INTERNATIONAL PLANETARIUM SOCIETY, INC.

IPS

# CONFERENCE PROGRAM

22–26 JULY, 2012



E&S EVANS & SUTHERLAND

MEGASTAR

Sky-Skan

ZEISS

# IPS 2012

International Planetarium Society Conference

BATON ROUGE, LOUISIANA • USA

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FROM OUR HOST

## Irene W. Pennington Planetarium Director's Welcome

Welcome to the 21st International Planetarium Society Conference in Baton Rouge!

It is a pleasure to host IPS2012 and welcome you to Baton Rouge. All of us at the Irene W. Pennington Planetarium are excited to host this prestigious event. Baton Rouge has a rich and storied history with cultural roots from early Spanish, French and English settlements, and I hope you will take advantage of our cultural heritage by visiting some of our local attractions and experiencing our southern hospitality.

The IPS Conference is the most important event of our profession and is a reflection of our society's continued commitment to astronomy education, professional development and an international cultural exchange of ideas and hospitality. The conference theme is *Bridge to New Beginnings*, and I sincerely hope we will build new and enduring relationships and reach out across the globe to strengthen this commitment by what promises to be an exciting and rewarding week of paper, panel, poster, workshop and networking sessions, as well as visions of emerging technologies and new perspectives from our keynote speakers.

Lagniappe (lan'-yap) is a Louisiana Cajun-French word for "something extra". It is an unexpected, pleasant surprise and that is exactly what you will experience with the introduction of a Dome Village at IPS2012.

On behalf of all those who have helped in the organization of the 21st International Planetarium Society conference, we wish to thank the organizing committee, the numerous volunteers and you, the delegates, exhibitors and sponsors for making this conference possible. I look forward to joining with you in renewing old friendships, meeting new colleagues and strengthening our cooperative, international spirit.

Sincerely,

Jon Elvert, Director
IRENE W. PENNINGTON PLANETARIUM

# FROM IPS

## IPS President's Welcome

Dear Conference Delegates,

Bienvenue à Baton Rouge. Laissez les bons temps rouler! [Welcome to Baton Rouge. Let the good times roll!]

It is a pleasure to welcome you to the 21st International Planetarium Society Conference, IPS2012 here in Baton Rouge. Jon Elvert and his team have set the stage for a wonderful conference; vendors are prepared to show their latest innovative products; and workshops, papers and posters have been readied. Now it is up to each of us to grab these opportunities and to have the best conference ever!

A very important part of each conference is the fellowship and networking that takes place informally. Reach outside of your comfort zone. Meet new people. For veteran conference goers, remember what it was like at your first conference and make a special effort to meet delegates attending for the first time. If this is your first IPS meeting, take the plunge. We are a friendly group. Please get to know us and make your contribution.

I want to offer a special thanks to all of our vendors for supporting IPS2012. We are glad that you are an integral part of our planetarium community, as well as our friends.

Thank you to the staff of the Louisiana Art and Science Museum, the meeting organizers, the many volunteers and the other people who have helped plan this conference and are working to make it a success. Finally, thanks to each one of you for spending your time and money to participate in IPS2012. This is your conference and it will be what we all make of it.

Warm Regards,

Dave Weinrich

Dave Weinrich
CHAIR, IPS2012 CONFERENCE COMMITTEE
PRESIDENT, INTERNATIONAL PLANETARIUM SOCIETY

INTERNATIONAL PLANETARIUM SOCIETY, INC.

# COUNTRIES Represented


**ALGERIA**
**ARGENTINA**
**AUSTRALIA**
**AUSTRIA**
**BELGIUM**
**BRAZIL**
**CANADA**
**CZECH REPUBLIC**
**DENMARK**
**EGYPT**
**FINLAND**
**FRANCE**
**GERMANY**
**GHANA**
**GREECE**
**GUAM**
**INDIA**
**ITALY**
**JAPAN**
**MALAYSIA**
**MEXICO**
**NETHERLANDS**
**NEW ZEALAND**
**NIGERIA**
**OMAN**
**P.R. CHINA**
**HONG KONG**
**MACAO**
**PAKISTAN**
**POLAND**
**PORTUGAL**
**RUSSIA**
**SLOVAKIA**
**SOUTH AFRICA**
**SOUTH KOREA**
**SPAIN**
**SRI LANKA**
**SWEDEN**
**SYRIA**
**TAIWAN**
**THAILAND**
**TURKEY**
**UKRAINE**
**UNITED KINGDOM**
**USA**

# CONTACTS

## Contact Information

### CONFERENCE HOST

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**Irene W. Pennington Planetarium**

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**David Kors, TECHNICAL DIRECTOR**

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### IPS2012 CONFERENCE COMMITTEES

#### Local Organizing Committee

Jon Elvert
David Kors
Jay Lamm
Mike Smail
Chandra Weathers
Sheree Westerhaus

#### Advisory Committee

Greg Andrews
Philipa Blair
Geraldine Bordelon
Kathleen Geisfeldt
Greg Guzik, Ph.D.
Jan Herrington
David Hostetter
William Katzman
Tara Kistler
Robert Kooima, Ph.D.
Nicole Duet Latiolais
Erin Ryan
Carolyn Sumners, Ph.D.
Jim Sweitzer, Ph.D.
John Wefel, Ph.D.

#### Delegate Submissions Committee

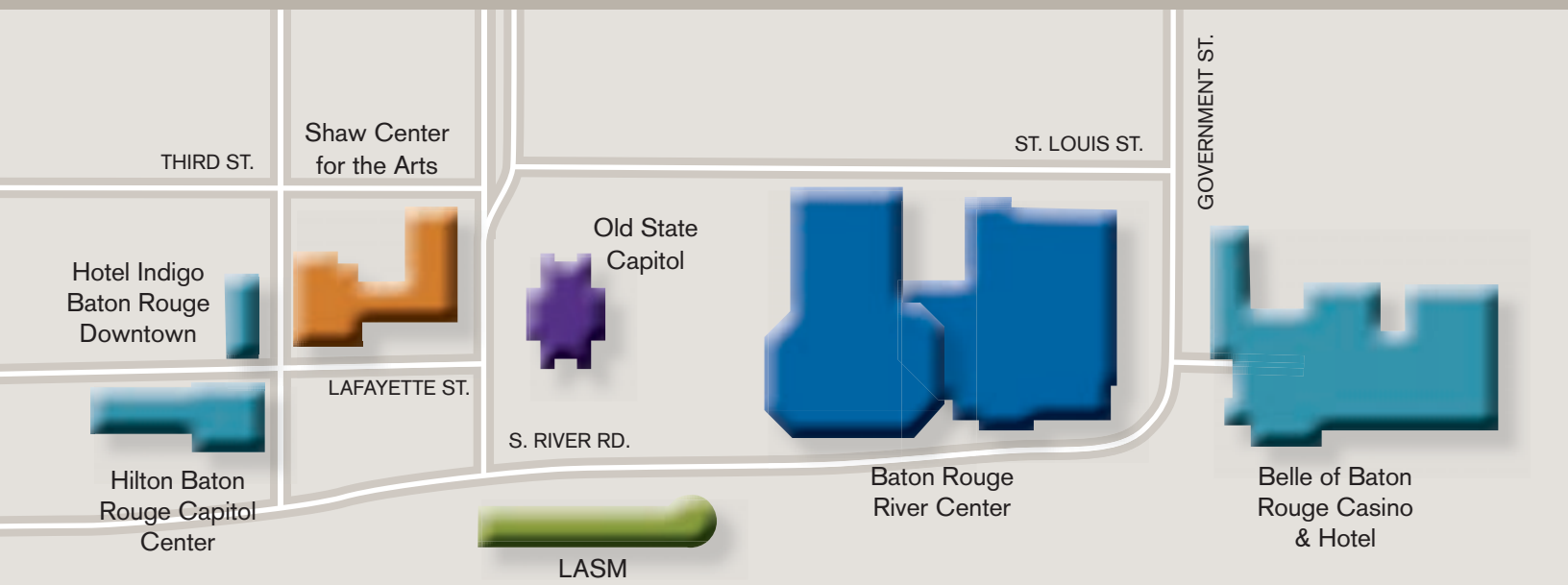
Greg Andrews
Jon Elvert
Greg Guzik, Ph.D.
David Hostetter
Robert Kooima, Ph.D.
John Wefel, Ph.D.

### IPS OFFICERS

| | |
|---|---|
| PRESIDENT<br>IPS CONFERENCE CHAIR | Dave Weinrich |
| PAST PRESIDENT | Tom Mason |
| PRESIDENT-ELECT | Thomas Kraupe |
| EXECUTIVE SECRETARY | Lee Ann Hennig |
| TREASURER AND MEMBERSHIP CHAIRMAN | Shawn Laatsch |

http://www.ips-planetarium.org

HOTEL INDIGO & HILTON | SHAW CENTER FOR THE ARTS | LASM | OLD STATE CAPITOL | BATON ROUGE RIVER CENTER




## The "Starry Night" Cocktail

In honor of the IPS conference, the Kingfish restaurant at the Hilton Baton Rouge Capitol Center, has created a signature cocktail.

Enjoy this cocktail in the ambience of the historic Baton Rouge hotel.

DOWNTOWN

# BATON ROUGE VENUES

## Conference Venue (primary)

**Baton Rouge River Center**

The Baton Rouge River Center, conveniently located across the street from the Pennington Planetarium and a short walk from downtown hotels, is the primary conference venue for IPS2012. It will be the site of all vendor booth exhibitions, the Dome Village, paper, poster and panel sessions and workshops.

BATON ROUGE RIVER CENTER

## Conference Venue (secondary)

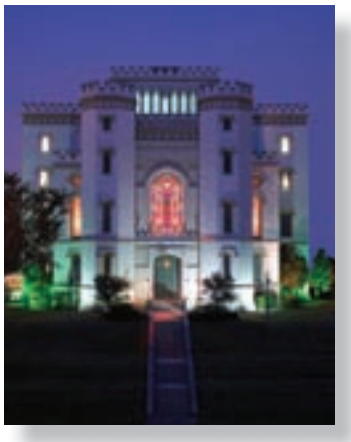
**Louisiana Art & Science Museum**
**Irene W. Pennington Planetarium**

Opened in 2003, and renovated in 2011, the Irene W. Pennington Planetarium is an 18.3m dome, with a 14° tilt and seating for 171 housed inside the Louisiana Art & Science Museum. Opening reception and scheduled dome presentations will take place in the planetarium.

IRENE W. PENNINGTON PLANETARIUM

## Conference Venue (tertiary)

In addition to presentations in the planetarium, we will also be using flatscreen/performing arts theater spaces in the Manship Theatre at the Shaw Center for the Arts, the Old State Capitol (OSC) and the LASM Auditorium. These spaces will host vendor demonstrations, film screenings and other programming throughout the conference.



OLD STATE CAPITOL

MANSHIP THEATRE AT THE
SHAW CENTER FOR THE ARTS

# speakers



## Dr. Rolf Landua

### *Exploring the Early Universe: the LHC at CERN*

Dr. Landua is well-known as the scientist who worked alongside Ron Howard during production of the film *Angels & Demons*. However, his career and reputation as a prominent scientist extends far beyond his recent big screen endeavor.

Dr. Landua has been with the European Organization for Nuclear Research (CERN) since the 1980's, and in that time has succeeded in his research findings and in his promotion of the public understanding of modern Physics. After working on the 'Antimatter Decelerator' (AD) project and the ATHENA experiment – of which he was spokesperson – Dr. Landua now resides as CERN's Head of Education and Public Outreach Group.

Since 2005, he has overseen this outreach group that offers educational programs for roughly 1000 physics teachers per year. The program aims to bring excitement to modern physics research into classrooms while motivating students to continue their scientific education. Dr. Landua received the Communication Prize of the European Physical Society for his activities in promoting the understanding of modern physics.

**ABSTRACT**

The Large Hadron Collider (LHC) at CERN is taking data for the second year. The study of new particles produced in particle collisions at an energy of 8 TeV should give new insights into the laws that reigned our Universe one picosecond after the Big Bang, and could also provide new hints about the nature of dark matter and dark energy. This talk will summarize the physics goals, status and prospects of the LHC experiments, give an overview about the implications for cosmology and finish with the description of a project to visualize the microscopic world.

Dr. Turner, a theoretical astrophysicist and the Bruce V. and Diana M. Rauner Distinguished Service Professor at the University of Chicago, has had a vastly diverse career. Dr. Turner is considered a pioneer in the interdisciplinary field of particle astrophysics and cosmology. His scholarly contributions include predicting cosmic acceleration and coining the term "Dark Energy." Also, he's responsible for several key ideas that led to the Cold Dark Matter Theory of structure formation.

He currently serves as a member on the NRC's Board of Physics and Astronomy; the NASA Advisory Committee (NAC); the Senior Editorial Board of *Science* Magazine; and Chairman of the OECD Global Science Forum's Astroparticle Physics International Forum. Dr. Tuner is also Chairman of the Board of the Aspen Center for Physics, a Director of the Fermi Research Alliance and a member of the Governing Board of the National Academy of Sciences (NAS Council).

His honors include the Warner Prize of the American Astronomical Society; the Lilienfeld Prize of the American Physical Society (APS); the Klopstead Award of the American Association of Physics Teachers; the Heinman Prize of the AAS and American Institute of Physics; and the 2011 Darwin Lecture of the Royal Astronomical Society.

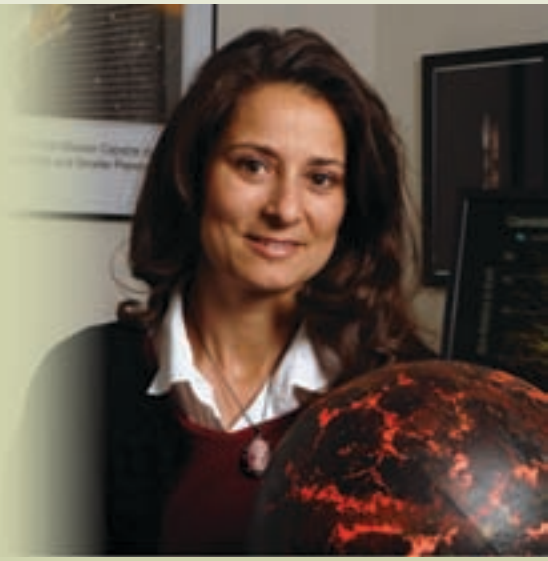
Adding to Dr. Turner's accomplishments, 20-plus of his Ph.D. students hold faculty positions at leading universities around the country, at national laboratories and on Wall Street.

**Dr. Michael S. Turner**

## *The Big Mysteries of Cosmology*

### ABSTRACT

There have been remarkable advances in our understanding of the Universe over the past 20 years and with that understanding new mysteries to solve. I will discuss the present state of cosmology and the big mysteries that point to new physics and deep connections between quarks and the cosmos—dark matter, dark energy and inflation.



In 2009, NASA launched a quest that would define humankind's speculation about the existence of other worlds like our own. Dr. Batalha, a research astronomer in the Space Sciences Division of NASA Ames Research Center, is the lead on this expedition known as the Kepler Mission.

Dr. Batalha began her career as a stellar spectroscopist studying young, sun-like stars. However, after becoming inspired by the growing number of exoplanet discoveries (a planet outside the solar system), she joined the team led by William Borucki at NASA's Ames Research Center working on an emerging technology for finding exoplanets. 12 years later, she finds herself standing poised with the Kepler team to make discoveries that humans have previously left to the imagination and to the realms of science fiction.

**Dr. Natalie Batalha**

## *Kepler's Search for Potentially Habitable Planets*

### ABSTRACT

Humankind's speculation about the existence of other worlds like our own turned into a veritable quest with the launch of NASA's Kepler spacecraft in March 2009. The mission is designed to survey a slice of the Milky Way Galaxy to identify planets via transit photometry. The last year of science operations has been a year of milestones in terms of exoplanet characterization: rocky, Earth-size, circumbinary, Habitable Zone and even invisible planets have made headlines. However, the real work lies in the large sample statistics of the catalogs of viable planet candidates—statistics that will drive us toward knowledge of the frequency of potentially habitable Earth-size planet in the Solar neighborhood. Dr. Batalha will describe some of the milestone discoveries that have marked the last year, the make-up of the latest catalog and the strategies moving forward. Now in its fourth year of operation, Kepler is honing in on the answer to the question that drives the mission: are potentially habitable worlds abundant in our galaxy?

# program at a glance

| | |
|---|---|
| **FRIDAY** | **20 JULY** |
| 15:00 – 19:00 | IPS Officers' Meeting |
| **SATURDAY** | **21 JULY** |
| 08:00 – 17:00 | IPS Council Meeting at Shaw Center Board Room |
| **SUNDAY** | **22 JULY** |
| 09:00 – 17:00 | IPS Council Meeting Continued |
| 13:00 – 17:00 | Registration at Hilton |
| 17:00 – 18:45 | Welcome Reception at LASM |
| 19:00 – 00:46 | A-B-C Groups at Planetarium, Old State Capitol, LASM Auditorium |
| **MONDAY** | **23 JULY** |
| 07:30 – 09:00 | Breakfast Buffet at Hilton (Ballrooms A and B) |
| 08:00 – 16:00 | Registration at Hilton |
| 09:00 – 09:45 | Opening Ceremony in Performance Hall |
| 09:45 – 10:30 | Keynote Speaker (Dr. Rolf Landua) in Performance Hall |
| 10:30 – 17:30 | Exhibit Hall & Dome Village Inauguration |
| 12:00 – 13:00 | Lunch at River Center (Buffet in Galleria) |
| 13:00 – 15:30 | Paper/Workshop Sessions at River Center |
| 15:30 – 16:00 | Break (Riverview Room) |
| 16:00 – 17:30 | Vendor Exhibits & Dome Village |
| 17:30 – 19:00 | Buffet Dinner at Shaw Center 4th Floor & Pennington Terraces |
| 19:00 – 00:46 | A-B-C groups at Planetarium, Manship Theatre, Old State Capitol |
| **TUESDAY** | **24 JULY 2012** |
| 08:00 – 16:00 | Registration at Hilton |
| 08:00 – 09:00 | Continental Breakfast at River Center (Galleria) |
| 09:00 – 10:00 | Keynote Speaker (Dr. Michael S. Turner) in Performance Hall |
| 10:00 – 18:00 | Exhibitor Hall & Dome Village open |
| 10:00 – 10:30 | Dedicated Exhibit Time |
| 10:30 – 12:15 | Poster Session at River Center (Galleria) |
| 10:30 – 11:00 | Break with Poster Session; Authors Present (Galleria) |
| 11:00 – 12:15 | Paper/Workshop Sessions at River Center |
| 13:00 – 18:00 | Box Lunch: Optional Tours—Leave from Hilton—LIGO—LITE—New Orleans |
| 18:00 – 19:00 | Dinner & Evening on Your Own |
| 19:00 – 20:30 | *Saving Hubble*/Hubble Roadshow at Performance Hall |
| 21:00 – 22:00 | J-Walt & Jonn Serrie Performance in Planetarium (Limited Seating) |
| 21:00 – 23:00 | Trip to Landolt Astronomical Observatory (Trolley Leaves from LASM Every 30 Minutes) |

## WEDNESDAY 25 JULY

| | |
|---|---|
| 08:30 – 12:00 | Registration at Hilton |
| 08:00 – 09:00 | Continental Breakfast at River Center (Galleria) |
| 09:00 – 17:30 | Exhibitor Hall & Dome Village open |
| 09:00 – 10:30 | Paper/Workshop/Panel Sessions at River Center |
| 09:00 – 17:30 | Poster Session in Galleria Continued (Without Authors Present) |
| 10:30 – 11:00 | Break at River Center in Riverview Room |
| 11:00 – 12:15 | Paper/Workshop Sessions at River Center |
| 12:30 – 14:30 | Awards Luncheon at River Center in Arena with Keynote Speaker (Dr. Natalie Batalha) |
| 14:30 – 15:15 | Group Photo in Front of Planetarium |
| 15:30 – 17:15 | Paper/Workshop Sessions at River Center |
| 16:00 – 17:30 | Constellation Shoot-out in Planetarium |
| 17:30 – 19:00 | Buffet Dinner at Old State Capitol |
| 19:00 – 00.46 | A-B-C Groups at Planetarium, Old State Capitol, LASM Auditorium |

## THURSDAY 26 JULY

| | |
|---|---|
| 08:00 – 09:00 | Continental Breakfast at River Center (East Side Galleria) |
| 09:00 – 12:00 | Exhibitor Hall & Dome Village Open |
| 09:00 – 10:30 | Paper/Workshop/Panel Sessions at River Center |
| 10:30 – 11:00 | Break at Riverview Room |
| 11:00 – 12:00 | Dedicated Exhibit Time |
| 12:30 – 14:00 | Buffet Lunch Pool Side at Hilton |
| 14:00 – 16:00 | IPS General Assembly Meeting |
| 16:00 – 16:30 | Memorial Presentation at Hilton in Ballrooms A & B |
| 16:30 – 17:30 | Affiliate Meetings (All Hilton Meeting Rooms or Ballrooms A & B) |
| 18:00 – 18:30 | Buses Depart from LASM to Houmas House Banquet |
| 19:00 – 20:00 | Cocktails/Hors d'oeuvres |
| 20:00 – 22:00 | Banquet |
| 22:00 – 23:00 | Buses Return |

## FRIDAY 27 JULY

Breakfast on Your Own & Post-Conference Options:

**DomeFest 2012** at Planetarium

**POST CONFERENCE TOUR**

Trip to Johnson Space Center & Houston Museum of Natural Science (Houston, Texas)

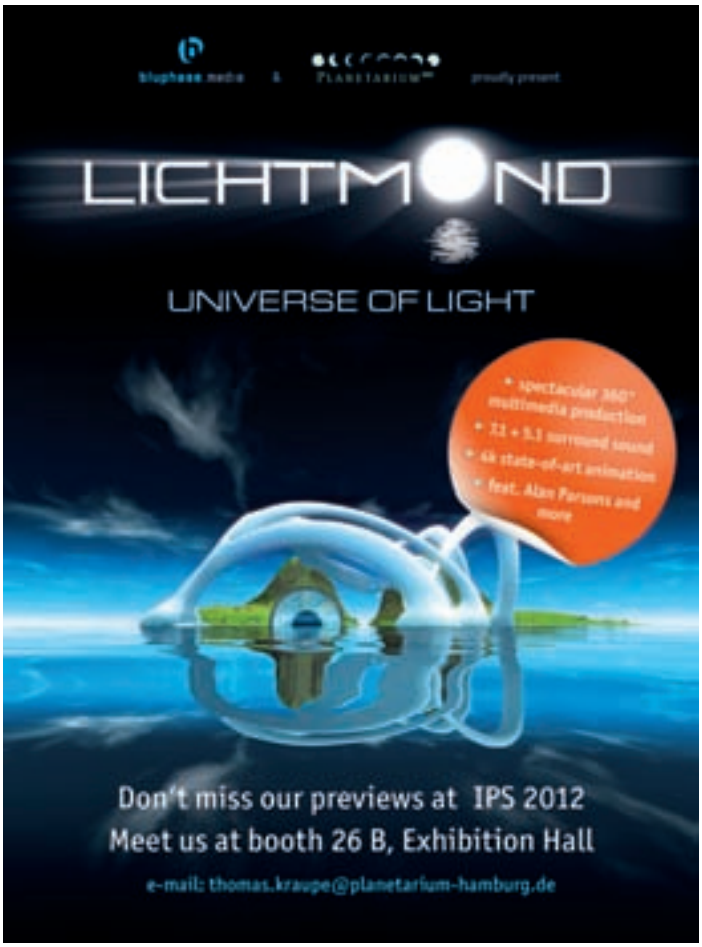
## SATURDAY 28 JULY

**DomeFest 2012** Continued

# program

| DAY/TIME | DATE | LOCATION |
|---|---|---|
| **SATURDAY** | **21 JULY** | |
| 08:00 - 17:00 | IPS Council Meeting | Shaw Center—Board Room |
| **SUNDAY** | **22 JULY** | |
| 08:00 - 17:00 | IPS Council Meeting | |
| 13:00 - 17:00 | Delegate Registration | Hilton Baton Rouge Capitol Center |
| 17:00 - 18:45 | **WELCOME RECEPTION**<br>*Sponsored by Megastar* | LASM |
| 19:00 - 00:46 | **VENDOR DEMONSTRATIONS (RIGHT)**<br>*Delegates will be divided into three groups for demonstrations (orange, green and blue)* | LASM: Pennington Planetarium<br>LASM: Adalié Brent Auditorium<br>Louisiana's Old State Capitol Theater |





## VENDOR DEMONSTRATIONS — SUNDAY, 22 JULY

### Pennington Planetarium

| | |
|---|---|
| 19:00 | Introduction |
| 19:08 | Sky-Skan |
| 19:41 | Evans & Sutherland |
| 20:14 | Carl Zeiss AG |
| 20:47 | Spitz, Inc. |
| 21:07 | Starry Night |
| 21:15 | RSA Cosmos |
| **21:35** | **BREAK** |
| 21:50 | Megastar |
| 22:14 | Konica Minolta Planetarium Co., Ltd. |
| 22:51 | Audio Visual Imagineering, Inc. |
| 23:09 | NSC Creative |
| 23:37 | National Geographic Entertainment |
| 00:10 | Go-Dome |
| 00:33 | Softmachine |
| 00:41 | Mirage 3D |
| **00:46** | **EXIT** |

### Old State Capitol

| | |
|---|---|
| 19:00 | GOTO INC |
| 19:33 | Global Immersion |
| 20:06 | Ash Enterprises International Inc. (A) |
| 20:24 | Digitalis Education Solutions, Inc. |
| 20:42 | Loch Ness Productions |
| 21:00 | Evans & Sutherland |
| 21:18 | Astro-Tec Mfg., Inc. |
| 21:36 | Ash Enterprises International Inc. (B) |
| 21:54 | RSA Cosmos |
| 22:12 | Magna-Tech Electronic Co., Inc. |
| **22:27** | **EXIT** |

### LASM: Auditorium

| | |
|---|---|
| 19:00 | Silkroading (Beijing) Limited |
| 19:18 | SCISS Uniview |
| 19:36 | Dome 3D |
| 19:54 | Quim Guixa S.L. |
| 20:12 | Planetarium Hamburg |
| 20:30 | Bowen Technovation (A) |
| 20:48 | nWave Pictures Distribution |
| 21:06 | GeoGraphics Imaging & Consulting |
| 21:24 | Discovery Dome |
| 21:42 | Bowen Technovation (B) |
| 22:00 | Softmachine |
| **22:15** | **EXIT** |

| DAY/TIME | DATE | LOCATION |
|---|---|---|
| **MONDAY** | **23 JULY** | |
| 07:30 - 09:00 | **BREAKFAST:** *Buffet*<br>*Sponsored by Audio Visual Imagineering, Inc.* | Hilton Baton Rouge Capitol Center—Ballrooms A and B |
| 08:00 - 16:00 | Delegate Registration | Hilton Baton Rouge Capitol Center |
| 09:00 - 09:45 | **Opening Ceremony**<br>Dave Weinrich, *IPS President*<br>Jon W. Elvert, *IPS2012 Conference Host*<br>Carol Gikas, *LASM President*<br>Paul Arrigo, *President & CEO of Visit Baton Rouge*<br>The Honorable Lt. Governor Jay Dardenne<br>The Honorable Mayor Melvin"Kip" Holden | River Center—Theatre for the Performing Arts |
| 09:45 - 10:30 | **KEYNOTE SPEECH:** Dr. Rolf Landua<br>*Speaker Sponsored bySky-Skan* | River Center—Theatre for the Performing Arts |
| 10:30 - 11:00 | Exhibition Hall and Dome Village Inauguration | River Center—Exhibition Hall |
| 10:30 - 17:30 | Exhibition Hall and Dome Village Opens | River Center—Exhibition Hall |
| 12:00 - 13:00 | **LUNCH:** *Buffet*<br>*Sponsored by Global Immersion* | River Center—Galleria |
| 13:00 - 15:30 | **Paper/Workshop/Panel Sessions** | River Center—Meeting Rooms 1, 3, 5 & 7 |

| | ROOM 1 | ROOM 3 | ROOM 5 | | ROOM 7 | |
|---|---|---|---|---|---|---|
| 13:00 | 2012-PP01 | 2012-PP11 | 13:00 | 2012-PN01 | 13:00 | 2012-W01 |
| 13:15 | 2012-PP02 | 2012-PP12 | 14:10 | 2012-PN02 | 13:50 | 2012-W02 |
| 13:30 | 2012-PP03 | 2012-PP13 | 15:10 | | 14:40 | 2012-W03 |
| 13:45 | 2012-PP04 | 2012-PP14 | | | 15:30 | |
| 14:00 | 2012-PP05 | 2012-PP15 | | | | |
| 14:15 | 2012-PP06 | 2012-PP16 | | | | |
| 14:30 | 2012-PP07 | 2012-PP17 | | | | |
| 14:45 | 2012-PP08 | 2012-PP18 | | | | |
| 15:00 | 2012-PP09 | 2012-PP19 | | | | |
| 15:15 | 2012-PP10 | 2012-PP20 | | | | |
| 15:30 | | | | | | |

| | | |
|---|---|---|
| **15:30 - 16:00** | **BREAK** | River Center—Riverview Room |
| 16:00 - 17:30 | Vendor Exhibition and Dome Village | River Center—Exhibition Hall |
| 17:30 - 19:00 | **DINNER**<br>*Sponsored by Go-Dome*<br>*Enjoy stunning views of the Mississippi River just before sunset as you enjoy a buffet dinner* | Shaw Center for the Arts—Pennington and River Terraces |

| DAY/TIME | DATE | LOCATION |
|---|---|---|
| 19:00 - 00:30 | **VENDOR DEMONSTRATIONS (BELOW)**<br>*Delegates will be divided into three groups for demonstrations (orange, green and blue)* | LASM—Irene W. Pennington Planetarium<br>Louisiana's Old State Capitol—Theater<br>Shaw Center—Manship Theatre |

## VENDOR DEMONSTRATIONS — MONDAY, 23 JULY

### Pennington Planetarium

| | |
|---|---|
| 19:00 | Introduction |
| 19:08 | Evans & Sutherland |
| 19:41 | Carl Zeiss AG |
| 20:14 | Sky-Skan |
| 20:47 | NSC Creative |
| 21:15 | RSA Cosmos |
| **21:35** | **BREAK** |
| 21:50 | Spitz, Inc. |
| 22:10 | Starry Night |
| 22:18 | Megastar |
| 22:51 | Audio Visual Imagineering, Inc. |
| 23:14 | Konica Minolta Planetarium Co., Ltd. |
| 23:37 | National Geographic Entertainment |
| 00:10 | Go-Dome |
| 00:33 | Mirage 3D |
| 00:41 | Softmachine |
| **00:46** | **EXIT** |

### Old State Capitol

| | |
|---|---|
| 19:00 | Global Immersion |
| 19:33 | GOTO INC |
| 20:06 | Astro-Tec Mfg., Inc. |
| 20:24 | Evans & Sutherland |
| 20:42 | Ash Enterprises International Inc. (A) |
| 21:00 | Digitalis Education Solutions, Inc. |
| 21:18 | Loch Ness Productions |
| 21:36 | Magna-Tech Electronic Co., Inc. |
| 21:54 | RSA Cosmos |
| 22:12 | Ash Enterprises International Inc. (B) |
| **22:27** | **EXIT** |

### Shaw Center: Manship Theatre

| | |
|---|---|
| 19:00 | Discovery Dome |
| 19:18 | GeoGraphics Imaging & Consulting |
| 19:36 | SCISS Uniview |
| 19:54 | Silkroading (Beijing) Limited |
| 20:12 | Quim Guixa S.L. |
| 20:30 | Dome 3D |
| 20:48 | Bowen Technovation (A) |
| 21:06 | Planetarium Hamburg |
| 21:24 | nWave Pictures Distribution |
| 21:42 | Softmachine |
| 22:00 | Bowen Technovation (B) |
| **22:15** | **EXIT** |

# MONDAY

| DAY/TIME | DATE | LOCATION |
|---|---|---|
| **MONDAY** | **23 JULY** | |
| 13:00 - 15:30 | Paper/Workshop/Panel Sessions | River Center: Meeting Rooms 1, 3, 5 & 7 |

## ROOM 5

PANEL 1
Public Astronomy

13:00 **2012-PN01:** Navigating Celestial Renewal at Griffith Observatory
E. C. Krupp

Alternate Use of Planetariums

14:10 **2012-PN02:** Tools and Strategies for Presenting Earth-Based Content in Live Dome Presentations
Ka Chun Yu

15:10

## ROOM 7

WORKSHOP 1
Live Presentations & Technology

13:00 **2012-W01:** Modern Instructional/ Event Presentation Technologies for Immersive/Planetarium Theaters
Jeff Bowen

13:50 **2012-W02:** LIPS: Live Interactive Planetarium Symposium—Past, Present and Future
Karrie Berglund

14:40 **2012-W03:** Interacting with Your Audience Using a Modular Planetarium Program
Julia Plummer

15:30

| | ROOM 1 | ROOM 3 |
|---|---|---|
| | PAPER 1 Planetarium Operations & Technology<br>MODERATOR—Bob Bonadurer | PAPER 2 Show Production Techniques<br>MODERATOR—Adam Thanz |
| 13:00 | **2012-PP01:** Using 8k<br>Bjorn Voss | **2012-PP11:** At-Hand Physical Interaction in Arbitrary Multi-Display Environments<br>David Beining |
| 13:15 | **2012-PP02:** The Future<br>Carter Emmart | **2012-PP12:** From the Blue Planet to the Red Planet: Fulldome Production in a Small Facility<br>Kyra Elliott |
| 13:30 | **2012-PP03:** Saint-Etienne, First 3D Planetarium in France—Review After 6 Months of Operation<br>Eric Frappa | **2012-PP13:** Open the World of Custom Fulldome Videos<br>Chris Hill |
| 13:45 | **2012-PP04:** Projectors and Dome Effective Contrast<br>Claude Ganter | **2012-PP14:** When CG Isn't Enough: Real-World Imagery in Fulldome Production<br>Tim Horn |
| 14:00 | **2012-PP05:** The Planetarium Scholarship<br>Thomas Wm. Hamilton | **2012-PP15:** Narrative Cinema & Film Language in Fulldome<br>Warik Lawrance |
| 14:15 | **2012-PP06:** Big Kids' Night Out<br>Tanya Hill | **2012-PP16:** 4k to 8k, The Adler Way<br>Patrick McPike |
| 14:30 | **2012-PP07:** Beginners' Guide to a Fulldome Planetarium<br>Scott A. Niskach | **2012-PP17:** Data Visualization, CG, Storytelling<br>Mark Paternostro |
| 14:45 | **2012-PP08:** A Canticle Experience<br>Alan V. Pareis | **2012-PP18:** Highly Connected Planetaria: Enabling Next-Generation Production<br>Doug Roberts |
| 15:00 | **2012-PP09:** LSS Digital Planetariums, Nightshade and the Stratoscripts<br>Lionel Ruiz | **2012-PP19:** Rendering Planetary Terrains Using Heterogeneous Data Sets<br>Doug Roberts |
| 15:15 | **2012-PP10:** Lessons from Serenity<br>Patty Seaton | **2012-PP20:** Launching a Fulldome Camera Rig to Near Space<br>Mark SubbaRao |
| 15:30 | | |

| DAY/TIME | DATE | LOCATION |
|---|---|---|
| **TUESDAY** | **24 JULY** | |
| 08:00 - 09:00 | **BREAKFAST:** *Continental breakfast*<br>*Sponsored by NSC Creative* | River Center—Galleria |
| 08:00 - 16:00 | Delegate Registration | Hilton Baton Rouge Capitol Center |
| 09:00 - 10:00 | **KEYNOTE SPEECH:** Dr. Michael Turner | River Center —Theatre for the Performing Arts |
| 10:00 - 18:00 | Exhibition Hall and Dome Village Open | River Center—Exhibition Hall |
| 10:00 - 10:30 | Vendor Exhibition and Dome Village | River Center —Exhibition Hall |
| 10:30 - 11:00 | **BREAK** with Poster Session Authors | River Center—Riverview Room (Galleria) |
| 10:30 - 12:30 | **Poster Session** (with authors present)<br>2012-PP01—2012-PP25 | River Center—Riverview Room (Galleria) |
| 11:00 - 12:30 | **Paper/Workshop Sessions** | River Center—Meeting Rooms |

| | ROOM 1 | ROOM 3 | ROOM 5 | ROOM 7 |
|---|---|---|---|---|
| 11:00 | 2012-PP21 | 2012-PP26 | 2012-PN03 | 2012-W04 |
| 11:15 | 2012-PP22 | 2012-PP27 | | |
| 11:30 | 2012-PP23 | 2012-PP28 | | |
| 11:45 | 2012-PP24 | 2012-PP29 | | 2012-W05 |
| 12:00 | 2012-PP25 | 2012-PP30 | | |

| | | |
|---|---|---|
| 12:30 - 13:30 | **LUNCH:** *Box lunch, pickup at the Hilton*<br>*Sponsored by Konica Minolta Planetarium Co., Ltd.* | Hilton Baton Rouge Capitol Center |
| | **MID-CONFERENCE TOURS** (Tours are concurrent; delegates may only register for one.) | |
| 13:00 - 18:00 | **LIGO Tour—***Tour to the Laser Interferometer Gravitational Wave Observatory in Livingston, Louisiana. Includes bus transportation from the Hilton and a boxed lunch.* | |
| 13:00 - 18:00 | **LITE Tour—***Tour to the Louisiana Immersive Technologies Enterprise facility in Lafayette, Louisiana. Includes bus transportation from the Hilton and a boxed lunch.* | |
| 13:00 - 18:00 | **New Orleans Tour—***Tour to the French Quarter in New Orleans, Louisiana. Includes bus transportation from the Hiltonand a boxed lunch.* | |
| 18:00 - 20:00 | **DINNER & EVENING ON YOUR OWN** *(Entertainment options below)* | |
| 19:00 - 22:00 | **EVENING EVENTS (RIGHT)**<br>*An evening event providing educational and entertainment opportunities for conference delegates and the general public. Details will be posted as they are confirmed.* | |
| 19:00 - 20:30 | *Saving Hubble* Film | River Center—Theatre for the Performing Arts |
| 21:00 - 22:00 | J-Walt and Jonn Serrie Performance | LASM's Pennington Planetarium |
| 21:00 - 23:00 | Landolt Observatory Tour | The Landolt Astronomical Observatory |

## TUESDAY, 24 JULY (SELECT YOUR OWN EVENT)

### River Center: Theatre of Performing Arts

19:00–20:30

***Saving Hubble***

The independent documentary film *Saving Hubble* (2012) is both a love letter to the world's most famous telescope and the story of a grassroots movement that saved Hubble from an untimely death. The 68 minute film is currently previewing around the country, and plans are being made for a traveling roadshow that features the movie, sidewalk astronomy, music, art, food and scientists talking about what's new in the world of astronomy. Brought to you by the Hubble Roadshow!

### The Landolt Astronomical Observatory

21:00–23:00

***Landolt Observatory Tour***

Trolley departs in front of LASM
every 30 minutes beginning at 21:00

Landolt Observatory is home to a 11.5-inch (29cm) refractor made by Alvan Clark & Sons. The observatory is located on top of Nicholson Hall on the Louisiana State University's campus and was first opened in 1939. The observatory is ten minutes from downtown.

PHOTO COURTESY OF CHRIS LIN

### Pennington Planetarium

21:00–22:00

***Spontaneous Fantasia in 3D with Special Guest Jonn Serrie—A Fulldome Improvised Journey of Inspiring Animated Visuals and Music***

J-Walt performs live with Jonn Serrie in a world premier interactive performance. J-Walt has been at the forefront of interactive art and computer performance, expanding the uses of computer animation into uncharted territories. His *Spontaneous Fantasia* performances combine aspects of animation, video games, music, theater, dance and architecture into a seamless new art form.

**TUESDAY** **24 JULY**

10:30 - 12:30 Poster Session (with authors present) — River Center : Riverview Room (West End of the Galleria)

## POSTERS—WEST GALLERIA

**2012-PS01:** Infinito: An Unconventional Use of the Planetarium
Giorgia Givone

**2012-PS02:** The Workshop and Festival in Immersive Cinema 2012
Antonio Pedrosa

**2012-PS03:** The Science Behind *The Searcher*
Mark SubbaRao

**2012-PS04:** Vacation in Space—An Educational Program for Grades 4 to 6
Aase Jacobsen

**2012-PS05:** Adventures in Public Outreach: An Astronomy Grad Student's Perspective
Elizabeth Klimek

**2012-PS07:** The Electronic Universe: Using Social Media in the Planetarium
Michael P. McConville

**2012-PS08:** Undergraduate Astronomy Students' Worldviews and Beliefs About the Role of Science in Society: Initial Results
Benjamin Mendelsohn

**2012-PS09:** Worldviews Network: Initial Evaluation Results from Bioregional Community Dialogues
Ka Chun Yu

**2012-PS10:** Galactic Educational Trail and Other Projects of the Hradec Kralove Observatory
Miroslav Broz

**2012-PS11:** We Do Not Instruct, but Inspire!
Jiri Dusek

**2012-PS12:** Science Education at Johann Palisa Observatory and Planetarium
Adam Fiser

**2012-PS13:** The New IPS Website
Alan Gould

**2012-PS15:** History and Current Status of Planetariums in Korea
Kang Hwan Lee

**2012-PS16:** Hardware and Software Used in the Observatory and Planetarium Johann Palisa
Miroslav Otisk

**2012-PS17:** Poloniny Dark-Sky Park Slovakia
Marian Vidovenec

**2012-PS18:** Integrating iPods Into the Planetarium
Paul Zeleski

**2012-PS19:** Stereoscopic Projection in Planetarium —a Fad or a Long-Term Trend?
Tomas Graf

**2012-PS20:** Austin Planetarium: The Path to Reality
Torvald Hessel

**2012-PS22:** Songs in the Key of Earth—The Only Planet with Love
Patricia Shih

**2012-PS23:** Maryland Journeys to New Horizons
Wendy Ackerman

**2012-PS24:** Cosmic Colors: New Show from GLPA
Bob Bonadurer

**2012-PS25:** Envision Venus: A Transit of Venus Workshop for Art, Music and Science Teachers
April S. Whitt

11:00 - 12:30 Paper/Workshop Sessions River Center: Meeting Rooms 1, 3, 5 & 7

| | ROOM 1 | ROOM 3 | ROOM 5 | ROOM 7 |
|---|---|---|---|---|
| | PAPER 3:<br>Astronomy & Science | PAPER 4:<br>Planetarium Operations & Technology<br>MODERATOR—Mark Webb | PANEL 2:<br>Alternate Use of Planetariums | WORKSHOP 2:<br>Show Production & Art |
| 11:00 | **2012-PP21:** The Powerful Mayan Astronomer<br>Adam Barnes | **2012-PP26:** New Trends on Fulldome Projection<br>Marco Silva | **2012-PN03:** Roller Coasters, Special Events and Lasers... Oh My!<br>Matthew Mascheri | **2012-W04:** Science and Symphony Films<br>Jose Francisco Salgado |
| 11:15 | **2012-PP22:** Extremophiles and Exoplanets<br>Tony Butterfield | **2012-PP27:** 3D or not 3D?<br>Jim Sweitzer | 12:00 | |
| 11:30 | **2012-PP23:** Live Science Lectures Under a Digital Dome<br>Katie Nagy | Show Production Techniques<br><br>**2012-PP28:** Free Software Training and Production in the Great Lakes Region<br>Daniel Tell | | |
| 11:45 | **2012-PP24:** Losing the Dark: A Planetarium PSA about Light Pollution<br>Carolyn Collins Petersen | **2012-PP29:** Strategies for Cooperative Show Production<br>Bjorn Voss | | **2012-W05:** The Theremin, the Planetarium and You<br>Jon U. Bell |
| 12:00 | **2012-PP25:** Outposts and Analogs: The Future of Human Spaceflight<br>Carolyn Sumners | **2012-PP30:** African Art and Planetarium Programming<br>Andrew Johnston | | 12:30 |
| 12:12 | | | | |

| DAY/TIME | DATE | LOCATION |
|---|---|---|
| **WEDNESDAY,** | **25 JULY** | |
| 08:00 - 09:00 | **BREAKFAST:** *Continental Breakfast Served* | River Center—Galleria |
| 08:30 - 12:00 | Delegate Registration | Hilton Baton Rouge Capitol Center |
| 09:00 - 17:30 | Exhibition Hall and Dome Village Open | River Center—Exhibition Hall |
| 09:00 - 10:30 | **Paper/Workshop/Panel Sessions** | River Center—Meeting Rooms |

| | ROOM 1 | ROOM 3 | ROOM 5 | ROOM 7 | DOME 13A |
|---|---|---|---|---|---|
| 09:00 | | 2012-PP37 | 2012-PN04 | | 2012-W06 |
| 09:15 | 2012-PP32 | 2012-PP38 | | | |
| 09:30 | 2012-PP33 | 2012-PP39 | | | |
| 09:45 | 2012-PP34 | 2012-PP40 | | 2012-W07 | |
| 10:00 | 2012-PP35 | 2012-PP41 | | | |
| 10:15 | 2012-PP36 | 2012-PP42 | | | |

| | | |
|---|---|---|
| 09:00 - 17:30 | **Poster Session** (without Authors Present) | River Center—Riverview Room (West End of the Galleria) |
| 10:30 - 11:00 | **BREAK** | River Center—Riverview Room |
| 11:00 - 12:30 | **Paper/Workshop Sessions** | River Center—Meeting Rooms |

| | ROOM 1 | ROOM 3 | ROOM 5 | ROOM 7 |
|---|---|---|---|---|
| 11:00 | 2012-PP43 | 2012-PP48 | 2012-PN05 | 2012-W08 |
| 11:15 | 2012-PP44 | 2012-PP49 | | |
| 11:30 | | 2012-PP50 | | 2012-W10 |
| 11:45 | 2012-PP46 | 2012-PP51 | | |
| 12:00 | 2012-PP47 | 2012-PP52 | | |

| | | |
|---|---|---|
| 12:30 - 14:30 | **IPS AWARDS LUNCHEON**<br>*Sponsored by Carl Zeiss*<br>**KEYNOTE SPEAKER:** Dr. Natalie Batalha<br>*Speaker Sponsored by GOTO, Inc.* | River Center—Arena |
| 14:30 - 15:15 | **Group Photo**<br>*Copies of the group photograph may be purchased for $10* | LASM's Pennington Planetarium—Front of Building |
| 15:15 - 17:30 | **Paper/Workshop Sessions** | River Center—Meeting Rooms |

| | ROOM 1 | ROOM 3 | ROOM 5 | ROOM 7 | DOME 13A |
|---|---|---|---|---|---|
| 15:20 | | | 2012-PN06 | | |
| 15:30 | 2012-PP53 | 2012-PN10 | | | |
| 15:45 | 2012-PP54 | | | | |
| 16:00 | 2012-PP55 | | | 2012-PN11 | 2012-W11 |
| 16:10 | | | | | |
| 16:15 | 2012-PP56 | | | | |
| 16:30 | 2012-PP57 | | | | |
| 16:45 | 2012-PP58 | | 2012-PN07 | | |
| 17:00 | 2012-PP59 | | | | |
| 17:12 | | | | | |

# details

## WEDNESDAY EVENING

| DAY/TIME | DATE | LOCATION |
|---|---|---|
| 16:00 - 17:30 | Constellation Shootout | LASM's Pennington Planetarium |
| 17:30 - 19:00 | **DINNER** *Buffet served*<br>*Sponsored by RSA Cosmos* | Louisiana's Old State Capitol |
| 19:00 - 00:46 | **VENDOR DEMONSTRATIONS (BELOW)**<br>*Delegates will be divided into three groups for demonstrations (orange, green and blue)* | LASM—Irene W. Pennington Planetarium<br>Louisiana's Old State Capitol—Theater<br>LASM: Adalié Brent Auditorium |

## VENDOR DEMONSTRATIONS — WEDNESDAY, 25 JULY

### Pennington Planetarium

| | |
|---|---|
| 19:00 | Introduction |
| 19:08 | Carl Zeiss AG |
| 19:41 | Sky-Skan |
| 20:14 | Evans & Sutherland |
| 20:47 | Spitz, Inc. |
| 21:07 | Starry Night |
| 21:15 | RSA Cosmos |
| **21:35** | **BREAK** |
| 21:50 | Megastar |
| 22:23 | Audio Visual Imagineering, Inc. |
| 22:46 | Konica Minolta Planetarium Co., Ltd. |
| 23:09 | NSC Creative |
| 23:37 | National Geographic Entertainment |
| 00:10 | Go-Dome |
| 00:33 | Softmachine |
| 00:41 | Mirage 3D |
| **00:46** | **EXIT** |

### Old State Capitol

| | |
|---|---|
| 19:00 | GOTO INC |
| 19:33 | Global Immersion |
| 20:06 | Loch Ness Productions |
| 20:24 | Ash Enterprises International Inc. (A) |
| 20:42 | Digitalis Education Solutions, Inc. |
| 21:00 | Astro-Tec Mfg., Inc. |
| 21:18 | Evans & Sutherland |
| 21:36 | Ash Enterprises International Inc. (B) |
| 21:54 | RSA Cosmos |
| 22:12 | Magna-Tech Electronic Co., Inc. |
| **22:27** | **EXIT** |

### LASM: Auditorium

| | |
|---|---|
| 19:00 | Dome 3D |
| 19:18 | Discovery Dome |
| 19:36 | Silkroading (Beijing) Limited |
| 19:54 | Quim Guixa S.L. |
| 20:12 | GeoGraphics Imaging & Consulting |
| 20:30 | SCISS Uniview |
| 20:48 | Bowen Technovation (A) |
| 21:06 | nWave Pictures Distribution |
| 21:24 | Planetarium Hamburg |
| 21:42 | Bowen Technovation (B) |
| 22:00 | Softmachine |
| **22:15** | **EXIT** |

# WEDNESDAY

| DAY/TIME | DATE | LOCATION |
|---|---|---|
| **WEDNESDAY** | **25 JULY** | |
| 09:00 - 10:30 | Paper/Workshop/Panel Sessions | River Center: Meeting Rooms 1, 3, 5, 7 & DOME |

## ROOM 1

PAPER 5:
Astronomy & Science
MODERATOR—Jim Sweitzer

09:15 **2012-PP32:** Astronomical Observations in Hurbanovo During the First Period of its Existence (1871–1918)
Marian Vidovenec

PAPER 5: Education and Public Outreach

09:30 **2012-PP33:** Galileo Was Right! Using Models to Show Venus Orbits the Sun
Ken Brandt

09:45 **2012-PP34:** What College Students Know (and Don't Know) About Astronomy
Kristin Chon

10:00 **2012-PP35:** Reaching Out Across Our Planet
Carter Emmart

10:15 **2012-PP36:** Time is of the Essence: NASA Science and Technology on the Calendar Progress Report
Steve Fentress

| | ROOM 3 | ROOM 5 | ROOM 7 | DOME VILLAGE 13A |
|---|---|---|---|---|
| | PAPER 6:<br>International Planetariums<br>MODERATOR—Tanya Hill | PANEL 3:<br>Planetarium Operations & Technology | WORKSHOP 3: Show Production & Education | WORKSHOP 3: Show Production & Education |
| 09:00 | **2012-PP37:** Connecting Planetaria to Enhance Production and Content. Networks at a Glance in Spain.<br>Javier Armentia | **2012-PN04:** Managing the Science Centre Planetarium During a Time of Recession<br>Ian Dyer | | **2012-W06:** Developmental Characteristics of 4-6 Year Olds: Implications for Experiental Learning<br>Susan R. Button |
| 09:15 | **2012-PP38:** Ghana Planetarium—Turning Our Dream into Reality<br>Jacob Ashong | 10:00 | | 09:45 |
| 09:30 | **2012-PP39:** WPD IPS/APLF (Worldwide Planetariums Database)<br>Daniel Audeon | | | |
| 09:45 | **2012-PP40:** The Role of Al-Khawarizmi Astronomy Centre as an Astronomical Educational Centre<br>Kassim Bahali | | **2012-W07:**<br>CSI Flight Adventures<br>Becky Wolfe | |
| 10:00 | **2012-PP41:** Sri Lanka Planetarium<br>K. P. K. Koralagama | | 10:30 | |
| 10:15 | **2012-PP42:** The Guinness World Record Planetarium—Macao Science Center<br>Steven Ngai | | | |

# WEDNESDAY

| DAY/TIME | DATE | LOCATION |
|---|---|---|
| **WEDNESDAY** | **25 JULY** | |
| 11:00 - 12:30 | Paper/Workshop Sessions | River Center: Meeting Rooms 1, 3, 5 & 7 |

| | ROOM 1 | ROOM 3 | ROOM 5 | ROOM 7 |
|---|---|---|---|---|
| | PAPER 7:<br>Education and Public Outreach<br>MODERATOR—Greg Guzik | PAPER 8:<br>International Planetariums<br>MODERATOR—Robert Kooima | PANEL 4:<br>Planetarium Operations & Technology | WORKSHOP 4:<br>Show Production Techniques |
| 11:00 | **2012-PP43:** Astronomy Dissemination Activities in Southern India<br>P. Iyamperumal | **2012-PP48:** International Astronomical Union's Astronomy for the Developing World<br>Jim Sweitzer | **2012-PN05:** Digital Planetariums and Giant Screen Digital Domes: Conflict or Convergence?<br>Paul Fraser | **2012-W08:** Creating Fulldome Content with a DSLR Camera<br>Derek Demeter |
| 11:15 | **2012-PP44:** Why Science is "Not Interesting" . . . What is the Problem?<br>Kaoru Kimura | PAPER 8:<br>Alternate Use of Planetariums<br><br>**2012-PP49:** Virtual Egyptian Temple in a Dome<br>Kerry Handron | 12:00 | 11:45 |
| 11:30 | | **2012-PP50:** Virtual Forest—Student Directed Exploration in the Dome<br>Kerry Handron | | |
| 11:45 | **2012-PP46:** We Teach, But What Do They Learn?<br>Carolyn Sumners | **2012-PP51:** International Festival of Scientific Visualization & Dome Festa<br>Shoichi Itoh | | **2012-W10:** Basic Editing/Compositing for the Dome<br>Antonio Pedrosa |
| 12:00 | **2012-PP47:** Sidewalk Astronomy: Bridge to the Universe<br>Dave Hostetter | **2012-PP52:** Earthquake: The Making of a Geology Planetarium Show<br>Ryan Wyatt | | 12:30 |
| 12:12 | | 12:12 | | |

15:15 - 17:30 Paper/Workshop Sessions River Center: Meeting Rooms 1, 3, 5, 7 & DOME

| ROOM 1 | ROOM 3 | ROOM 5 | ROOM 7 | DOME VILLAGE 8A |
|---|---|---|---|---|
| PAPER 9: Live Presentations & Technology MODERATOR—Sharon Shanks | PANEL 8: Fulldome Operations | PANEL 5: International Collaborations | WORKSHOP 5: Show Production Techniques | WORKSHOP 5: Show Production Techniques |
| 15:20 | | **2012-PN06:** Best Practices in International Collaborations Greg Andrews | **2012-W09:** Fulldome Production 301 Tom Casey | |
| 15:30 **2012-PP53:** School of Stars: Combining FullDome Shows With Live Presentations? Javier Armentia | **2012-PN10:** Fulldome Essentials Antonio Pedrosa 17:30 | | | |
| 15:45 **2012-PP54:** Real-time Show Production at Katsushika City Museum Arai Iuchi | | | | |
| 16:00 **2012-PP55:** 3D Sound for Star Trips in Jena Rene Rodigast | | | | |
| 16:10 | | | PANEL 9: Astronomy & Science | **2012-W11:** Using "Keynote" to Build Fulldome Digital Shows in Warped Media Judi James |
| 16:15 **2012-PP56:** The Experience of Live Shows Lucia Cristina Sendon | | | **2012-PN11:** The Large Synoptic Survey Telescope Mark SubbaRao 17:10 | 17:00 |
| 16:30 **2012-PP57:** Give Me a Live Program! Dale W. Smith | | PANEL 5: Alternate Use of Planetariums | | |
| 16:45 **2012-PP58:** Shackleton Station: Exploring Sustainable Futures Carolyn Sumners | | **2012-PN07:** Earth Sciences in a Planetarium Environment Tom Kwasnitschka 17:30 | | |
| 17:00 **2012-PP59:** Live Presentation at Adler Planetarium Mark Webb 17:12 | | | | |

| DAY/TIME | DATE | LOCATION |
|---|---|---|
| **THURSDAY** | **26 JULY** | |
| 08:00 - 09:00 | **BREAKFAST:** *Continental Breakfast* | River Center—Galleria |
| 09:00 - 11:00 | Exhibition Hall and Dome Village Open | River Center—Exhibition Hall |
| 09:00 - 10:30 | **Paper/Workshop/Panel Sessions** | River Center—Meeting Rooms |

| | ROOM 1 | ROOM 3 | ROOM 5 | ROOM 7 |
|---|---|---|---|---|
| 09:00 | 2012-PP60 | 2012-W13 | 2012-PN08 | 2012-W12 |
| 09:15 | 2012-PP61 | 10:00 | 10:00 | 10:00 |
| 09:30 | 2012-PP62 | | | |
| 09:45 | 2012-PP63 | | | |
| 10:00 | 2012-PP64 | | | |
| 10:15 | 2012-PP65 | | | |
| 10:27 | | | | |

| | | |
|---|---|---|
| 10:30 - 11:00 | **BREAK** | Hilton Baton Rouge Capitol Center |
| 11:00 - 20:00 | Exhibition Hall and Dome Village Open for Exhibitor Teardown | |
| 11:00 - 12:30 | **Panel Session/Final Discussions** | Hilton Baton Rouge Capitol Center—Ballrooms A and B |

| | ROOM 5 |
|---|---|
| 11:00 | 2012-PN09 |
| 12:00 | |

| | | |
|---|---|---|
| 12:30 - 14:00 | **LUNCH:** *Buffet*<br>*Sponsored by Spitz, Inc.* | Hilton Baton Rouge Capitol Center —*Served Poolside* |
| 14:00 - 16:00 | IPS General Assembly Meeting | Hilton Baton Rouge Capitol Center—Ballrooms A and B |
| 16:00 - 16:30 | Memorial Presentation | Hilton Baton Rouge Capitol Center—Ballrooms A and B |
| 16:30 - 17:30 | Affiliate Meetings | Hilton Baton Rouge Capitol Center—Meeting Rooms |
| 17:45 - 18:00<br>18:00 - 1830 | Bus Boarding<br>*Buses depart from LASM for the trip to the IPS banquet, held at the Houmas House Plantation and Gardens* | LASM |
| 19:00 - 20:00 | Cocktail Hour<br>*Pre-dinner Drinks and Hors d'oeuvres* | Houmas House Plantation and Gardens |
| 20:00 - 22:00 | **CONFERENCE BANQUET**<br>*Sponsored by Evans & Sutherland* | Houmas House Plantation and Gardens |
| 22:00 - 23:00 | Buses Return | Houmas House Plantation and Gardens |

| DAY/TIME | DATE | LOCATION |
|---|---|---|
| **THURSDAY** | **26 JULY** | |
| 09:00 - 10:30 | **Paper/Workshop/Panel Sessions** | River Center—Meeting Rooms |
| 11:00 - 12:00 | **Dedicated Vendor Time** | River Center—Exhibition Hall |

| | ROOM 1 | ROOM 3 | ROOM 5 | ROOM 7 |
|---|---|---|---|---|
| | PAPER 10: Show Production & Art<br>MODERATOR<br>Javier Armentia | WORKSHOP 7: Fulldome Standards | PANEL 6: Education and Public Outreach | WORKSHOP 6: International Collaborations |
| 09:00 | **2012-PP60:** Shakespeare in the Dome<br>Donna C. Pierce | **2012-W13:** IMERSA Fulldome Standards Forum<br>Ed Lantz | **2012-PN08:** What General Public Astronomical Knowledge is Most Important?<br>Lars Broman | **2012-W12:** Astronomical Experiences with Real and Virtual Travels<br>Susan R. Button |
| 09:15 | **2012-PP61:** Musical Content Licensing in the Planetarium<br>Jonn Serrie | 10:00 | 10:00 | 10:00 |
| | PAPER 10: Show Production & Education | | | |
| 09:30 | **2012-PP62:** The (MC)$^2$ Science Collaborative and Ohio Standards-Based Planetarium Programs at the Anderson Hancock Planetarium<br>Ann Bragg | | | |
| 09:45 | **2012-PP63:** STEM Stars: How Underserved Middle School Students Created Planetarium Shows<br>Noreen Grice | | PANEL 7: Education and Public Outreach<br>11:00 | |
| 10:00 | **2012-PP64:** Can Graphs Be Beautiful?<br>Tanya Hill | | **2012-PN09:** Directions in Education (IPS Education Committee)<br>Jack L. Northrup | |
| 10:15 | **2012-PP65:** Planet Properties through Student Productions<br>Jack L. Northrup | | 12:00 | |
| 10:27 | | | | |

# NSC creative

Visit us @ IPS 2012

NEW Fulldome shows from the makers of *We Are Astronomers* and *ASTRONAUT*


ASTRONAUT 3D

Internationally acclaimed Fulldome show ASTRONAUT now available in stunning 360° stereoscopic 3D. Every scene has been reworked, reimagined and re-rendered at ultra-high-resolution to ensure the best possible 3D Fulldome experience.
New 2D 4k version also available.

NEW
we are ALIENS!

The sequel to the award-winning 'We Are Astronomers'
Available late 2012 in Fulldome 2D and 3D.

NEW
CELL! CELL! CELL!

You are made of 70 trillion living cells.
They work. They talk. They think.
They are what make you alive.
Available Summer 2012 in Fulldome 2D.

## Visit us in our booth and the Dome Village @ IPS 2012

NSC Creative is an award winning computer animation studio that specialises in immersive films for Fulldome and Stereoscopic 3D with over 10 years' experience. We offer a full production service for bespoke, original high-end content with the wow factor guaranteed and a library of top-quality films to license.

NSC creative.com

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+44 (0)116 258 2101 hello@NSCcreative.com

| DAY/TIME | DATE | LOCATION |
|---|---|---|
| **FRIDAY** | **27 JULY** | |
| 08:00 - 09:00 | **BREAKFAST:** *On Your Own* | Your Hotel or One of Downtown Baton Rouge's Breakfast Spots |
| 08:30 - 22:30 | **DOMEFEST 2012**<br>*Full day of dome screenings and talks in the Pennington Planetarium.* | |
| | **POST-CONFERENCE TOUR**<br>From 27–29 July, the Burke Baker Planetarium will be hosting delegates for a Post-Conference Tour in Space City–Houston, Texas. Trips are planned to Johnson Space Center and George Observatory, plus delegates will begin or end their tour at the Houston Museum of Natural Science (HMNS) and other facilities in Houston's famed Museum District. | |
| **SATURDAY** | **28 JULY** | |
| | **DOMEFEST 2012** Continued | |

# POSTERS



## POSTER SESSIONS

| | | |
|---|---|---|
| 2012-PS01 | Giorgia Givone | *Infinito: An Unconventional Use of the Planetarium* |
| 2012-PS02 | Antonio Pedrosa | *The Workshop and Festival in Immersive Cinema 2012* |
| 2012-PS03 | Mark SubbaRao | *The Science Behind The Searcher* |
| 2012-PS04 | Aase Jacobsen | *Vacation in Space—An Educational Program for Grades 4 to 6* |
| 2012-PS05 | Elizabeth Klimek | *Adventures in Public Outreach: An Astronomy Grad Student's Perspective* |
| 2012-PS07 | Michael P. McConville | *The Electronic Universe: Using Social Media in the Planetarium* |
| 2012-PS08 | Benjamin Mendelsohn | *Undergraduate Astronomy Students' Worldviews and Beliefs about the Role of Science in Society: Initial Results* |
| 2012-PS09 | Ka Chun Yu | *Worldviews Network: Initial Evaluation Results from Bioregional Community Dialogues* |
| 2012-PS10 | Miroslav Broz | *Galactic Educational Trail and Other Projects of the Hradec Kralove Observatory* |
| 2012-PS11 | Jiri Dusek | *We Do Not Instruct, but Inspire!* |
| 2012-PS12 | Adam Fiser | *Science Education at Johann Palisa Observatory and Planetarium* |
| 2012-PS13 | Alan Gould | *The New IPS Website* |
| 2012-PS15 | Kang Hwan Lee | *History and Current Status of Planetariums in Korea* |
| 2012-PS16 | Miroslav Otisk | *Hardware and Software Used in the Observatory and Planetarium Johann Palisa* |
| 2012-PS17 | Marian Vidovenec | *Poloniny Dark-Sky Park Slovakia* |
| 2012-PS18 | Paul Zeleski | *Integrating iPods Into the Planetarium* |
| 2012-PS19 | Tomas Graf | *Stereoscopic Projection in Planetarium—A Fad or a Long-Term Trend?* |
| 2012-PS20 | Torvald Hessel | *Austin Planetarium: The Path to Reality* |
| 2012-PS22 | Patricia Shih | *Songs in the Key of Earth—The Only Planet with Love* |
| 2012-PS23 | Wendy Ackerman | *Maryland Journeys to New Horizons* |
| 2012-PS24 | Bob Bonadurer | *Cosmic Colors: New Show from GLPA* |
| 2012-PS25 | April S. Whitt | *Envision Venus: A Transit of Venus Workshop for Art, Music and Science Teachers* |

## PANEL SESSIONS

| | | |
|---|---|---|
| PANEL 1: | ALTERNATE USE OF PLANETARIUMS | |
| 2012-PN02 | Ka Chun Yu | *Tools and Strategies for Presenting Earth-based Content in Live Dome Presentations* |
| | PUBLIC ASTRONOMY | |
| 2012-PN01 | E. C. Krupp | *Navigating Celestial Renewal at Griffith Observatory* |
| PANEL 2: | ALTERNATE USE OF PLANETARIUMS | |
| 2012-PN03 | Matthew Mascheri | *Roller Coasters, Special Events and Lasers... Oh My!* |
| PANEL 3: | PLANETARIUM OPERATIONS & TECHNOLOGY | |
| 2012-PN04 | Ian Dyer | *Managing the Science Centre Planetarium During a Time of Recession* |
| PANEL 4: | PLANETARIUM OPERATIONS & TECHNOLOGY | |
| 2012-PN05 | Paul Fraser | *Digital Planetariums and Giant Screen Digital Domes: Conflict or Convergence?* |
| PANEL 5: | ALTERNATE USE OF PLANETARIUMS | |
| 2012-PN07 | Tom Kwasnitschka | *Earth Sciences in a Planetarium Environment* |
| | INTERNATIONAL COLLABORATIONS | |
| 2012-PN06 | Greg Andrews | *Best Practices in International Collaborations* |
| PANEL 6: | EDUCATION AND PUBLIC OUTREACH | |
| 2012-PN08 | Lars Broman | *What General Public Astronomical Knowledge is Most Important?* |
| PANEL 7: | EDUCATION AND PUBLIC OUTREACH | |
| 2012-PN09 | Jack L. Northrup | *Directions in Education (IPS Education Committee)* |
| PANEL 8: | FULLDOME OPERATIONS | |
| 2012-PN10 | Antonio Pedrosa | *Fulldome Essentials* |
| PANEL 9: | ASTRONOMY & SCIENCE | |
| 2012-PN11 | Mark SubbaRao | *The Large Synoptic Survey Telescope* |

## PAPERS

| | | | |
|---|---|---|---|
| MODERATOR<br>Bob Bonadurer | PAPER 1:<br>2012-PP01 | PLANETARIUM OPERATIONS & TECHNOLOGY<br>Bjorn Voss | *Using 8k* |
| | 2012-PP02 | Carter Emmart | *The Future* |
| | 2012-PP03 | Eric Frappa | *Saint-Etienne, First 3D Planetarium in France—Review After 6 Months of Operation* |
| | 2012-PP04 | Claude Ganter | *Projectors and Dome Effective Contrast* |
| | 2012-PP05 | Thomas Wm. Hamilton | *The Planetarium Scholarship* |
| | 2012-PP06 | Tanya Hill | *Big Kids' Night Out* |
| | 2012-PP07 | Scott A. Niskach | *Beginners Guide to a Fulldome Planetarium* |
| | 2012-PP08 | Alan V. Pareis | *A Canticle Experience* |
| | 2012-PP09 | Lionel Ruiz | *LSS Digital Planetariums, Nightshade and the Stratoscripts* |
| | 2012-PP10 | Patty Seaton | *Lessons from Serenity* |
| MODERATOR<br>Adam Thanz | PAPER 2:<br>2012-PP11 | SHOW PRODUCTION TECHNIQUES<br>David Beining | *At-Hand Physical Interaction in Arbitrary Multi-Display Environments* |
| | 2012-PP12 | Kyra Elliott | *From the Blue Planet to the Red Planet: Fulldome Production in a Small Facility* |
| | 2012-PP13 | Chris Hill | *Open the World of Custom Fulldome Videos* |
| | 2012-PP14 | Tim Horn | *When CG Isn't Enough: Real-World Imagery in Fulldome Production* |
| | \2012-PP15 | Warik Lawrance | *Narrative Cinema & Film Language in Fulldome* |
| | 2012-PP16 | Patrick McPike | *4k to 8k, The Adler Way* |
| | 2012-PP17 | Mark Paternostro | *Data Visualization, CG, Storytelling* |
| | 2012-PP18 | Doug Roberts | *Highly Connected Planetaria: Enabling Next-Generation Production* |
| | 2012-PP19 | Doug Roberts | *Rendering Planetary Terrains Using Heterogeneous Data Sets* |
| | 2012-PP20 | Mark SubbaRao | *Launching a Fulldome Camera Rig to Near Space* |
| MODERATOR<br>Dave Hostetter | PAPER 3:<br>2012-PP21 | ASTRONOMY & SCIENCE<br>Adam Barnes | *The Powerful Mayan Astronomer* |
| | 2012-PP22 | Tony Butterfield | *Extremophiles and Exoplanets* |
| | 2012-PP23 | Katie Nagy | *Live Science Lectures Under a Digital Dome* |
| | 2012-PP24 | Carolyn Collins Petersen | *Losing the Dark: A Planetarium PSA about Light Pollution* |
| | 2012-PP25 | Carolyn Sumners | *Outposts and Analogs: The Future of Human Spaceflight* |

| | | | |
|---|---|---|---|
| PAPER 4: | PLANETARIUM OPERATIONS & TECHNOLOGY | | MODERATOR |
| 2012-PP26 | Marco Silva | *New Trends on Fulldome Projection* | Mark Webb |
| 2012-PP27 | Jim Sweitzer | *3D or not 3D?* | |
| | SHOW PRODUCTION & ART | | |
| 2012-PP28 | Daniel Tell | *Free Software Training and Production in the Great Lakes Region* | |
| 2012-PP29 | Bjorn Voss | *Strategies for Cooperative Show Production* | |
| 2012-PP30 | Andrew Johnston | *African Art and Planetarium Programming* | |
| PAPER 5: | ASTRONOMY & SCIENCE | | MODERATOR |
| 2012-PP32 | Marian Vidovenec | *Astronomical Observations in Hurbanovo During the First Period of its Existence (1871–1918)* | Jim Sweitzer |
| | EDUCATION AND PUBLIC OUTREACH | | |
| 2012-PP33 | Ken Brandt | *Galileo Was Right! Using Models to Show Venus Orbits the Sun* | |
| 2012-PP34 | Kristin Chon | *What College Students Know (and Don't Know) About Astronomy* | |
| 2012-PP35 | Carter Emmart | *Reaching Out Across Our Planet* | |
| 2012-PP36 | Steve Fentress | *Time is of the Essence: NASA Science and Technology on the Calendar Progress Report* | |
| PAPER 6: | INTERNATIONAL PLANETARIUMS | | MODERATOR |
| 2012-PP37 | Javier Armentia | *Connecting Planetaria to Enhance Production and Content. Networks at a Glance in Spain* | Tanya Hill |
| 2012-PP38 | Jacob Ashong | *Ghana Planetarium—Turning Our Dream into Reality* | |
| 2012-PP39 | Daniel Audeon | *WPD IPS/APLF (Worldwide Planetariums Database)* | |
| 2012-PP40 | Kassim Bahali | *The Role of Al-Khawarizmi Astronomy Centre as an Astronomical Educational Centre* | |
| 2012-PP41 | K. P. K. Koralagama | *Sri Lanka Planetarium* | |
| 2012-PP42 | Steven Ngai | *The Guinness World Record Planetarium—Macao Science Center* | |
| PAPER 7: | EDUCATION AND PUBLIC OUTREACH | | MODERATOR |
| 2012-PP43 | P. Iyamperumal | *Astronomy Dissemination Activities in Southern India* | Greg Guzik |
| 2012-PP44 | Kaoru Kimura | *Why Science is "Not Interesting"... What is the Problem?* | |
| 2012-PP46 | Carolyn Sumners | *We Teach, But What Do They Learn?* | |
| 2012-PP47 | Dave Hostetter | *Sidewalk Astronomy: Bridge to the Universe* | |

MODERATOR
Robert Kooima

PAPER 8: ALTERNATE USE OF PLANETARIUMS

| | | |
|---|---|---|
| 2012-PP49 | Kerry Handron | *Virtual Egyptian Temple in a Dome* |
| 2012-PP50 | Kerry Handron | *Virtual Forest—Student Directed Exploration in the Dome* |
| 2012-PP51 | Shoichi Itoh | *International Festival of Scientific Visualization & Dome Festa* |
| 2012-PP52 | Ryan Wyatt | *Earthquake: The Making of a Geology Planetarium Show* |

INTERNATIONAL PLANETARIUMS

| | | |
|---|---|---|
| 2012-PP48 | Jim Sweitzer | *International Astronomical Union's Astronomy for the Developing World* |

MODERATOR
Sharon Shanks

PAPER 9: LIVE PRESENTATIONS & TECHNOLOGY

| | | |
|---|---|---|
| 2012-PP53 | Javier Armentia | *School of Stars: Combining Fulldome Shows With Live Presentations?* |
| 2012-PP54 | Arai Iuchi | *Real-time Show Production at Katsushika City Museum* |
| 2012-PP55 | Rene Rodigast | *3D Sound for Star Trips in Jena* |
| 2012-PP56 | Lucia Cristina Sendon | *The Experience of Live Shows* |
| 2012-PP57 | Dale W. Smith | *Give Me a Live Program!* |
| 2012-PP58 | Carolyn Sumners | *Shackleton Station: Exploring Sustainable Futures* |
| 2012-PP59 | Mark Webb | *Live Presentation at Adler Planetarium* |

MODERATOR
Javier Armentia

PAPER 10: SHOW PRODUCTION & ART

| | | |
|---|---|---|
| 2012-PP60 | Donna C. Pierce | *Shakespeare in the Dome* |
| 2012-PP61 | Jonn Serrie | *Musical Content Licensing in the Planetarium* |

SHOW PRODUCTION & EDUCATION

| | | |
|---|---|---|
| 2012-PP62 | Ann Bragg | *The (MC)$^2$ Science Collaborative and Ohio Standards-Based Planetarium Programs at the Anderson Hancock Planetarium* |
| 2012-PP63 | Noreen Grice | *STEM Stars: How Underserved Middle School Students Created Planetarium Shows* |
| 2012-PP64 | Tanya Hill | *Can Graphs Be Beautiful?* |
| 2012-PP65 | Jack L. Northrup | *Planet Properties through Student Productions* |

# at a glance


## WORKSHOPS

| | | |
|---|---|---|
| WORKSHOP 1: | LIVE PRESENTATIONS & TECHNOLOGY | |
| 2012-W01 | Jeff Bowen | *Modern Instructional/Event Presentation Technologies for Immersive/ Planetarium Theaters* |
| 2012-W02 | Karrie Berglund | *LIPS: Live Interactive Planetarium Symposium—Past, Present and Future* |
| 2012-W03 | Julia Plummer | *Interacting with Your Audience Using a Modular Planetarium Program* |
| WORKSHOP 2: | SHOW PRODUCTION & ART | |
| 2012-W04 | Jose Francisco Salgado | *Science and Symphony Films* |
| 2012-W05 | Jon U. Bell | *The Theremin, the Planetarium and You* |
| WORKSHOP 3: | SHOW PRODUCTION & EDUCATION | |
| 2012-W06 | Susan R. Button | *Developmental Characteristics of 4-6 Year Olds: Implications for Experiental Learning* |
| 2012-W07 | Becky Wolfe | *CSI Flight Adventures* |
| WORKSHOP 4: | SHOW PRODUCTION TECHNIQUES | |
| 2012-W08 | Derek Demeter | *Creating Fulldome Content with a DSLR Camera* |
| 2012-W10 | Antonio Pedrosa | *Basic Editing/Compositing for the Dome* |
| WORKSHOP 5: | SHOW PRODUCTION TECHNIQUES | |
| 2012-W09 | Tom Casey | *Fulldome Production 301* |
| 2012-W11 | Judi James | *Using "Keynote" to Build Fulldome Digital Shows in Warped Media* |
| WORKSHOP 6: | INTERNATIONAL COLLABORATIONS | |
| 2012-W12 | Susan R. Button | *Astronomical Experiences with Real and Virtual Travels* |
| WORKSHOP 7: | FULLDOME STANDARDS | |
| 2012-W13 | Ed Lantz | *IMERSA Fulldome Standards Forum* |

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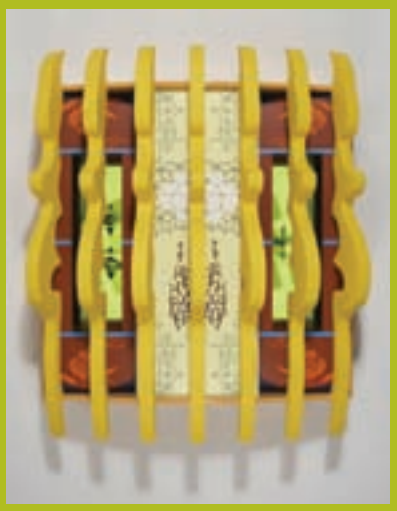

CURRENTLY ON EXHIBIT IN THE LASM ART GALLERY

## DIGITAL PAINTINGS: JOHN F. SIMON, JR.

Replacing the canvas with the computer screen, John F. Simon, Jr., a native of Louisiana, has been at the forefront of new media internationally since the 1990s. Having written his own software for the past 20 years, he manipulates the computer's potential in imaginative and innovative ways to create visual imagery that is perpetually in motion yet non-repetitive.

The exhibition has been made possible in part by the Louisiana Office of Tourism, Visit Baton Rouge, The Albemarle Foundation, a Local Project Assistance Grant from the Arts Council of Greater Baton Rouge, funded by the Mayor-President and the Baton Rouge Metro Council, the Community Fund for the Arts and LA Division of the Arts. Promotional support provided by The Advocate, Lamar and WRKF.

John F. Simon, Jr., *Crown*, 2007, software, LCD screen, Formica, acrylic plastic, gouache on paper and lacquered wood. Courtesy of the artist and Gering & López Gallery, New York.

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# GROUND LEVEL

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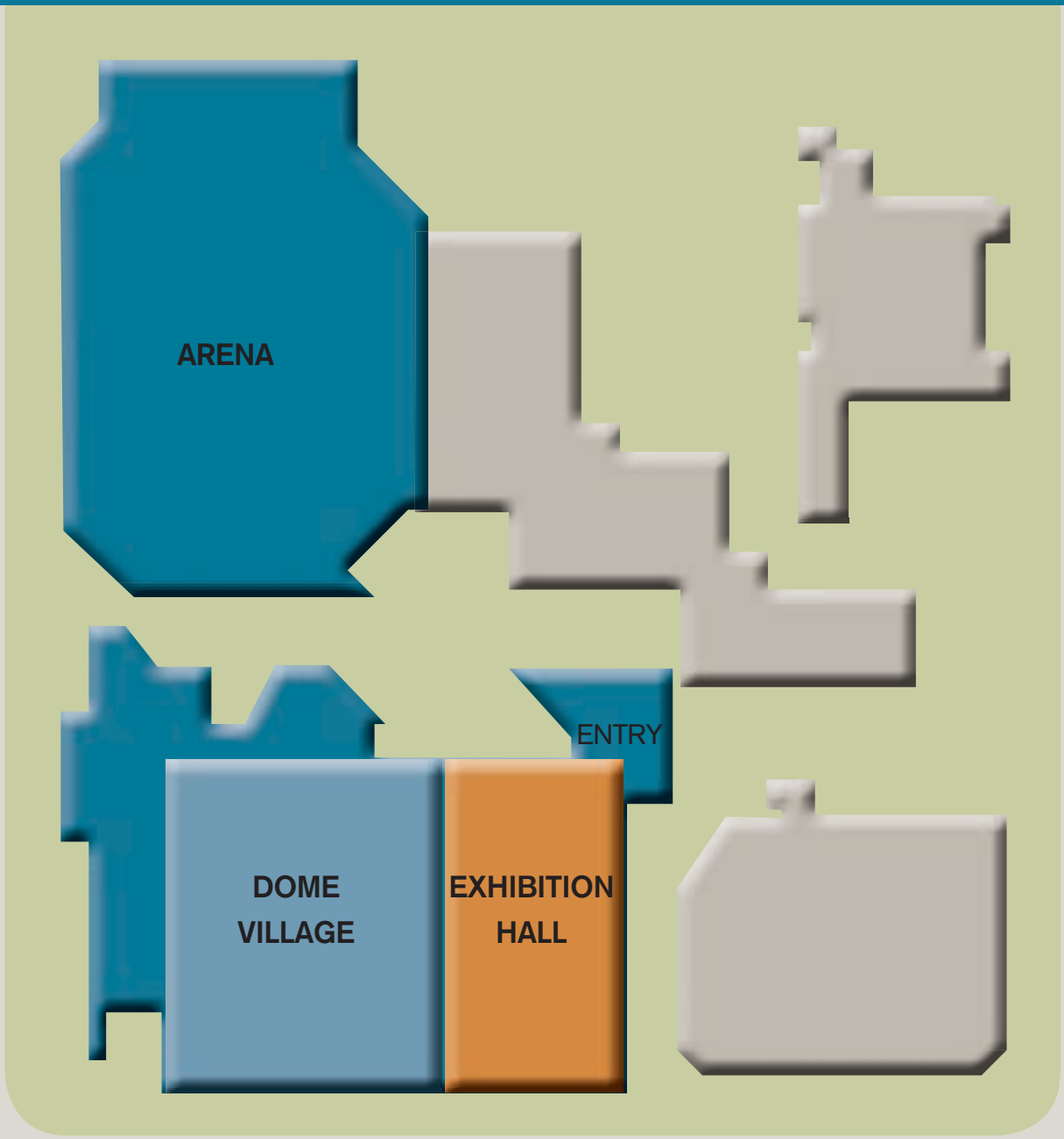
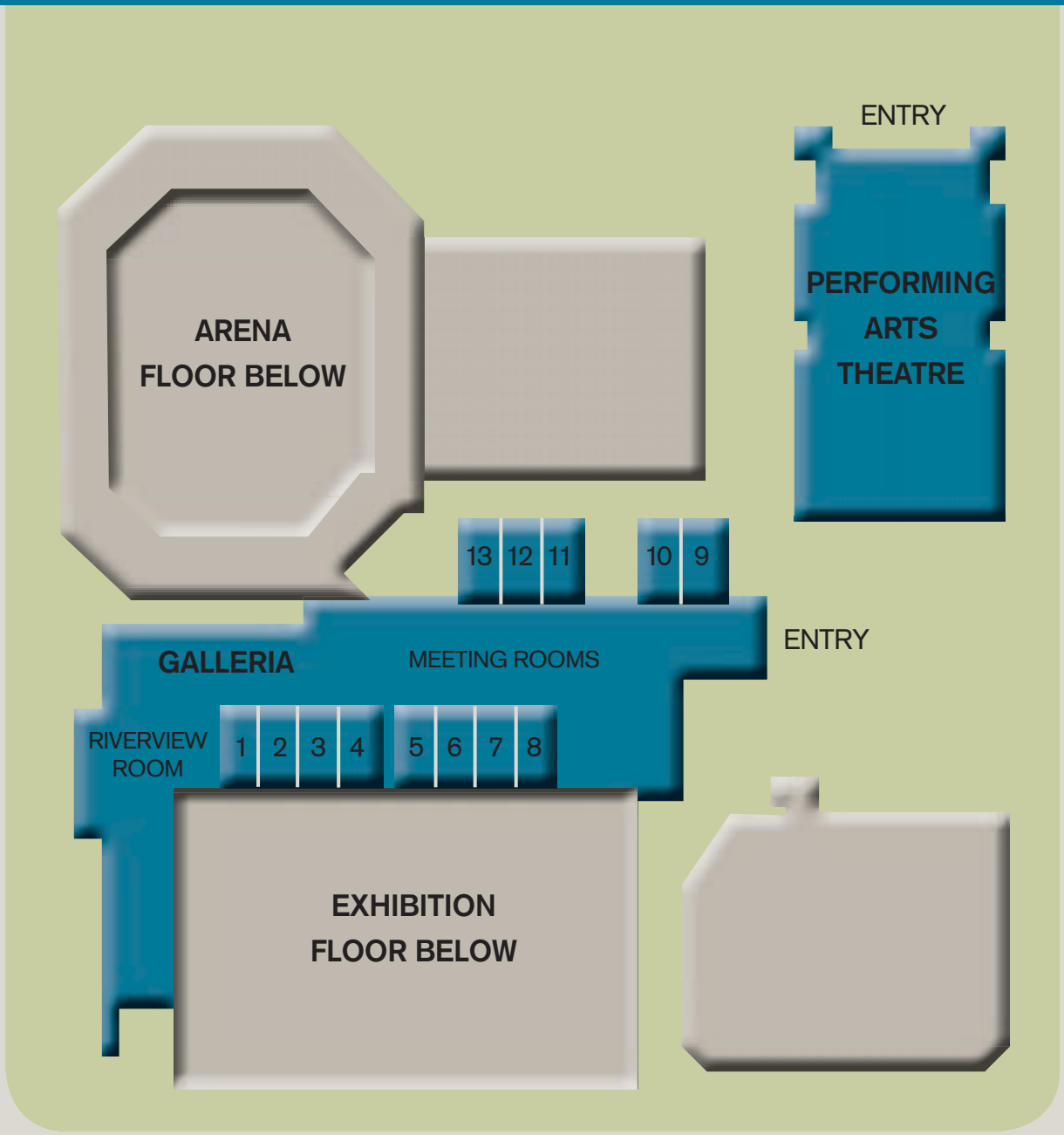
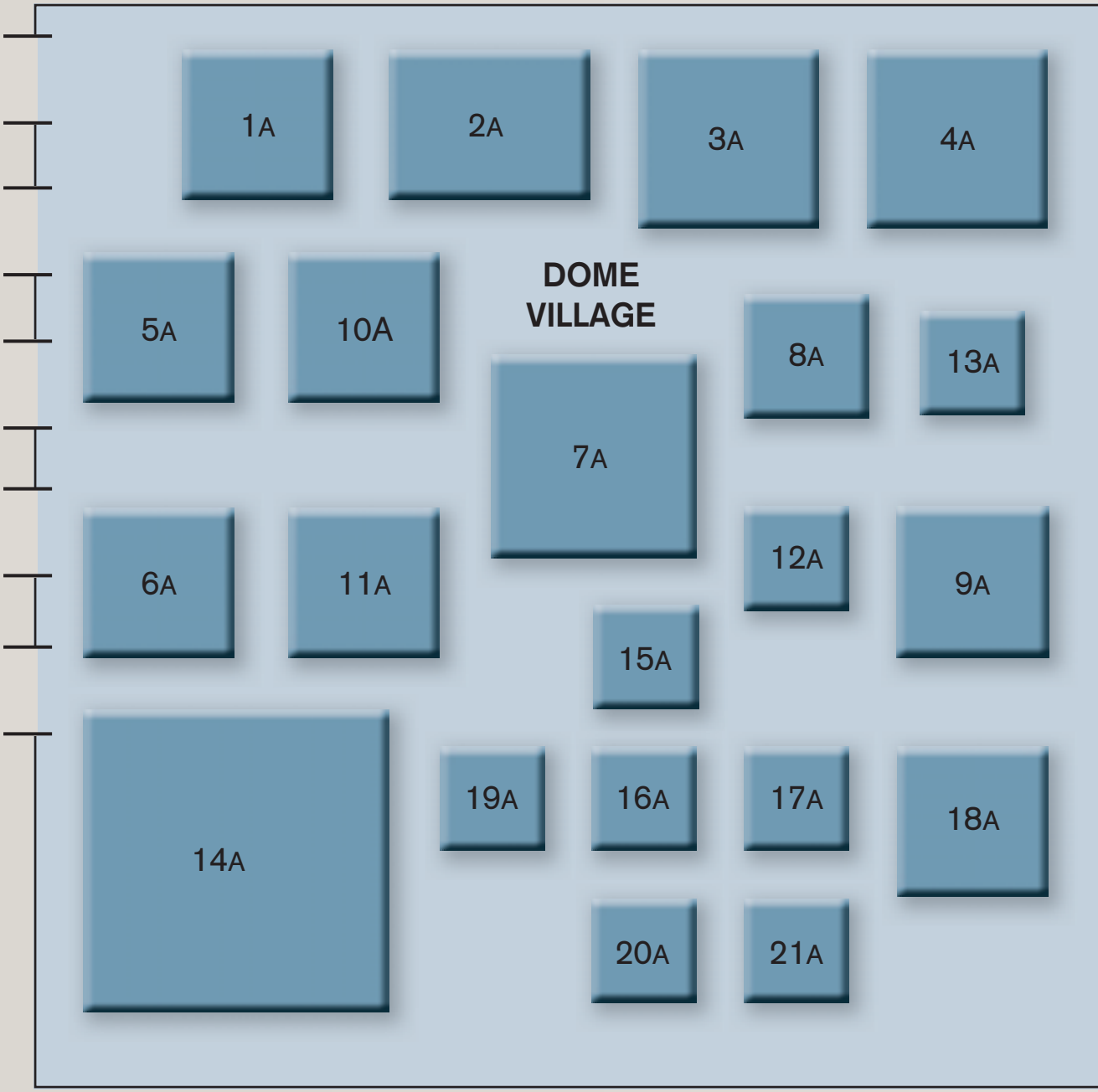


# river center

## UPPER LEVEL



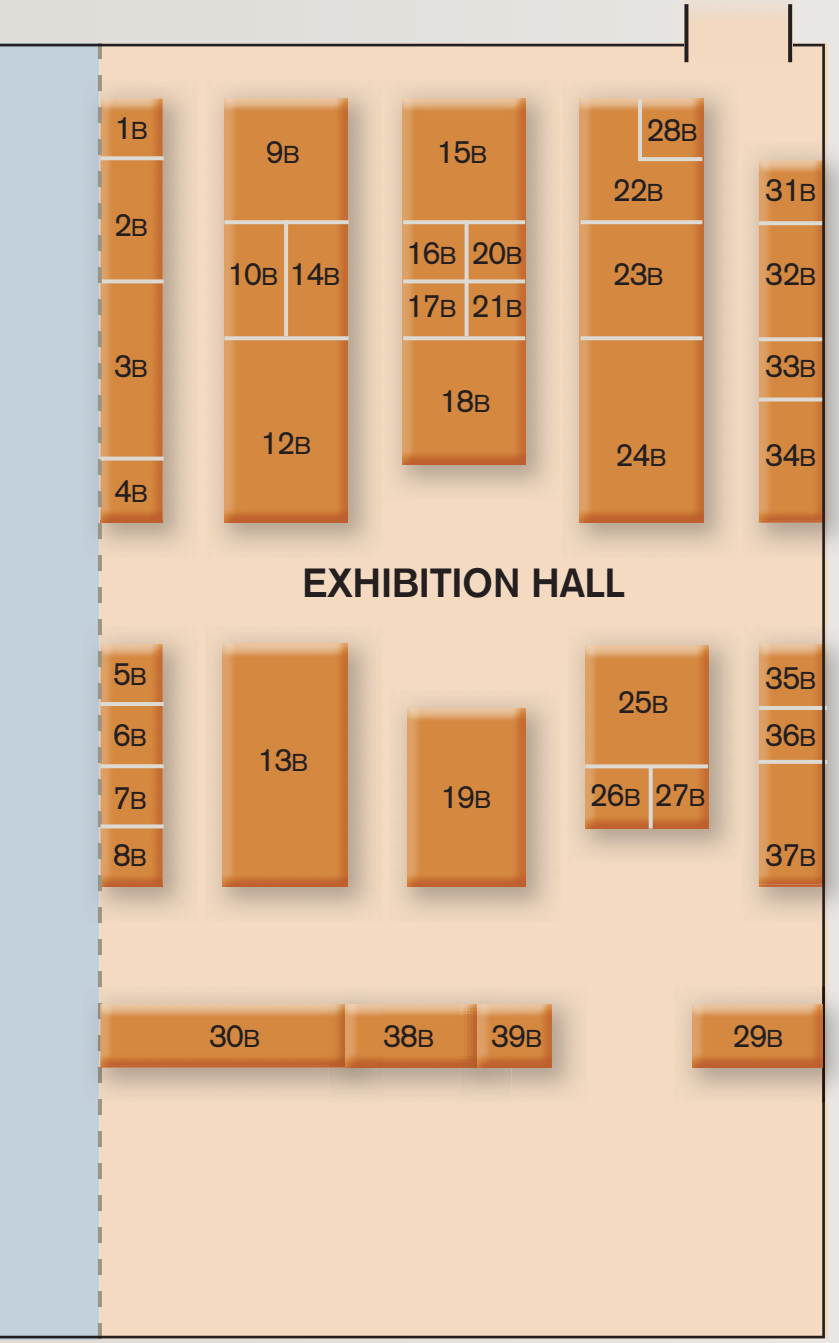
# exhibition halls




## DOME VILLAGE

| | |
|---|---|
| 1A | Spitz, Inc. |
| 2A | Evans & Sutherland |
| 3A | RSA Cosmos |
| 4A | GOTO, Inc. |
| 5A | Denver Museum of Nature & Science |
| 6A | Dome3D |
| 7A | Cupola Lounge |
| 8A | Ash Enterprises |
| 9A | Go-Dome |
| 10A | Megastar |
| 11A | NSC Creative |
| 12A | Science First/Starlab |
| 13A | Digitalis Education Solutions |
| 14A | Sky-Skan |
| 15A | Loch Ness Productions |
| 16A | Discovery Dome |
| 17A | Astro-Tec |
| 18A | Konica Minolta Planetarium/ Audio Visual Imagineering |
| 19A | Sky-Skan |
| 20A | Quim Guixà |
| 21A | Demonstration Dome |

| EXHIBITION HALL SCHEDULE | MONDAY, 23 JULY | TUESDAY, 24 JULY | WEDNESDAY, 25 JULY | THURSDAY, 26 JULY |
|---|---|---|---|---|
| | 10:30-18:30 | 10:00-18:00 | 09:00-17:30 | 09:00-12:00 |




## EXHIBITION HALL

| | |
|---|---|
| 1B | Prismatic Magic |
| 2B | Ash Enterprises |
| 3B | Global Immersion |
| 4B | Silkroading |
| 5B | Visual Acuity |
| 6B | nWave Pictures |
| 7B | Children's Museum of Indianapolis |
| 8B | Cine Dome Studios |
| 9B | GOTO, Inc. |
| 10B | Discovery Dome |
| 12B | Megastar |
| 13B | Sky-Skan |
| 14B | Loch Ness Productions |
| 15B | RSA Cosmos |
| 16B | Sudekum Planetarium—Adventure Science Center |
| 17B | Albedo Fulldome |
| 18B | Spitz, Inc. |
| 19B | Evans & Sutherland |
| 20B | Softmachine GmbH |
| 21B | The Elumenati |
| 22B | Audio Visual Imagineering |
| 23B | Konica Minolta Planetarium |
| 24B | Carl Zeiss AG |
| 25B | NSC Creative |
| 26B | Planetarium Hamburg/HK Scientec |
| 27B | Starball |
| 28B | SCISS Uniview |
| 29B | Cyber Cafe |
| 30B | Go-Dome |
| 31B | American Museum of Natural History |
| 32B | GeoGraphics Imaging |
| 33B | Mirage3D |
| 34B | Astro-Tec |
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| 36B | Space Telescope Science Institute |
| 37B | Share Table |
| 38B | Supporting Sponsors |
| 39B | Laser Fantasy |

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# panels

**2012-PN1**
**E.C. Krupp, Griffith Observatory**
***Navigating Celestial Renewal at Griffith Observatory***

When Griffith Observatory opened in 1935 with free public telescopes, free exhibits and the third public planetarium in the U.S. (and the first on the Pacific rim), it relied on the concept of "the building as instrument" to fulfill Colonel Griffith J. Griffith's philanthropic vision of a public observatory designed to transform visitors into observers through a direct encounter with the sky. In 2002, after nearly seven decades of operation and more than 70 million visitors, the Observatory closed for major renovation and expansion. Primary goals included historic restoration of the iconic Los Angeles landmark, transformation of the planetarium, doubling of public space to improve the visitor experience and development of a new comprehensive and integrated exhibit program. Griffith Observatory reopened in late 2006, and its renovation and expansion was a genuine *bridge to a new beginning* that linked the original purpose and character of Griffith Observatory to the future of public astronomy in southern California. Discoveries, problems and solution-inevitable to and highly specialized, technically complex, and public enterprise-surfaced throughout design, construction and subsequent operation at Griffith Observatory. These offer lessons that may be useful to other planetaria and public observatories. The panel will discuss Griffith Observatory's heritage and recent renewal and will spotlight the exhibit program, planetarium show production and presentation and capital funding.

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**2012-PN2**
**Ka Chun Yu, Denver Museum of Nature & Science**
***Tools and Strategies for Presenting Earth-Based Content in Live Dome Presentations***

The flexibility of virtual environments that can be generated and displayed within digital planetariums mean that a wide variety of content—not all of which need be astronomy related—can be visualized for fulldome audiences. Such technologies can be used to develop visitor programming where the focus of the audience is directed not up at the sky or into space, but back down on their home planet. For this panel, representatives from three different institutions that have pioneered live interactive explorations of the Earth will discuss the tools and strategies they use to engage audiences with Earth-based content using high resolution satellite imagery, immersive pano-photography and geospatial data overlays from the Earth and life sciences. The panelists will also cover the library of scientific data visualization products and story templates https://sites.google.com/site/worldviewsnetwork/goals/visualization-modules that are being created and archived by the Worldviews Network for Earth systems and ecological literacy education.

**2012-PN3**
**Matthew Mascheri, Dome3D**
***Roller Coasters, Special Events and Lasers... Oh My!***

This panel will discuss non-astronomy programming in the dome and if it helps the bottom line while being able to support the mission of educational institutions. Content creators will discuss various programs and events, and a cross-section of dome directors will give first-hand experiences of how different types of programming have made an impact on their facilities.

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**2012-PN4**
**Ian Dyer, Global Immersion**
***Managing the Science Centre Planetarium During a Time of Recession***

Led by Ian Dyer of Global Immersion, this panel will place four senior representatives from Science Centres across the world in the spotlight. In an interactive and dynamic setting, these Science Centre Managers will share their own experiences including:

—Managing operational cost ratios, staffing structure and political influences in a challenging economic climate

—Effective, creative and targeted programming to manage visitor numbers, increase retention rates and lengthen each visit

—Managing extended periods between technology upgrades and staying afloat technology trends

—...and the big question: how do you keep them coming back for more?

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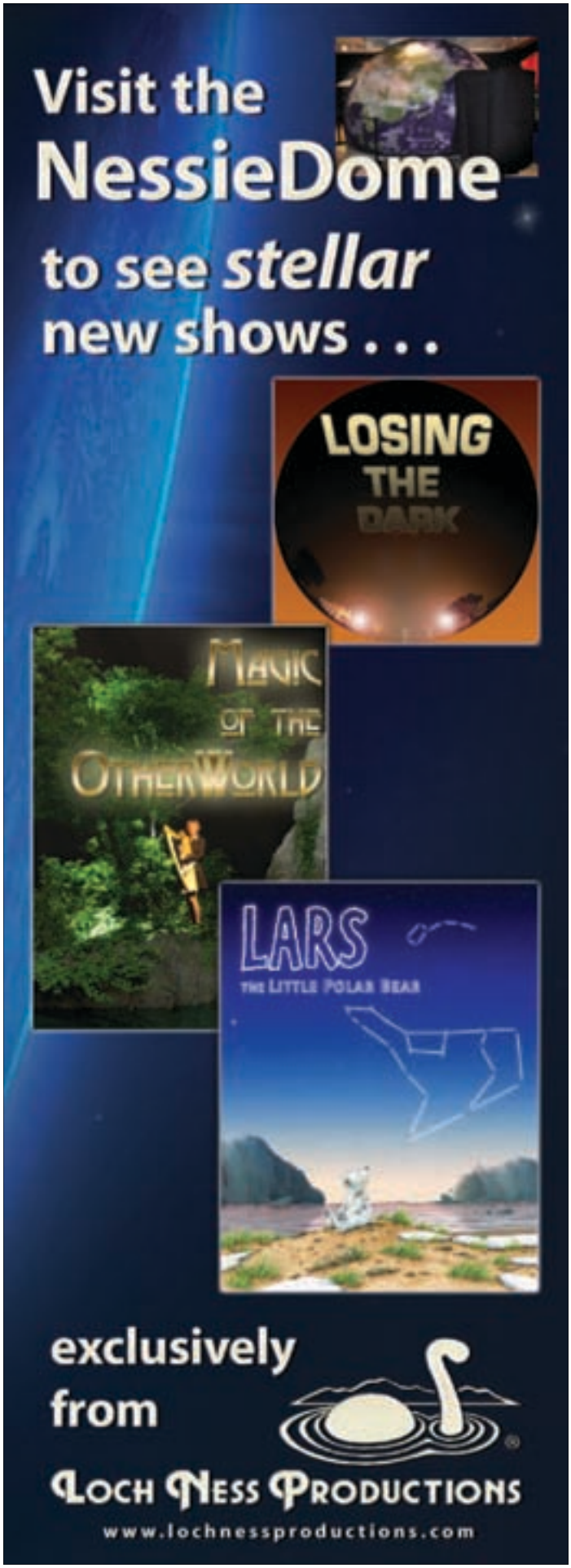
**2012-PN5**
**Paul Fraser, Blaze Digital Cinema Works, LLC**
***Digital Planetariums and Giant Screen Digital Domes: Conflict or Convergence?***

There are approximately 100 film-based giant screen domes and a nearly equal number of giant screen digital planetariums worldwide. As giant screen domes transition to digital dome projection, how will they differ from digital planetariums? What standards will they adhere to? Will giant screens run fulldome programming, and will planetariums run digitized giant screen films? This panel will explore the coming convergence of digital planetariums and giant screen film theaters.




**2012-PN6**
**Greg Andrews, Sci-Port: Louisiana's Science Center**
***Best Practices in International Collaborations***

In three 10-minute segments, presenters will elaborate on past successes and challenges in international collaborations. Michael Daut of Evans and Sutherland, which has produced over 20 fulldome shows for planetariums worldwide, will elaborate on the importance of defining objectives and holding strategic meetings with key personnel. Greg Andrews of Sci-Port and Giorgia Givone of Infinito (Torino, Italy) will discuss their very different experiences with two cycles of the Museums and Community Collaborations Abroad grant program; and Shawn Laatsch of 'Imiloa will elaborate on lessons learned during his collaborations with NAOJ (National Astronomical Observatories of Japan) and the Rio Planetarium. The panel will conclude with a combined summary of best practices to give attendees a foundation for success in international ventures.

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**2012-PN7**
**Tom Kwasnitschka, Seafloor Visualization Laboratory, GEOMAR —Helmholtz Centre for Ocean Research Kiel**
***Earth Sciences in a Planetarium Environment***

Planetariums have traditionally been places where the public was taught about the sky and astrophysics in general. Today, the wide adaptation of virtual globes and web map services is contributing to a new understanding of our planet—anyone is now able to compare local maps to satellite views and global imagery. How can planetariums embrace this more detailed view of our planet as part of the universe we regularly offer and how can we gain a leading role stimulating new impulses of earth science literacy among our patrons? Four speakers will present success stories and case studies of geoscience topics in a planetarium or dome:

1. Visualizing the Seafloor—The ARENA Project
(T. Kwasnitschka, GEOMAR)

2. Stories of Environmental Impact—The WorldViews Network
(Dr. K.C. Yu, DMNS)

3. Earth in Motion—Visualizations for "Dynamic Earth"
(Prof. D. Cox / R. Patterson, NCSA)

4. The Ground Beneath Our Feet—Geology in the Dome
(R. Wyatt, Calacademy)

Following the presentations, we will discuss the following practical aspects and invite the audience to participate:

1. Looking down, not up:
Major differences between astrophysical and earth science data.

2. Funding and political relevance:
How do you attract funding and why do these topics matter?

3. Synergy in content development:
People live in the places you are talking about!

4. Audience expectations and programming structure:
How do earth sciences fit your own curriculum?

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**2012-PN8**

**Lars Broman, Stromstad Academy**

***What General Public Astronomical Knowledge is Most Important?***

In the article *I do and I understand* the international R&D project Public Understanding of Astronomy (PUA) was initially presented in *Planetarian* 4/2009, starting with four reasons why PUA is important:

1. The earth is a lonely planet in a vast space, not as crowded as the impression one gets from science fiction movies. For humans to move from a destroyed earth to another hospitable planet is just impossible.

2. The earth is a planet alive with a dead sister and a dead brother. Venus is too hot for life due (also) to too much greenhouse gas, while Mars is too cold due (also) to too little greenhouse gas.

3. Our universe is 13.5 billion years old, the earth 4.5 billion years old and life on earth 3.5 billion years old—in sharp disagreement with the holy books of the Abrahamic religions.

4. Astronomy is a very fascinating science, much more so than the superstition astrology.

An interdisciplinary and international project on PUA was then proposed, and to date 13 researchers (including us three) from 10 countries have joined a project group. Our first task was to find out what the general public knows, and a preliminary version of a questionnaire with 15 questions was agreed upon and presented at IPS'10 in Alexandria. Today, this questionnaire has been translated into 12 different languages (including three different English versions). Two extensive studies have to-date been done, one in Italy (by Pablo Pellisier) and one in Latvia (by Janis Gedrovics) and will be published in due time.

The second task of the PUA project will be to ask professionals what general public astronomy they regard as the most important. PUA project group member Ernst van Groningen will coordinate a sub-task, asking astronomy researchers what they think. This IPS 2012 panel marks the start of a subtask, asking professional planetarians what they think. So, after some initial words by the three panelists, a questionnaire will be handed out to the auditorium and everyone is asked to give, in their view, the three (or more) most important questions in astronomy that they think the general public ought to know—and maybe subsequently try to include in their programs. The questionnaires are anonymous for those who prefer that, but all who write their email address will receive a summary of the answers received.

After the questionnaires have been collected, there will be time for some discussion between the audience and the panel. One crucial question might be: Do planetarians try to convey important knowledge to their audiences or do they for this-or-that reason concentrate on other items for their shows?

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**2012-PN9**

**Jack L. Northrup, Great Plains Planetarium Association**

***Directions in Education (IPS Education Committee)***

The purpose of this panel is to address movements and directions in astronomy education and planetarium education. These include the US National Science Standards and the uses of networking in instruction.

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**2012-PN10: Antonio Pedrosa, Navegar Foundation**

***Fulldome Essentials***

This session intends to present the basics around digital planetariums and in particular fulldome. It will be an introductory session, covering some fundamental subjects: What is fulldome, what is the current state of the dome, standards, the language of fulldome, animation in fulldome, real imagery for the dome, music and sound for fulldome and work flow. This session is mostly dedicated to those that want to start or are having their first contact with digital planetariums, and what are the basics around content production for the dome.

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**2012-PN11: Mark SubbaRao, Adler Planetarium**

***The Large Synoptic Survey Telescope***

The LSST is a revolutionary survey telescope that was listed as the top ground-based priority in the National Academies' Astronomy and Astrophysics Decadal Survey. The LSST will create a "movie of the sky", covering most of the sky visible from its location in Chile twice a week, for 10 years. This talk will discuss the scientific goals for the survey, the data products produced and the survey's education and public outreach activities. We will finish with a give and take session with the audience on how to best engage the planetarium community with LSST data and science.

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# papers

**2012-PP01**
**Björn Voss, Planetarium Münster, Westphalian State Museum of Natural History**
***Using 8k***

A small but growing number of planetariums employ an 8k resolution fulldome projection system, at an extra expense compared to standard resolution systems. Resolution being just one of many equally important parameters of a projection system, the question arises if 8k is worth it. Experience made with the 8k projection system at Münster Planetarium results in a "yes, but..." answer, based on the way the system is used, what kinds of shows are run and to what lengths one is willing to go at times.

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**2012-PP02**
**Carter Emmart, American Museum of Natural History**
***The Future***

The future of planetariums is something we can extrapolate from trends over this past decade of digital theater immersive imagery. From its roots in accurate 2D data visualization of sky to a decade's worth of authentic 3D astronomical and astrophysical data depiction, where might we as IPS be headed and how might our technologies assist in astronomy teaching beyond our institutional walls? Highlighting use cases of note and musing on foreseeable trends our community needs to be challenging industry to drive us toward an ever improving quality of virtual experience and understanding.

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**2012-PP03**
**Eric Frappa, Planetarium de Saint-Etienne**
***Saint-Etienne, First 3D Planetarium in France—Review after 6 Months of Operation***

The Saint-Etienne 3D Planetarium is the first of its kind in France. The aim of this paper is to share our experience with 3D in a planetarium. Under a 12m oriented and tilted dome, we use 2x6 BARCO SIM5R projectors combined with Infitec technology (passive 3D). After six operating months, 3D works well, the new thing has been well received by the public, we have re-released our last show in 3D with success, and the technology is definitely interesting in sky mode when showing volumetric data (asteroid belt, Oort cloud, stars, galaxy clusters). On the downside, our system luminosity is a bit on the short, 3D glasses provide narrow field, reflections and are expensive.

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**2012-PP04**
**Claude Ganter, Sky-Skan**
***Projectors and Dome Effective Contrast***

We examine here the interaction between video projector's native contrast and dome gain. A "fill factor" is introduced in order to characterize the type of scenery. The mathematical theory behind the computation of the integrated projectors and dome contrast is explained. Finally, simulations of dome original images will be shown in order to serve as a visual guide for selecting the best projection parameters with new planetarium installations.

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**2012-PP05**
**Thomas William Hamilton, HOSS Planetarium**
***The Planetarium Scholarship***

This paper describes the operations and goals of the Planetarium Scholarship Fund and the beneficiaries of its first year of operation.

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**20012-PP06**
**Tanya Hill, Museum Victoria**
***Big Kids Night Out***

What do you do when your facility is well-loved but seen as "only for kids"? How do you reach out to new audiences without diluting your reputation? At *Big Kids Night Out* we opened our doors for a night of fun for the over 18s by encouraging them to release their inner child. In this talk, I'll demonstrate how a range of targeted opportunities have successfully broken down barriers and introduced new audiences to Scienceworks and the Melbourne Planetarium.

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**20012-PP07**
**Scott A. Niskach, Evans & Sutherland**
***Beginners Guide to a Fulldome Planetarium***

A vendor neutral discussion for those who do not have fulldome experience and have questions about what's involved with building a new digital fulldome theater or renovating an existing planetarium. This is an informal session designed for open conversation about questions in building a new fulldome theater.

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**2012-PP08**
**Alan V. Pareis, Edwin Clark Schouweiler Memorial Planetarium**
***A Canticle Experience: Fulldome Immersive—Without Fulldome Video!***

A "mostly automated" traditional opto-mechanical planetarium (9.1m) combined a star machine, 11 virtual screens, video and Bliss Lights to create an engaging immersive experience.

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**2012-PP09**
**Lionel Ruiz, LSS Open Project**
***LSS Digital Planetariums, Nightshade and the Stratoscripts"***

The LSS system is using more or less common optical elements adjusted to fit with a beamer to produce a clean digital representation

of the sky given by a computer running Linux for a cost inferior at $3,000 in total. The goal of this presentation will be to learn how to adjust the optical elements altogether and what are the hidden possibilities of Nightshade in realtime and script mode.

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**2012-PP10**
**Patty Seaton, H.B. Owens Science Center**
***Lessons from Serenity***

Inspired by the popular U.S. Sci-fi series *Firefly,* this paper includes quotes from the series and its follow-up movie and anecdotally applies them to the planetarium industry. Designed to be both humorous and thought-provoking, come find inspiration applicable to you. "This is just a moment in time. Step aside and let it happen." (Inara, "Heart of Gold")

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**2012-PP11**
**David Beining, ARTS Lab @ University of New Mexico**
***At-Hand Physical Interaction in Arbitrary Multi-Display Environments***

Demonstration of interactive physics and perception experiments in immersive environments with novel input devices. We present NSF-funded research to make fulldome experiences and applications widely available and commercially viable. Our approach focuses on minimalistic development tools and calibration techniques to create immersive experiences from elements found "at-hand". See more: http://artslab.unm.edu/research/pfi

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**2012-PP12**
**Kyra Elliot, Travelers ScienceDome Planetarium**
***"From the Blue Planet to the Red Planet: Fulldome Production in a Small Facility"***

The Travelers ScienceDome Planetarium at The Children's Museum is one of only a few institutions in New England able to produce original animated fulldome content. This talk will be a follow up to *One Planet, Two Planets, Red Planet, Blue Planet: Tackling Digital Production with a Small Staff* in the March 2012 issue of *The Planetarian*. It will focus on the experience of producing "From the Blue Planet to the Red Planet" within NASA guidelines and with two people including a brief summary of the challenges of writing a compelling story/script that passed the NASA review. There will be a description of the evolution of our production capabilities and the process used to produce our fulldome animations. Production of *From the Blue Planet to the Red Planet* is funded by the NASA Compeitive Program for Museums and Planetariums (CP4MP #NNX10AK13G).

**2012-PP13**
**Chris Hill, Sliced Tomato Productions, LLC**
***Open the World of Custom Fulldome Videos***

Overview of fulldome video production industry—% animated, estimated production costs and time. How the above factors influence what is produced and available for planetariums to use. Production of fulldome with a camera and how it lowers and shortens the above factors, as well as how it will improve selections of fulldome videos going forward.

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**2012-PP14**
**Tim Horn, Morrison Planetarium, California Academy of Sciences**
***When CG isn't Enough: Real-World Imagery in Fulldome Production***

Real-world image capture provided foundational elements for the new fulldome production, *Earthquake: Evidence of a Restless Planet,* from the California Academy of Sciences. Motion-control footage with the RED EPIC allowed for videography of a three-story earthquake simulator, while edge-blended HD video and fisheye time-lapse enabled integration of real-world elements into complex CG environments. This talk will review the detailed production processes involved in capturing natural elements that serve to enhance a fulldome program.

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**2012-PP15**
**Warik Lawrance, Museum Victoria**
***Narrative Cinema and Film Language in Fulldome***

As planetariums worldwide continue to embrace the new frontier of fulldome the inevitable collision of narrative cinema and immersive reality calls out for a new screen language. The new planetarium show, *TILT,* was the first production in which Museum Victoria placed characters on screen for the entire show. This created a whole new set of design challenges and adaption of film language as never before.

Warik Lawrance, the production designer from *TILT* will address some of these challenges.

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**2012-PP16**
**Patrick McPike, Adler Planetarium**
***4k to 8k, the Adler Way***

The high resolution of Grainger Sky Theater pushed Adler's production group to retool its pipeline to create content specifically suited for the new theater. This paper will cover several concepts, techniques and lessons learned from its experience in 8k dome production. This includes moving from 4k to 8k production, the 8k workflow, the challenges and solutions faced in the initial production and using Adler's 8k experience to predict the future of planetarium show production.

**2012-PP17**
**Mark Paternostro, Adler Planetarium**
***Data Visualization, CG, Storytelling***

Commentary and Directors' notes exploring the challenges and rewards of integrating data-driven visualization with traditional CG animation to bring enhance scientific accuracy and cinematic realism to the production of fulldome storytelling. Talk will deconstruct a scene selection from the Adler Planetarium sky show *The Searcher* illustrating the production techniques employed to bring *The Searcher* story to life.

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**2012-PP18**
**Doug Roberts, Adler Planetarium**
***Highly Connected Planetaria: Enabling Next-Generation Production***

Adler's Grainger Sky Theater debuted in the summer 2011 with its opening show, *The Searcher*. This 8k show was created with a production model adapted from earlier 4k productions. The second show which just opened in May, 2012 was created using interactive software and up-to-date datasets from NASA observatories. We are putting into place tools to facilitate these live data-driven shows. Highly connected planetaria are likely to play a role in bringing up-to-the-minute massive datasets to the public in new ways. I will present our plans to leverage these assets at the Adler and to anticipate the trajectory of the development of this technology in the future.

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**2012-PP19**
**Doug Roberts, Adler Planetarium**
***Rendering Planetary Terrains Using Heterogeneous Data Sets***

We report on a project that allows museum and planetarium audiences to interact with the surface terrain of planetary bodies. The application allows for smooth flights or zooms from a planetary to a surface point of view. This is enabled by pre-processing the heterogeneous input data to allow real-time interaction on the current generation of commodity graphics cards. Interactivity is done with a variety of inputs, including physical and network-based interactions. It can work on a single machine or a cluster driving a tiled display or multi-channel planetarium dome or render out fulldome video.

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**2012-PP20**
**Mark SubbaRao, Adler Planetarium**
***Launching a Fulldome Camera Rig to Near Space***

This presentation will discuss experiments flying a high definition camera rig on a weather balloon to the near space environment. After a quick overview of the *Far Horizons* program at the Adler Planetarium, we will discuss some of the issues involved in attempts to create fulldome video of the flight. These include: the construction of a stabilization system, the design and mounting of the camera rig, the development of a computer vision based tracking system and the stitching of the acquired videos into fulldome frames.

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**2012-PP21**
**Adam Barnes, Houston Museum of Natural Science**
***The Powerful Mayan Astronomer***

The Classic Mayan astronomer played a critical role in Mayan society as he developed and implemented sky calendars to determine times for celebrations as well as the planting and harvesting of crops. His observatories were some of the most famous Mayan pyramids and temples. His observations connected the growing season in Yucatan to specific events in the heavens. 12 classic Maya structures in four major cities provided critical alignments. Planetarium visitors can experience each observation and the power it bestowed on the Mayan astronomer. When the prophecies of these powerful astronomers failed, the Maya faced a great apocalypse, long before 2012.

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**2012-PP22**
**Tony Butterfield, Houston Museum of Natural Science**
***Extremophiles and Exoplanets***

We are more optimistic about finding life beyond Earth than ever before. Astronomers have found hundreds of giant planets orbiting other stars and many smaller worlds as well. Meanwhile biologists have found microscopic life on Earth in places they never expected. As biologists dramatically expand the conditions where life can survive, astronomers are finding alien planets with environments suitable for life. We combine photography of the real-world environments of extremophiles with animations of newly-discovered exoplanets and artistic renderings from the Planetary Traveler Project to visit and identify Earth life that might thrive on Earth-size exoplanets like Gleise 581d, CoRot7b, Gleise 370b and Gleise 667Cc.

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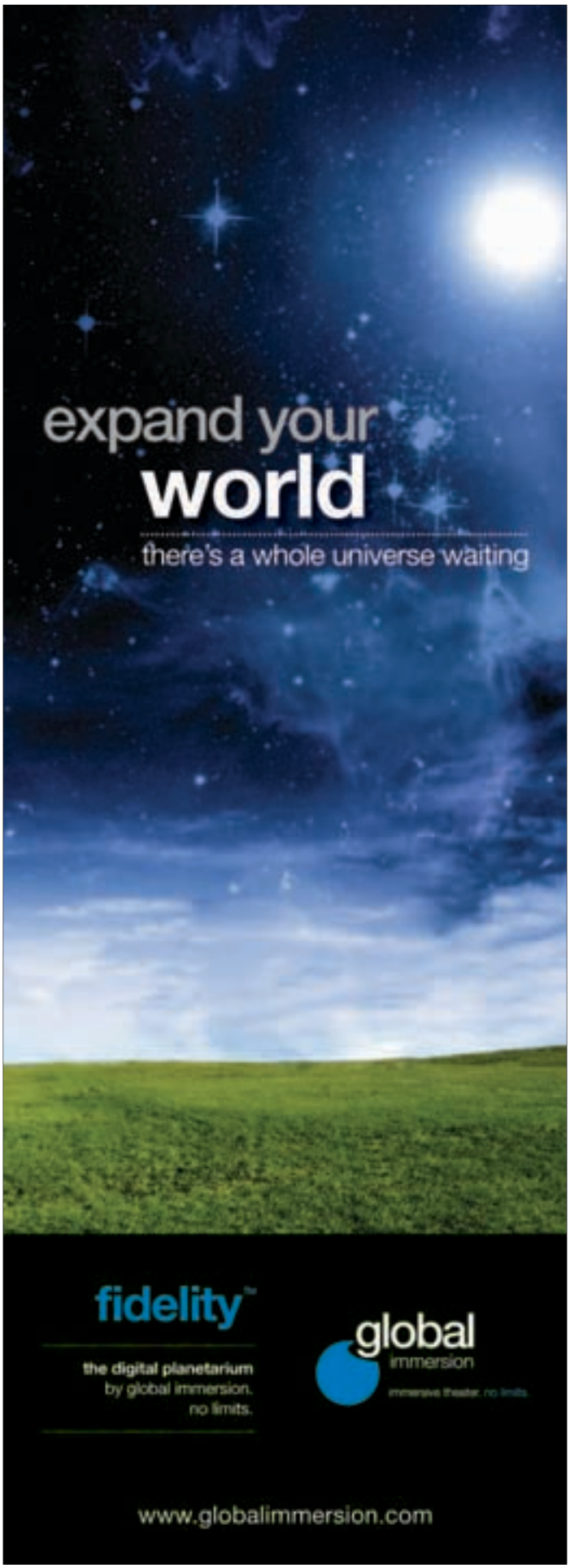
**2012-PP23**
**Katie Nagy, Smithsonian National Air and Space Museum**
***Live Science Lectures Under a Digital Dome***

With the goals of bringing a new type of live educational programming to our planetarium and highlighting current astronomy-related research done by Smithsonian scientists, the National Air and Space Museum debuted a new lecture series in fall 2011. In the weeks before each lecture, education and planetarium professionals collaborate with astronomers and planetary scientists to integrate immersive Digital Sky visuals into their presentations. Discussion will focus on what we've learned in our first year, audience response and plans for the future.




**2012-PP24**
**Carolyn Collins Petersen, Loch Ness Productions;**
**Dr. Constance Walker, NOAO**
***Losing the Dark: A Planetarium PSA about Light Pollution***

Planetariums and science centers are ideal places to inform the general public about the issues of light pollution. *Losing the Dark* is a 6-minute video PSA tailored to give audiences a brief look at the main issues about light pollution. Its official premiere is at the International Astronomical Union meeting in Beijing, China, in August. *Losing the Dark* is produced by Loch Ness Productions in coordination with the International Dark-Sky Association, with sponsorship from IPS and other donors. This talk presents the video, outlines its main educational concepts and describes the download distribution plan for both fulldome video and classic facilities.

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**2012-PP25**
**Carolyn Sumners, Houston Museum of Natural Science**
***Outposts and Analogues: the Future of Human Spaceflight***

Assuming we could make the journey, how would future astronauts live and work on each planet or moon in our solar system? What kind of outpost would we build that would support humans and take advantage of the astronomy views and natural resources of each location? We have designed well-researched outposts so we can see each planet through the eyes of humans living and working there. Our goal is to make each world more real by giving it a human context. To experience the future of human exploration, we also take audiences to current NASA training facilities where the Martian surface, a weightless asteroid and a deep space docking are simulated destination analogues on Earth.

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**2012-PP26**
**Marco Silva, Navegar Foundation**
***New Trends in Fulldome Projection***

The standard approach to project the output of a real-time application in a dome implies the access to its source-code and in general projection on a dome has been limited to movies and sky simulators. At Navegar, recent advances made possible to project the output generated by almost any real-time application without the need to develop a dedicated interface. This opens the ability to project a large set of other applications like web browsers, Google Earth, video-streams, Skype, games, among many others. This possibility not only contributes to open the horizons of planetariums, but also changes the paradigm of planetariums making them much more resourceful and powerful.

**2012-PP27**
**Jim Sweitzer, Science Communications Consultants, LLC**
***3D or not 3D?***

That is the question... on the minds of many planetarium directors and museum executives, at least. This presentation will outline the factors that make embracing stereo 3D an increasingly timely option. The technological imperative planetariums often face in serving their publics makes 3D an attractive option. When compared with the costs and challenges of going to very high resolution and/or contrast, 3D could well be the winner too. Finally, stereo show content will soon catch up and is perfect for engaging visualizations. I will explore the factors that directors and executives will want to weigh in making the decision to go 3D.

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**2012-PP28**
**Daniel Tell, Morrison Planetarium, California Academy of Sciences.**
***Free Software Training and Production in the Great Lakes Region***

In recent years, the increased availability of high-quality free software packages has made it easier than ever to produce content for planetaria. In the Great Lakes Planetarium Association, efforts have been taken to introduce and train planetarians in these programs to better enable theaters of any budget to improve their presentations. This will include an overview of our practices so far, the lesson plans and resources we have generated and are making available, as well as some of the fruits of our labors.

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**2012-PP29**
**Björn Voss, Planetarium Münster, Westphalian State Museum of Natural History**
***Strategies for Cooperative Show Production***

Due to financial limitations, most planetariums are barred from in-house show production or are limited to low-budget projects. A possible remedy is to share resources among cooperating planetariums. At Münster Planetarium, different approaches to cooperative show production have been tried, each with its individual advantages and drawbacks. One particulary successful project with just the right cooperation strategy is presented in depth.

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**2012-PP30**
**Andrew Johnston, National Air and Space Museum**
***African Art and Planetarium Programming***

The National Air and Space Museum is collaborating with the National Museum of African Art to offer programming related to the African Cosmos exhibition. Elements of the collaboration include educational programs at the African Art museum and the Einstein Planetarium at the National Air and Space Museum. This presentation describes the current project and explores new ways science and art institutions can work together to reach new audiences in Africa and the United States.

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**2012-PP32**
**Marian Vidovenec, Slovak Central Observatory**
***Astronomical Observations in Hurbanovo During the First Period of Its Existence (1871–1918)***

Observatory at Hurbanovo was established by Nicolaus Konkoly Thege (1842–1916) in 1871 as a private observatory. Thanks to his good connection with outstanding personalities in astronomy and producers of astronomical instruments all over the Europe, he equipped with modern instruments his observatory from its beginnings. Konkoly was a skillful man and he improved a lot of instruments used for his astronomical observations. His observing program was oriented mainly to solar observations, observations of planets, comets and meteorological observations. Later he provided spectra observations of comets and meteors. Well known are his drawings of the planets Jupiter, Mars and the red spot on Jupiter's surface.

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**2012-PP33**
**Ken Brandt, Robeson Planetarium and Science Center**
***Galileo was Right! Using Models to Show Venus Orbits the Sun***

This activity is useful for a quick, low cost method of demonstrating one of Galileo's observations using his telescope: the phases of Venus change with time and Venus appears to change size as well.

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**2012-PP34**
**Kristin Chon, Framingham State University Planetarium**
***What College Students Know (and Don't Know) About Astronomy***

Did you know that the big bang killed the dinosaurs? Or that Earth is the largest object in our solar system? College students, like the general public, have many misconceptions about astronomy. We all make assumptions about what we think our audience already knows, but are those assumptions accurate? I surveyed over 400 college students about their basic astronomy knowledge. In this talk I will describe the results from this survey and how we can use them to inform our planetarium presentations.

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**2012-PP35**
**Carter Emmart, American Museum of Natural History**
***Reaching Out Across Our Planet***

Simultaneous connection for teaching astronomy between planetariums and to schools has been proven with technology over the last decade, but how best to use this capability? What needs to be taught? How effective are our tools and how best to reach students

not yet sharing in the digital revolution? We will examine some use cases and events, and look toward a future of reaching out to a global community that stands to benefit from understanding how much we interdepend on one another.

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**2012-PP36**

**Steve Fentress, Strasenburgh Planetarium, Rochester Museum & Science Center**

***Time is of the Essence: NASA Science and Technology on the Calendar Progress Report***

Funded by grant no. NNX10AD87G from the NASA Competitive Program for Science Museums and Planetariums, "NASA Science and Technology on the Family Calendar" is a three-year project to engage preteens and their families in science learning and with them to produce a set of family-engaging NASA-themed events. Partners include the Rochester Institute of Technology, the Genesee Community Charter School and the Rochester City, Rush-Henrietts and West Irondequoit public school districts, with evaluation by the Institute for Learning Innovation. At the two-year mark, achievements and challenges will be described and recommendations offered for similar future projects.

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**2012-PP37**

**Javier Armentia, Planetario de Pamplona**

***Connecting Planetaria to Enhance Production and Content. Networks at a Glance in Spain.***

The digital invasion of the planetarium dome has established new standards, but also a new conception of the production process of planetarium shows. It is not always possible for medium and even large facilities to accomplish the production of a show "at home", as it was the usual way in last decades. Of course, ideas and scripts can also be created by the professionals working at the planetarium, often with the collaboration of professional astronomers and researchers from different institutions. But creating the visual scenarios, the animations and all the post-production issues that fulldome systems require needs not only expensive equipment and time for rendering and other processes but also A/V experts acquainted with the immersive digital media.

In Spain, 15 years ago, a technical network of planetarians began to work together with the aim of getting not only standards for dome shows and production. At the time there were no digital planetariums, and most of the shows involved photographic scenes and video in some places of the dome, besides an opto-mechanical star projector. Some planetaria, Madrid, Pamplona, A Coruña, Cuenca, Granada... began to move into digital production for the visuals and soundtracks. Time passed and almost all the planetaria changed in some way or another to the digital fulldome systems.

But the network kept working together, with collaborative projects that began to be important. In 2008, preparing the IYA2009, a team of 14 planetaria got involved in the production of *Evolution,* a show commemorating both Galileo and Darwin, that received a budget from the Spanish Ministry of Science and Innovation, as a means for public understanding of science. We explain the mechanisms for achieving such projects, that have succeeded to create different shows, like: *Starry Night at the Museum* (2011) and now *Energy for Life* (2012).

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**2012-PP38**

**Jacob Ashong, Ghana Planetarium**

***Ghana Planetarium: Turning Our Dreams Into Reality***

Our dream to build a science centre and planetarium in Ghana began almost 30 years ago. After visiting planetariums in other countries, we realized that our country needed a planetarium to inspire and educate our young people. Volunteers from several nations encouraged and helped us build our planetarium and we had our grand opening in January of 2009. We are the first public planetarium in Ghana and, as far as we know, in all of West Africa. In the last three years with the help of volunteers, both from Ghana and abroad, we have inspired a new generation of students to look to the stars, started an astronomy club, helped a local university begin an astronomy course, updated the astronomical knowledge of teachers and encouraged those teachers to form science and astronomy clubs. The dream is alive in Ghana!

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**2012-PP39**

**Daniel Audeon, APLF**

***WPD IPS/APLF (Worldwide Planetariums Database)***

The Worldwide Planetariums Database (WPD) is a list of all planetariums around the world (about 2300) and all their equipment.

—Permanent updates.

—A full description for each planetarium with pictures (building exterior and interior of the dome), their system, their installation, all equipment (brands and models), exact location (with Google Maps or geographic coordinates)

—Free online on the APLF web site or under Google Earth

—Differents Tools can be used :

- Different kind of lists on web site
- Download kmz file (for Google Earth)
- Query for database :
  *By country*
  *By size*
  *By brand (manufacturer)*
  *By system (Optical/digital/ hybrid/stereoscopic)*
  *Tilted or oriented*
  *By number of seats*
  *Etc...*

**2012-PP40**

**Kassim Bahali, Planetarium Al-Khawarizmi**

***The Role of Al-Khawarizmi Astronomy Centre as an Astronomical Educational Centre***

This paper will discuss the role played by Al-Khawarizmi Astronomy Centre in Melaka (Malaysia), as an astronomy education centre and to discuss the facilities here and the education activities carried out to specific target groups. Al-Khawarizmi Astronomy Centre consists of an observatory, a planetarium, a robotics observatory, a training centre and accommodation.

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**2012-PP41**

**K.P.K. Koralagama, Sri Lanka Planetarium**

***Sri Lanka Planetarium***

Sri Lanka is an island in the Indian Ocean. It is 65,000 square miles in size and the population is 21 million. Sri Lanka has over 30 universities, but there is one planetarium for the whole country. Thousands of students visit it daily. Seating capacity is 570 and dome diameter is 23.3m. The Carl Zeiss Jena 4 projector and several other additional projectors are used. Some further facilities are night sky observation camps throughout the year in rural areas, mobile planetarium presentation and Astro IT unit. A digital mobile planetarium was bought last February. A fulldome projector system will be installed very shortly. There is a proposal to establish a museum too. As head of the planetarium, I wish to further develop it by establishing an observatory by 2020.

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**2012-PP42**

**Steven Ngai, Macao Science Center**

***The Guinness World Record Planetarium—Macao Science Center***

Macao Science Center has obtained the Highest Resolution 3D Planetarium of Guinness World Record at Jan 2010, which uses 12 4k projectors to give an equivalent resolution of 8k x 8k pixels in 3D stereo. It also equips with multi-lingual channels and interactive buttons, providing languages selection, interactive learning, Q&A and voting applications. Since daily operation involves the 3D glasses and headphones are different, operation and live sky show experience will be shared in order to give an idea how it is operated. We also create our own pre-render sky show and put the IMAX digital film onto the dome, the production work flow of its own 8k stereo sky show and IMAX digital format conversion will be demonstrated as well.

**2012-PP43**

**P. Iyamperumal, B.M. Birla Planetarium, India**

***Astronomy Dissemination Activities in Southern India***

Science Centres are influential in providing education on modern science and new technologies. It is obvious that formal education has an important role to play. In this regard, Tamilnadu Science and Technology Centre is actively engaged in supplementing and complementing formal science education imparted in schools and colleges. Knowing that children have various notions, including unscientific thoughts, Tamilnadu Science and Technology Centre, using its Science Centres and Planetariums at Chennai and Tiruchirappalli, is continuously engaged in promoting the activities described in this paper, to make them rational thinkers and to develop their personality. Astronomical events are being used at Tamilnadu Science and Technology Centre to promote scientific knowledge on astronomy. Experimentations arranged during the events help them to develop inferential knowledge. Further steps are being taken to discover the traditional knowledge and to disemminate and protect them. Details are presented in the paper.

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**2012-PP44**

**Kaoru Kimura, Japan Science Foundation/Science Museum, Tokyo**

***Why Science is "Not Interesting"... What is the Problem?***

The proponent carried out a survey of elementary school teachers in the 2011 season. The survey consisted of relatively simple astronomy-related questions. Answers to these questions revealed an apparent abundance of misconceptions about the sun and the moon. From this, it may be deduced that many elementary school teachers are ill-prepared to teach science. Moreover, they are indifferent to the subject. Why? How do we construct an approach to the teachers and to the wider public for astronomy education?

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# papers

**2012-PP46**
**Carolyn Sumners, Houston Museum of Natural Science**
***We Teach, But Do They Learn?***

The Houston Independent School District asked the Burke Baker Planetarium staff to collect pre-post assessments to determine what its students were learning from their planetarium experience. This assessment covered three grade levels and three very different planetarium programs: *Secret of the Cardboard Rocket* at second grade, a live presentation at fourth grade and *Mayan Prophecies* meeting social studies learning objectives at sixth grade. Test results indicate the strengths and challenges in all three programs and provide a methodology for other planetarians to consider in evaluating student learning and in determining the most effective planetarium learning experiences.

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**2012-PP47**
**Dave Hostetter, Lafayette Science Museum**
***Sidewalk Astronomy: Bridge to the Universe***

Sidewalk astronomy can be a relatively inexpensive, easy and effective outreach program for any planetarium. Here are some suggestions on how to do it and what to expect (good and bad)!

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**2012-PP48**
**Jim Sweitzer, Science Communications Consultants, LLC**
***International Astronomical Union's Astronomy for the Developing World***

In January 2008, the International Astronomical Union (IAU) set out to develop a visionary decadal strategic plan entitled *Astronomy for the Developing World*. In 2011, it became formalized with the establishment of an Office for Astronomy Development in Cape Town, South Africa to lead and coordinate the efforts of volunteers and programs. The IPS was represented at the initial organizational meeting to help find ways to assist the IAU's program with the expertise of planetarians and to explore avenues to bring planetariums to places that have never benefited from their use in education. This presentation will introduce IPS members to this new IAU program and to show how they might lend their expertise to this important work.

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**2012-PP49**
**Kerry Handron, PublicVR**
***Virtual Egyptian Temple in a Dome***

We present a historically accurate Temple from Egypt's New Kingdom. This virtual tour utilizes many of the techniques of an effective live star show as audience members are invited to imagine traveling back in time and visiting the temple on a festival day. This is the product of more than a decade of development and hundreds of shows. We will point out some specific points where the visual immersive nature of the dome is shown to be especially effective and give resources and contacts for getting the tools to put the world on your dome.

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**2012-PP50**
**Kerry Handron, PublicVR**
***Virtual Forest: Student Directed Exploration in the Dome***

Students take control and navigate through a Northeastern temperate forest identifying and measuring trees, measuring the canopy and listening to bird songs. Advancing the forest 50 and 100 years supports discovering succession and measuring changing carbon storage. Switching between summer and winter yields insights into understanding the canopy. We will note results from programs for middle and high school audiences as well as informal groups and share resources for you to put the forest in your dome.

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**2012-PP51**
**Shoichi Itoh, National Astronomical Observatory of Japan**
***International Festival of Scientific Visualization & Dome Festa***

Since 2007, the National Astronomical Observatory of Japan has produced the program *Science Cultural Promotion through Astronomy Images* with the goal to popularize science culture for citizens particularly through astronomy images. Part of this included the founding in 2009 of the International Festival of Scientific Visualization (IFSV) and Dome Festa. We will host the 3rd IFSV from August 1st to September 30th this year at various planetariums and science centers in Japan and Dome Festa on September 22-26th at Sofia Sakai Planetarium, Sakai, Osaka. We would like to report on these programs and invite the IPS community to join us.

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**2012-PP52**
**Ryan Wyatt, Morrison Planetarium, California Academy of Sciences**
***Earthquake: The Making of a Geology Planetarium Show***

For its third full-length fulldome production, *Earthquake: Evidence of a Restless Planet,* The California Academy of Sciences eschewed stars in favor of putting our planet in our planetarium. The 22-minute program introduces audiences to a perspective on Earth as a geologically-active world in which humanity must make choices to ensure its prosperity. To create the program, the Academy's visualization studio recreated a variety of environments, ranging from a historically-accurate representation of 1906 San Francisco to state-of-the-art simulation of ruptures along the San Andreas and Hayward Faults. This talk reviews the storytelling and visualization challenges encountered during the production.

**2012-PP53**
**Javier Armentia, Planetario de Pamplona**
***School of Stars: Combining Fulldome Shows with Live Presentations***

The educational team of the Pamplona Planetarium is preparing a new edition of our *School of Stars,* our proposal to the Spanish educational community. Next school year we are presenting new contents, new fulldome shows and brand new didactic guides specifically thought for students from 3-18 years old. In this presentation, we'll talk about our fulldome shows (13 different titles), our strategies to catch the attention and to motivate students in our live presentations and about our didactic guides designed to complement the planetarium experience with their own work in the classroom. Everyone is welcome to our *School of Stars*.

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**2012-PP54**
**Aria Iuchi, Katsushika City Museum**
***Real-time Show Production at Katsushika City Museum***

In 2007, our museum introduced digital planetarium "DigitalSky2" in addition to conventional planetarium. It was the first system that installed "Digital Universe plug-in" in Japan. While many other planetariums in Japan are showing fulldome video, we have been adhering to produce and perform original, real-time, live shows. Because we do not think that a digital planetarium is a movie player, we believe that it is a simulator of the universe. We produce over 10 real-time live shows per year, public shows, music shows, school shows, science lectures, live concerts and so on. In this presentation, we introduce our activities and some shows in Katsushika City Museum.

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**2012-PP55**
**René Rodigast, Fraunhofer IDMT**
***3D Sound for Star Trips in Jena***

In November 2011, the Zeiss Planetarium Jena introduced a new projection and 3D sound reproduction system. The new sound system was fitted to the needs of today's planetarium operation and workflows. The paper introduced the background and challenges of this project, as well as the functional principles of the sound system and object-based 3D sound production. The system design and configuration, the integration with the projection facilities and the processes of content production and performance are also discussed.

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**2012-PP56**
**Lucia Cristina Sendon, Gallileo Gallilei Buenos Aires City Planetarium**
***The Experience of Live Shows***

The incorporation of new technologies has caused a change in the dynamics of planetary events, especially those dedicated to children and adolescents. Computed animation, audiovisual resources are so shocking that do not give much room for dialogue and interaction. The Buenos Aires Planetarium has a long tradition in live entertainment with the added value of public participation. The live shows make it possible for the Planetarium to still retain its essence and remain a popular science center, especially in the field of astronomy. It is not comparable to a movie theater or a classroom because it is not even a documentary film project of formal school classes. The paper is intended to maintain the essence of the planetarium.

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**2012-PP57**
**Dale W. Smith, BGSU Planetarium**
***Give Me a Live Program!***

An unusually large fraction of school groups this year have requested live rather than pre-recorded programs. I will describe some of our live programs and some aspects of live programs that may make them attractive to teachers.

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**2012-PP58**
**Carolyn Sumners, Houston Museum of Natural Science**
***Shackleton Station: Exploring Sustainable Futures***

Unity 3D provides a platform for real-time interactive fulldome large-group immersive experiences. We have determined that students can work in teams to explore an environment in the dome, but must be challenged by an engaging question. The more complex the question, the more effective the fulldome simulation can be in letting students form their own conclusions. Two different interactive adventures are being developed: *Ghosts of Tikal* and *Shackleton Station*. Groups explore each location, looking for clues about how humans survived and thrived in these very different isolated environments. Through this interaction, students discover that the Mayan city of Tikal and a lunar colony at the South Pole share the same challenges in managing resources and sustaining a population.

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**2012-PP59**
**Mark Webb, Adler Planetarium**
***Live Presentation at the Adler Planetarium***

With two planetarium domes in operation, the Adler will present more than 6,500 astronomy programs next year. Nearly half, 47%, will feature a live presenter. This paper examines the variety of programming, audience response and operational issues of supporting live programs.

**2012-PP60**
**Donna C. Pierce, Highland Park Pierce Planetarium**
***Shakespeare in the Dome***

The thought that man is a cosmic being, a fragment of a star, is one that Shakespeare shares with mankind. "He has clothed in words of beauty and dignity the mystery of human destiny." As planetarium directors we have an audience just waiting to come as Shakespeare is required reading in most school districts!

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**2012-PP61**
**Jonn Serrie, Future Music**
***Musical Content Licensing in the Planetarium***

In this paper, I will be discussing music licensing procedures and requirements and how they may apply to the planetarium. We will take a look at categories and styles of music libraries and how using a music library can be of maximum value in terms of ease of use and streamlining of paperwork.

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**2012-PP62**
**Ann Bragg, Anderson Hancock Planetarium / Marietta College**
***The (MC)² Science Collaborative and Ohio Standards-Based Planetarium Programs at the Anderson Hancock Planetarium***

For the past two years, I have been involved in a collaboration between Marietta College and Marietta City Schools. The goal of the collaboration is to provide opportunities for all K-5 classes within the district to visit campus and/or receive a visit from a college faculty member in order to engage in activities aligned with Ohio's Earth & Space Science Indicators, part of Ohio's Academic Content Standards. I will discuss the work of the collaboration to date, efforts to expand the program into other areas of science and plans to address the revised Ohio Academic Content Standards.

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**2012-PP63**
**Noreen Grice, You Can Do Astronomy LLC and Dennis Dawson, Western Connecticut State University**
***STEM Stars: How Underserved Middle School Students Created Planetarium Shows***

The Danbury (Connecticut) public school system and Western Connecticut State University collaborated on a three-year grant funded by the National Oceanic and Atmospheric Administration (NOAA). The STEM Summer Experience Grant (2010-2012) targeted 20 disadvantaged, minority and female middle school students with the goal of exposing them to activities and hands-on exploration in topics of science and technology. Astronomy was one of the topics covered in the NOAA grant.

Many of the students had never attended a planetarium show before, yet they worked as a team to research and create their own planetarium show. The students presented their show on a special family night at the WCSU Planetarium. Parents and students expressed excitement about visiting the WCSU Planetarium. The authors believe this sort of course could be offered at other planetariums as a *bridge to new beginnings*.

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**2012-PP64**
**Tanya Hill, Museum Victoria**
***Can Graphs Be Beautiful?***

Astronomy is a lucky science. We have such wonderful imagery to share with the public and excite their imaginations. So is there a place for graphical information as well? I will share with you the graphs that I love to include in my presentations. We will explore how graphs can add interest to your topic and discuss methods that will make graphs appealing to your audience.

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**2012-PP65**
**Jack L. Northtup, Dr. Martin Luther King Jr. Planetarium**
***Planet Properties through Student Productions***

At times, teaching students information about the planets is like preparing for a game of Trivial Pursuit. I used the goal of the students designing their own planet as a tool to learn the properties of planets, not just memorizing facts.


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Night Of The Titanic 3D
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# posters

**2012-PS01**

**Giorgia Givone, Associazione Apriticielo—Infinito Planetarium**

***Infinito: An Unconventional Use of the Planetarium***

The digital planetarium becomes the ideal place for new communication techniques: shows are created on the most current scientific topics and are continually updated according to the newest discoveries. Then the planetarium can be used as an instrument for creative workshops for children. Last, but not least, the digital planetarium becomes a real theater where the audience and the actors are immersed into the scene projected on the dome.

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**2012-PS02**

**Antonio Pedrosa, Navegar Foundation**

***The Workshop and Festival in Immersive Cinema 2012***

Navegar Foundation has been developing substantial efforts in the organization of conferences, workshops and festivals in the field of fulldome. We would like to present in this session a double event that is going to be held in October, at the Espinho Planetarium in Portugal. It's the Workshop in Immersive Cinema followed by the Immersive Film Festival, that will take place from the 2nd to the 7th October 2012. The workshop will gather a group of very knowledgeable people in the immersive film field, addressing many aspects involved in the production of fulldome content. The Festival will screen many of the most recent productions, both short clips and full shows.

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**2012-PS03**

**Mark SubbaRao, Adler Planetarium**

***The Science Behind The Searcher***

*The Searcher* was the initial production in the Adler's renovated Grainger Sky Theater. The story is told from the point of view of an Alien searching for his lost civilization. To reinforce and extend the science that went in to the production, a mini-exhibit of six posters were created and placed at the exits of the theater. These interactive posters contain visual barcodes allowing planetarium visitors to play back scientific visualizations on their smartphones. This meta-poster describes the creation and effectiveness of this show support strategy.

**2012-PS04**

**Aase Jacobsen, The Steno Museum, University of Aarhus**

***Vacation in Space: An Educational Program for Grades 4-6***

Every year many school groups visit The Steno Museum and join one of our educational programs. In the new *Vacation in Space* the students are going to be engineers building a recreation center in space. In the planetarium they will get knowledge about gravity, astronauts and living conditions in space. They will decide which planet or moon to build on or orbit around using The Magic Planet Globe. Finally, they get to choose between 10 events, where they will have to deal with solar storms, energy savings, arrange exploring tours for the tourists or hire new staff.

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**2012-PS05**

**Elizabeth Klimek, NMSU Astronomy Department**

***Adventures in Public Outreach: An Astronomy Grad Student's Perspective***

I am fortunate to be part of a scientific research department that is highly active in public outreach. Here, I describe some of the public outreach projects I have recently been involved in as a graduate student in the New Mexico State University Astronomy Department. One such project involves establishing a partnership with the Oñate Planetarium, the only planetarium in Las Cruces, NM.

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**2012-PS07**

**Michael P. McConville, The Planetarium at Seminole State College of Florida**

***The Electronic Universe: Using Social Media in the Planetarium***

The emergence of online social media has forever changed how we communicate and interact with one another. There are now more avenues than ever for reaching audiences with information that matters to them. We'll explore the inner workings of some of the most popular social media sites as well as some lesser-known sites that may still be great ways to reach the public. Topics will include the history and reach of social media, tips and tricks for fully utilizing the potential of each site and a selection of best practices.

**2012-PS08**

**Benjamin Mendelsohn, West Valley College**

***Undergraduate Astronomy Students' Worldviews and Beliefs About the Role of Science in Society: Initial Results***

Presentation of initial results of new research to uncover general education astronomy students' worldviews and their ideas about the role science plays in society. In Spring 2012, students' written responses were collected to several open-ended, provocative questions about the impact science has had in areas such as the economy, their daily lives and their fundamental beliefs about the nature of reality.

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**2012-PS09**

**Ka Chun Yu, Denver Museum of Nature and Science**

***Worldviews Network: Initial Evaluation Results from Bioregional Community Dialogues***

Planetariums are in the unique position to convene and support community dialogues surrounding local ecological impacts of global change. The Worldviews Network (www.worldviews.net) is a collaboration of informal science institutions (ISIs), researchers, and educators creating immersive experiences in modern digital planetariums to place Earth within its cosmic context and connect audiences with ecological and biodiversity issues in their local region. The project links Network partners with community-based organizations to co-produce interactive planetarium programs for promoting ecological literacy that show processes and interactions across time at cosmic, global and bioregional scales. The professional development strategy supports a national network of partners in the areas of technology skills, pedagogy and content knowledge. Based on video and written assessment feedback from visitors of our first Worldviews events, this poster presents initial evaluation findings about the impact that these strategies are having on our audiences and partners. These findings show that engaging the public and NGO partners in sustainability and design dialogues framed with immersive visualization is a powerful way to maintain the relevance of ISIs within their communities.

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**2012-PS10**

**Miroslav Broz, Hradec Kralove Observatory and Planetarium**

***Galactic Educational Trail and Other Projects of the Hradec Kralove Observatory***

A consistent scale model of the Solar System (a so called "planetary trail") is an essential tool to fully understand sizes and distances of the Sun and planets. We extended this concept to our Milky Way Galaxy too. In the 1 : 180e12 scale, we installed 12 stops with information tables in the beautiful surroundings of the Hradec Kralove Observatory.

We describe major well-known object like Pleiades, Orion Nebula, Crab Nebula, M22 globular cluster and briefly discuss extra-galactic objects (e.g. the Large Magellanic Cloud). The total length of the trail is 9.5 kilometers.

We also introduce an ongoing project of the new planetarium (including a new building) which is to be equipped with a fulldome digital projection system. This investment is co-financed by the EU Structural funds, Hradec Kralove region and the Czech Republic state budget.

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**2012-PS11**

**Jiri Dusek, BRNO Observatory and Planetarium**

***We Do Not Teach, We Inspire!***

The BRNO Observatory and Planetarium has been organizing an Internet Course of Astronomy Basics since 2010. This e-learning project is focused on pupils and students from all the Czech Republic, who are older than 13 years of age and have acquired the basics of mathematics and physics. The course consists of 92 chapters divided into two parts. The participants will acquire information about the events in the sky, learn to observe the night as well as the day sky and will find answers to various questions.

The course has been available since July 2011 on www.hvezdarna.cz/astrokurz (in Czech, we are thinking of an English version).

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**2012-PS12**

**Adam Fišer, Johann Palisa Observatory and Planetarium, VŠB—Technical University of Ostrava**

***Science Education at Johann Palisa Observatory and Planetarium***

After more than 30 years of showing the beauties of the night sky to the public, Johann Palisa Observatory and Planetarium commits itself to new activities. The complete reconstruction and conversion within the next two years from now will bring unique ways of teaching the kids and youth at our interactive exhibition gallery and a classroom. Our new educational program includes workshops called Science Fiction and Science Facts, where students will learn more about the (un)realities of "movie physics", and will be given an opportunity to practice related physics experiments.

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**2012-PS13**

**Alan Gould, Lawrence Hall of Science**

***The New IPS Website***

The new IPS website has many features and capabilities that IPS here-to-fore has contemplated but never actualized. Thanks to decisive action by IPS Executive branch, we now have lots of interesting capabilities for communication among IPS subgroups, including committees and special interest groups. This poster is a summary of new IPS website features and an invitation to partake of its capabilities, and even join the IPS Website Committee to help make the IPS website as useful as it possibly can be.

**2012-PS15**

**Kang Hwan Lee, Gwacheon National Science Museum, Korea**

***History and Current Status of Planetariums in Korea***

The first planetarium in Korea appeared in 1969. Since then, about six new planetariums have been built per year in average. Now, there are more than 70 planetariums in Korea, and most of them are equipped with digital system. About half of the planetariums are located in science museums and science centers. We will introduce the history and current status of planetariums in Korea. In addition, we will introduce the plan of 2012 International Planetarium Movie Festival that is to be held in Gwacheon National Science Museum in October. The first IPMF in 2010 was quite successful and many Korean planetariums purchased movies presented there. IPMF 2012 will be a good opportunity to choose proper movies for planetariums in Korea.

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**2012-PS16**

**Miroslav Otisk, Johann Palisa Observatory and Planetarium, VŠB—Technical University of Ostrava**

***Hardware and Software Used in the Observatory and Planetarium Johann Palisa***

Types of devices used in the planetarium performance. Warping realtime software solutions for dome projections and stereoscopy.

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**2012-PS17**

**Marian Vidovenec, Slovak Central Observatory**

***Poloniny Dark-Sky Park Slovakia***

Dark-Sky Park is located on the territory of the Poloniny National Park, which has exceptionally low density of habitation. As it is also the less frequently visited national park in Slovakia, the human influence to its environment is minimal. The Park rests on the borders with Poland and Ukraine. Concerning the light pollution, the Poloniny National Park is the darkest area in Slovakia. The 49th parallel passes through the Park. The astronomical observatory and planetarium at the Kolonica saddle is situated on the territory of the Poloniny Dark-Sky Park. The main instrument is VNT – the Vihorlat National Telescope with the primary mirror of 1 m in diameter.

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**2012-PS18**

**Paul Zeleski, Campbell County School District Planetarium**

***Integrating iPods Into the Planetarium***

We have developed a software to allow students to be actively engaged in the presentation at our planetarium. It is still in the early stages, but is very promising. When fully integrated students will be able to independently access information, be quizzed as individuals or groups, draw the constellations and even control presentation and planetarium itself (within the desire of the presenter). It can also allow for better data gathering and audience guided shows. With the inclusion of the iPods students can learn using visuals, audio and kinetics.

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**2012-PS19**

**Tomas Graf, Johann Palisa Observatory and Planetarium, VŠB—Technical University of Ostrava**

***Stereoscopic Projection in Planetarium—a Fad or a Long-term Trend?***

A brief review of various kinds of the stereoscopic projection and the consideration of their use in planetariums. Information about the installation of the widescreen stereoscopic projection (3D) Infitec in planetarium in Ostrava (Czech Republic) in 2010. The description of the dramaturgy of shows which contain the stereoscopic projection elements. Objective benefit for a visitor and experiences gained during the two year-long functioning which are based on the questionnaire research.

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**2012-PS20**

**Torvald Hessel, Austin Planetarium**

***Austin Planetarium: The Path to Reality***

The Austin Planetarium has made some major progress in the past year by partnering with KUD International and developing the project as part of a mixed-use development. We have come significantly closer to securing the site. Plus, as part of the financial structure, the Austin Planetarium will receive $31 million towards construction.

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**2012-PS22**

**Patricia Shih, Shih Enterprises, Inc.**

***Songs in the Key of Earth—The Only Planet with Love***

A new planetarium show addressing care and love for the Earth and each other.

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**2012-PS23**

**Wendy Ackerman, Maryland Science Center; Patricia Seaton, H.B. Owens Science Center**

***Maryland Journeys to New Horizons***

What's designed, manufactured, controlled and supported by several different teams of scientists and educators in the state of Maryland? If you answered: the New Horizons mission to Pluto—you are correct! The mission's primary objective—to explore the third zone of the solar system, Pluto and the Kuiper Belt region—is yours to share through creative education and public outreach efforts. Science teams from the Johns Hopkins Applied Physics Lab of Laurel, MD and the NASA-Goddard Space Flight Center of Greenbelt, MD partner with education teams from the Maryland Science Center of Baltimore, MD and the Howard B. Owens Science Center of Prince Geoge's County, MD.


New Horizons collaborators are making two outreach resources available to you. First, the planetarium program *New Horizons: Bridge to the Beginning* explores the design process of the spacecraft by looking for clues in the sky. Second, a program series for Science on a Sphere is in production and the first installment is ready for download.

Come hear how you can acquire these outreach resources and learn what future projects are planned by our Maryland partners—all while the New Horizons spacecraft closes in on its 2015 arrival at Pluto.

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**2012-PS24**
**Bob Bonadurer, Milwaukee Public Museum**
***Cosmic Colors: New Show From GLPA***

*Cosmic Colors: An Adventure Along the Spectrum* is a new fulldome and traditional planetarium show from the Great Lakes Planetarium Association (GLPA). Highlights of the show will be detailed. The show is available at a nominal cost. *Cosmic Colors* is 31 minutes long and targeted for families and school groups 4th grade and above.

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**2012-PS25**
**April S. Whitt, Fernbank Science Center**
***Envision Venus: A Transit of Venus Workshop for Art, Music and Science Teachers***

Partnering with a local university, Fernbank Science Center offered teacher workshops for collaboration among music, art and science teachers. Participants learned kinesthetic teaching tools, studied moon phases and extended that knowledge to the 5 June transit of Venus.

# workshops

**2012-W01**
**Jeff Bowen, Bowen Technovation**
***Modern Instructional/Event Presentation Technologies for Immersive/Planetarium Theaters***

The modern design for a domed theater should include extensive audio-videocontrol capabilities for instruction, special events and other multimedia uses. This package is one of the most overlooked parts of theater upgrade or new construction design. It is important to futureproof the design so as to avoid potential obsoletion. Discussed examples include: VGA obsoletion. Intel and AMD have come to an agreement to phase out computer VGA connections beginning in 2013 and expect the technology to be off all their product lines by 2015; Analog Sunset. All BluRay players have utilities burned into their chipset that will automatically turn off (or downscale to super low res) the component, composite, VGA and Svideo outputs on December 31, 2013. That means they will only output HDMI or another digital format. Jeff Bowen and Mike Grznar have designed dozens of packages for theaters that head off these and other issues and enhance the flexibility of our facility. A workbook will be provided and attendees will enter drawing for a Kindle Fire loaded with space science apps.

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**2012-W02**
**Karrie Berglund, Digitalis Education Solutions, Inc.**
***LIPS: Live Interactive Planetarium Symposium—Past, Present and Future***

This workshop will: discuss the history of LIPS, why it was started and by whom; provide an overview of what happened at LIPS 2011; and cover plans for the future, both short term for LIPS 2012 (August 7-9) and longer term.

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**2012-W03**
**Julia Plummer, Pennsylvania State University**
***Interacting with Your Audience Using a Modular Planetarium Program***

Bring back (or enrich) discussion, live teaching and interaction in the planetarium experiences you provide your audiences! This workshop will demonstrate an example of how to incorporate live interactive planetarium teaching with a planetarium program that has been designed in a modular nature. The program we present targets grades K-2 and focuses on observations of the moon, but the methods could be applied to other content areas and age groups.

The workshop will demonstrate live interaction lessons that could be used in between the pre-recorded modules of the program described above or as stand-alone lessons. Further, additional related hands-on activities will be demonstrated and discussed to round out a complete learning experience on lunar observations for early elementary students.

**2012-W04**
**Jose Francisco Salgado, Adler Planetarium**
***Science and Symphony Films***

Astronomer and visual artist José Francisco Salgado combines visual arts with music to produce science films that engage audiences and inspire them to learn about Earth and the Universe. These films have been presented with live orchestral music 75 times and have reached more than 140,000 people in 14 countries and in all seven continents.

In this workshop, Dr. Salgado will give details about the creative process for producing these science films where music plays an integral part of the audiovisual experience instead of being a mere background. He will also discuss how such films offer a unique educational opportunity to reach a broader audience in unconventional EPO venues such as orchestra halls. Excerpts of the films will be shown.

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**2012-W05**
**Jon U. Bell, Indian River State College, Hallstrom Planetarium**
***The Theremin, the Planetarium and You***

The Theremin is the only musical instrument you play without touching. It was invented in 1919 by Lev Termin (Leon Theremin), and after a decade or so of popularity, it became obscure and forgotten. The Theremin regained some fame again in the 1950's and 60's, with its unearthly sounds permeating such Hollywood films as *The Day the Earth Stood Still* and other science fiction movies. In this workshop, Hallstrom Planetarium director Jon Bell will discuss the history of the Theremin and also provide hands-on (er, actually, hands-off,) lessons in how to play it!

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**2012-W06**
**Susan R. Button, Quarks to Clusters**
***Developmental Characteristics of 4-6 Year Olds: Implications for Experiential Learning***

Becoming well versed in the developmental characteristics of very young learners that you work with is critical; it will enhance your power as a presenter. If you address these characteristics when writing lesson plans and include experiential learning principles your programs will be more effective and entertaining for everyone.

During this workshop participants will, through hands-on participation, analyze some existing lessons. As we experience and then reflect on the lessons we will be able to identify the characteristics of 4-6 year olds that were addressed. Experiential learning is especially appropriate for this age group. Participants will practice and develop a deeper understanding by applying the Experiential Learning Cycle (experience, share, process, generalize, apply).

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# workshops

**2012-W07**
**Becky Wolfe, The Children's Museum of Indianapolis**
***CSI Flight Adventures***

The Children's Museum of Indianapolis created a multi-media show, *Flight Adventures*, for its planetarium and used the show as a launch pad for a menu of visitor experiences. Staff members will share how common goals were in used in programs and the show and walk participants through the process of creating programs connected to a fulldome show. Participants will also discover the flight related curriculum that can be used by museums and planetariums with a variety of audiences.

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**2012-W08**
**Derek Demeter, Seminole State College Planetarium**
***Creating Fulldome Content with a DSLR Camera***

The advent of fulldome content for use in planetarium domes has enriched the very nature of how we immerse our audience. Many produce fulldome content using advanced 3D graphics programs. This workshop, however, will show you how to create your own one-of-a-kind planetarium presentations using real-world images and video using simply a DSLR camera and some special lenses.

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**2012-W09**
**Tom Casey, Home Run Pictures**
***Fulldome Production 301***

Production for fulldome shows has evolved from a simple "just getting it up on the dome" to a pipeline that is as complex as work done for today's special-effects laden movies. Techniques such as motion capture, blue screen and dynamic particle effects are commonly requested by fulldome storytellers. And the desire to compete with the audience's sophisticated visual appetite has made use of these techniques necessary to hold the viewer's interest. This workshop will describe in detail some of these techniques to further understanding among planetarium producers as to what is involved and how best to use and accomplish these advanced techniques. By detailing the process in a case history stlye, those attending will get an inside look at the complex production pipelines used today. Q&A session will follow this workshop.

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**2012-W10**
**Antonio Pedrosa, Navegar Foundation**
***Basic Editing/Compositing for the Dome***

In the digital era, editing and compositing content for a dome is a crucial and basic and fundamental procedure in the normal operation of a planetarium and to create pre-rendered content. This workshop will cover basic aspects of editing/compositing, where the language of the dome, the nature of the content and the technical aspects associated with handling the content for spherical spaces will also be adddressed. It will also focus on the importance of following standards and the exporting (slicing) of content in order to be projected. Workshop attendees are encouraged to bring their own computers with Adobe After Effects installed.

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**2012-W11**
**Judi James, Brazosport Planetarium**
***Using Keynote to Build Fulldome Digital Shows in Warped Media***

Images and film clips can be used to create professional looking fulldome shows with Mac Keynote. With its large curved surface, choosing and placing media on the dome can be problematic and rewarding. See a number of techniques I have found for building successful presentations in Warped Media.

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**2012-W12**
**Susan R. Button, Quarks to Clusters**
***Astronomical Experiences With Real and Virtual Travels***

This workshop is designed to explore some unique and successful initiatives of international collaboration between planetariums. Our goal is to inspire and assist colleagues in other countries to develop similar meaningful experiences.

Since 1995 American planetarians have traveled to Italy as winners of a special contest. The winners organized interactive planetarium lessons in English for students, who study English, in various Italian cities. The experiences of these educators, as documented in their lessons and final reports, have been collected and published this year for IPS members. During this workshop some participants, both winners and Italian organizers, in this and other travel experiences will relate how these collaborations were established and how it has enhanced the work and lives of everyone involved. Participants will also experience an interactive lesson conducted through SKYPE.

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**2012-W13**
**Ed Lantz, IMERSA, Inc**
***IMERSA Fulldome Standards Forum***

Open industry forum on fulldome standards including dome master specification led by IMERSA in cooperation with affiliate organizations and volunteers.


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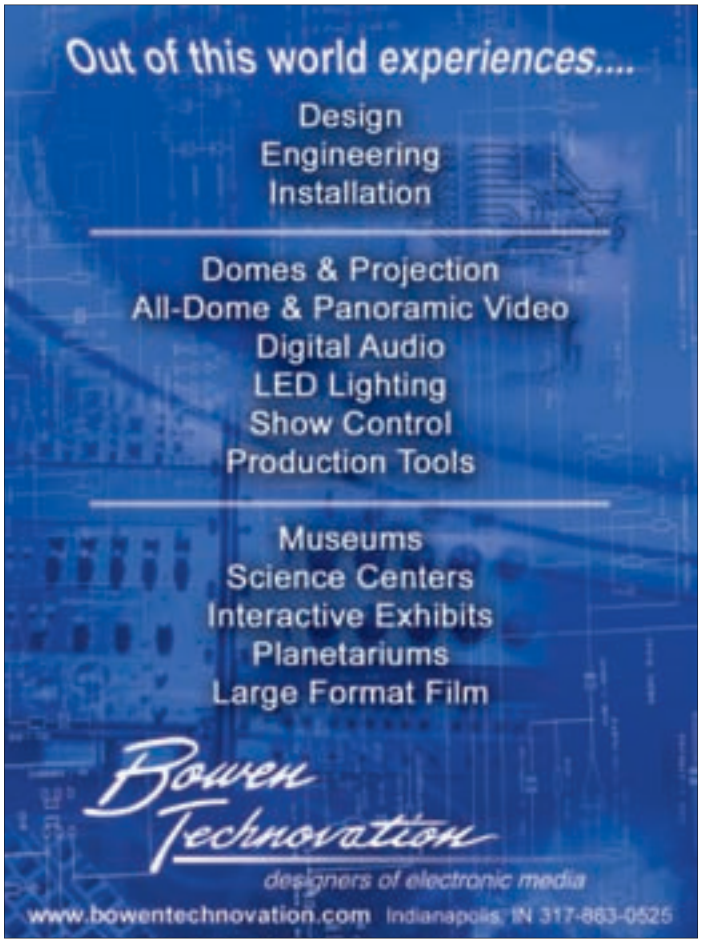
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SPITZ Curriculum Screenings
by Dr. David Bradstreet
July 23 11:00AM A Real Understanding of Sky Motions
2:00PM Stellar Sizes, Stars' Places in Galaxies
July 24 11:00AM US Astro-History, America's Stellar Past
2:00PM The Moon: Teaching Phases and Libration
July 25 11:00AM Teaching Orbits and Planet Motions
2:00PM Time and Time Keeping
July 26 11:00AM The Lincoln Almanac Trial
Join us in our dome (Dome Village 1A) to see live lessons from the Spitz Fulldome Curriculum. Learn how SciDome and Starry Night offer the most powerful dome teaching capability available.
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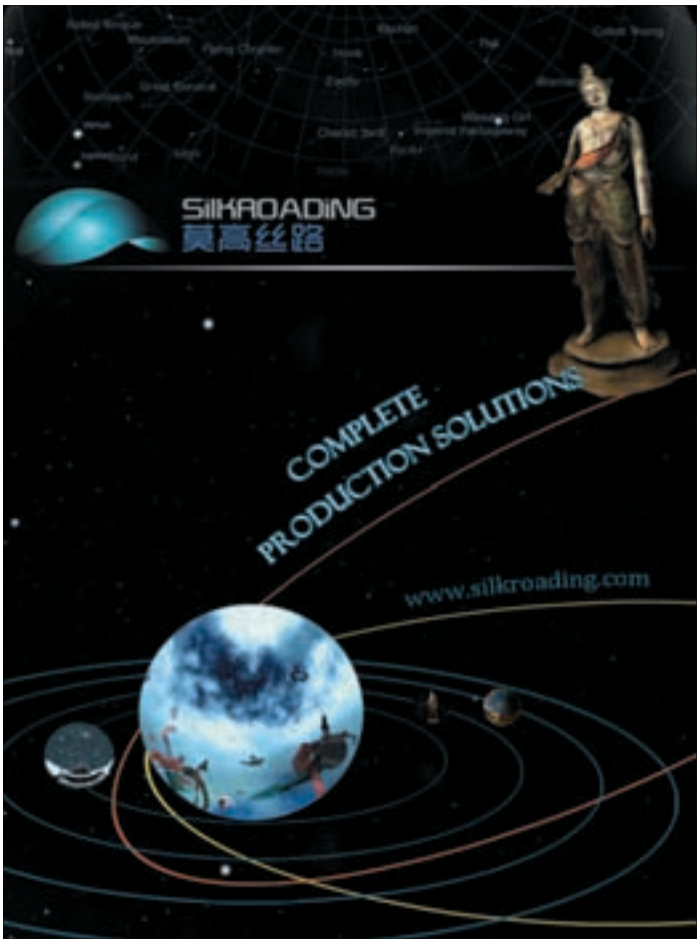
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