WIT**

11:45 am – 12:45 pm **Industry Tutorial: Adaptive Biotechnologies**

11:45 am – 12:45 pm **Industry Tutorial: Miltenyi Tutorial**

11:45 am – 12:45 pm **Industry Tutorial: BioLegend**

1:00 pm – 2:45 pm **Thematic Session: Genetics and Immunity**

12:30 pm – 2:15 pm **Thematic Session: Human Microbiome**

12:30 pm – 2:15 pm **Thematic Session: Stem Cell Transplantation**

3:15 pm – 4:30 pm **Flow Cytometry Course**

3:15 pm – 4:45 pm **Oral Abstract Session: Adaptive Immunity – Basic Science Advances**

3:15 pm – 4:45 pm **Oral Abstract Session: Autoimmunity (Part II)**

3:15 pm – 4:45 pm **Oral Abstract Session: Infectious Diseases**

3:15 pm – 4:45 pm **Late Breaking Oral Abstract Session (Part II)**

3:15 pm – 4:45 pm **Poster Talks: Autoimmune Disease**

3:15 pm – 4:45 pm **Poster Talks: COVID-19**

3:15 pm – 4:45 pm **Poster Talks: Innate Immunity – Basic Science Advances**

4:45 pm – 5:30 pm **Poster Presentations with Authors Present**

### Friday, June 11

7:00 am – 7:10 am **State of FOCIS**

7:10 am – 7:55 am **Keynote Address: Dr. Arlene Sharpe**

8:00 am – 9:30 am **Systems Immunology**

10:00 am – 11:30 am **Immunoaging**

11:45 am – 12:45 pm **NIH Grants Session**

1:00 pm – 2:45 pm **Thematic Session: Autoimmunity**

12:30 pm – 2:15 pm **Thematic Session: Humoral Immunity**

12:30 pm – 2:15 pm **Thematic Session: Viral Immunology**





# FOCIS<sup>®</sup>

## Annual Meeting

# SAVE THE DATE

JUNE 21-24

# 2022

# San Francisco

