SEPA 2015

Tuesday, June 23:

Vendor Set up: 8 am – 4 pm Banquet room B

Council Meeting: 3:00 pm – 5:00pm Conference Room (Tellus Admin)

Registration 4:00 – 7:00 pm Front Lobby

Welcome reception 4:00 pm– 6:00 pm Banquet Room A & Private Dining Room

Special new member recognition 5:00 pm by SEPA Council Banquet Room A & Private Dining Room

Vendor Space Open 4:00 pm– 6:00 pm (Banquet Room B)

6:00 Welcome to SEPA 2015 – David Dundee (Tellus Planetarium)

Planetarium Ice Breaker "Can You Bluff the Planetarians?"
Expert panel : Jon Bell, Adam Thanz, James Albury, and Claudia Hernandez

7:00 – 8:30 pm Planetarium Presentations

7:00 – 7:45 pm Sky-Skan Presentation Annette Southeran-Barnett

7:45 – 8:15 pm Audio Visual Imagineering Steve Hatfield

8:15 – 8:30 pm Sciss Mike Dowling Uniview 2.0 Demonstration

This presentation will be given by the US-based team representing Sciss - the Swedish company behind the Colorspace theater and the Uniview fulldome software. Sciss has always been a strong promoter of offering tools for live presenter-led shows, and with Uniview 2.0 we take this one step further. We introduce Panels - a new presentation interface that is reliable and extremely easy to use. In this demonstration we will show that managing Panels is no more difficult than controlling a regular Powerpoint, and that building your show can take less than 15 minutes.

8:30 – 9:15 pm The Accidental Astronauts Presented by Clark Planetarium

9:15 – 9:30 pm Phil Laney Digital Projection Inc.

9:30 – 10:00 pm Aaron McEuen, CEO of Starlight Productions

10:00 – 10:30 pm New Techniques and New Shows David Rabkin, Director, Charles Hayden Planetarium.

10:00 – 11:30 pm Tellus Observatory Open

10:00 pm – 2 am Hospitality Suite Open Clarion Inn

Wednesday, June 24:

Official Welcome: 8:00 – 8:30 am Tellus Theater

Jose Santamaria, Executive Director Tellus Science Museum
Matt Santini, Honorable Mayor of Cartersville.

9:00 am – 10:00 am John Sinclair, Meteorites USA

Meteorite Identification Workshop

A workshop on helpful ways to identify meteorites and rocks that are not meteorites -meteor-wrongs. Techniques will include visual identification of fresh and ancient fusion crust and interior structure on stone meteorites and acid etching on iron meteorite slices to produce a crystal structure on their surface. Meteorite samples and photos of common earth rocks commonly mistaken for meteorites are included in the optional ID kit.

(extra Fee $25) (Limit 40) (Lab 3)

Planetarium Workshop 8:45 a.m. – 9:30 am Amanda Thompson, Boston Museum of Science
Blueprint to Blastoff: Free Engineer Education Modules for the dome:

In collaboration with NASA, the Charles Hayden Planetarium team has created a series of free education modules about engineering to be used in any planetarium. Experience these interactive full dome materials for yourself, along where and how to access them, and discuss how to adapt them for your dome.

Planetarium Presentation 9:30 am – 10:00 am Dome 3D

From thrill rides in outer space and state-of-the-art video capture solutions, to virtual reality production and consulting, Matt Mascheri President and CEO of Dome3D will present an immersive overview of all happenings at Dome3D. SpacePark360, Monsters of the Cosmos, 1157.pm as well as clips from the F360 and GP185 camera systems will all be shown.

Vendor Space Open 10:00 am–12:30 pm (Banquet Room B)

10:00 – 10:30 am Morning coffee break (Banquet Room B)

10:30 am – 12:30 pm
Adam Thanz : Workshop Go-Pro Cameras (Limit 25) Lab 4
($100 extra fee) (Plus 25 additional audit slots)

10:30 – 11 am Blender Introduction (Lab 3)
Join Ron Proctor of Clark Planetarium for a hands-on introduction to Blender, a free, open-source 3D software. The introduction will cover fisheye rendering, along with some animation basics. Please bring a laptop with Blender installed—a mouse is strongly recommended.

12:30 – 1:30 pm Lunch (Banquet Room A) (Vendor Lunch)

Vendor Space is Open 3:00 pm–4:00 pm (Banquet Room B)

1:30 – 3:00 Space for planetarium demos

1:30 – 2:00 "Santa's Secret Star". Alex Mak, The University of Toledo

Wednesday, June 24, continued:

2:00 – 3:00 pm "Fire Fall" Geographics George Fleenor

3:00 – 3:30 pm Afternoon break: Ice Cream Social (Banquet Room B)

3:30 – 5:00 pm Paper sessions Tellus Theater

3:30 – 3:45 pm Ken Brandt - From the Ambassador's desk: What's coming up in space exploration, 2015-2017

3:45 – 4:00 pm James Albury, Planetarium Coordinator, Kika Silva Pla Planetarium - Santa Fe College, Gainesville, Florida: dealing with the obsolescence of a digital planetarium (8 years and beyond).

With the introduction of digital dome theaters, the reliance on computer technology has increased dramatically. As your planetarium provider provides you with updates, you'll find that the software demands grow over time. Modern planetariums now find their hardware can't keep up with their software. This talk discusses how you as a planetarian can prepare your facility (and your administration) for maintenance/upgrades as your hardware ages.

4:00 – 4:15 pm April Whitt: Atlanta Science Festival

In March 2014, Atlanta hosted its first-ever Science Festival. Fernbank Science Center offered activities, planetarium programs and a mystery-theater presentation, Death by Chocolate. This year's festival was a celebration of "Spring Into Science, "with Nanoday celebrations, more planetarium programs, and outdoor activities.

4:15 – 4:30 pm Dave Hostetter: Cosmology in Chicago

Every two or three years the Kavli Institute of Cosmological Physics at the University of Chicago presents a three day short course in cosmology and teach cosmology. I was fortunate enough to attend the most recent one, and hope to encourage other SEPA members to attend in the future.

Wednesday, June 24, continued:

4:30 – 4:45 pm "A New Use for Ektagraphics":

Dave Hostetter Thinking about going full dome? Have you recently made the conversion? Don't be too quick to throw out those old projectors and controls.

4:45 – 5:00 pm Derek Demeter, Director, Buehler Planetarium at Seminole State College - My travels under the stars.
The term "think outside the dome" has been something coined by us that work at the Emil Buehler Planetarium at Seminole

State College for last several years. During this time, I have used my skills as a planetarian to give programs under the real sky at some of America's darkest locations such as Bryce Canyon, Great Basin, and Badlands National Park as well as around the state of Florida.

3:30 – 5:00 pm Paper Sessions 2 Lab 4

3:30 – 3:45 pm Darlene Smalley, Planetarium Program Director, University of South Carolina Aiken. Weighty Matters and the ISS.

Explaining weight, mass, gravity, and weightlessness can be tough! In our new planetarium show, Engineering the ISS, we tackle these issues using our "Weighty Matters Rap" and a variety of animations. I will share this 7-minute section of our show and lead a discussion on its effectiveness.

3:45 – 4:00 pm Bobby Thompson, Retire Planetarium Director. History of Chattanooga's Clarence T. Jones Observatory.

Clarence T. Observatory building was started in 1935 and completed in 1937. It was built under a PWA grant as part of the Chattanooga School System. The 20.5 inch telescope was built by the amateur telescope makers and local industry, and completed in 1938. The planetarium was added in 1958. This was quit feat during the depression, and predates the 1960's grants for planetariums for schools.

Wednesday, June 24, continued:

4:00 – 4:15 pm Claudia Hernandez, Assistant Manager, Miami Planetarium. Fabulous First Fridays!

On the first Friday of each month the Miami Space Transit Planetarium offers a free star show, free observatory viewing and paid music laser shows! During this short presentation you will hear how we have adjusted our signature event, time and time again, to harness a staple evening in our community. Learn how this monthly event draws large crowds and increases in attendance and revenue. You may even discover a few unexpected benefits of a hosting a regularly scheduled free community event.

4:15 – 4:30 pm Elizabeth Klimek, Planetarium Manager, South Carolina State Museum. Opening Windows to New Worlds.

After nearly two decades of planning, fundraising, and construction, The BlueCross BlueShield of South Carolina Planetarium opened August 16, 2014 as part of the South Carolina State Museum's Windows to New Worlds Project. Since Grand Opening, we have hit the ground running, offering a variety of school, public, and rental programs, supporting special museum events, and hosting special events of our own. I will share some of the successes and setbacks we have experienced in our first year of operation and describe some of the plans we have for the immediate future.

4:30 – 4:45 pm Jon Elvert, Director, Pennington Planetarium. Outcomes of Immersive Learning:

Research data has shown that students retain show content information longer when the experience is in an immersive, fulldome environment than when viewing the identical show on a flat screen monitor, or in school. This paper summarizes such data taken from students who viewed our NASA grant show The Great Planet Adventures. The results support the premise that immersive learning is a proven, effective method for retaining subject matter.

Wednesday, June 24, continued:

In Tellus Planetarium

5:00 – 5:30 pm Bays Mountain Presents. Adam Thanz

"Exploring New Horizons" - a New Full-Dome Show from Bays Mountain Productions:

"Exploring New Horizons" is a full-dome planetarium show that explores the New Horizons spacecraft and its mission to dwarf planet Pluto and other KBOs. This program also exhibits the importance of the scientific method and how it applies to our understanding of the Solar System.
Starting from ancient times, learn about the history of planetary discovery, especially that of Pluto, and how it has led to an amazing mission to explore the Kuiper Belt. Typical to the educational purpose of Bays Mountain Planetarium, this program includes a live section midway to engage your audience in an interactive activity to increase understanding and retention. The program is designed to not be dated and is a great way to introduce your audience to the NH mission both before and after flyby of Pluto. The final part of the program is designed for you, the planetarian, to cover the latest news and discoveries regarding NH and Pluto through a live recap.
"Exploring New Horizons" is a great way to educate about the Solar System and shows how important it is to continue learning. This presentation will make a wonderful addition to your public and school group programming. The show is best for 3rd grade and above.

5:30 – 6:30 pm Presentations by Spitz

5:30 – 6:00 Spitz Demo.

6:00 – 6:30 Super Volcanoes

6:30 – 7:00 Presentation by Karrie Berglund, Digitalis.

7:00 – 8:00 pm Dinner (Banquet Room A)

Wednesday, June 24, continued:

7:30 – 8:30 pm Speaker Dr. Harold A. (Hal) McAlister,
Director, Center for High Angular Resolution Astronomy, Regents' Professor Emeritus of Astronomy - Georgia State University:
Zooming in on the Stars with Astronomical Interferometry:
Mount Wilson Observatory is home to the world's highest resolution optical telescope – Georgia State University's CHARA Array, a six-telescope array operating at visible and near-infrared wavelengths. It uses the principles of long-baseline interferometry to achieve resolutions capable of not only resolving the surfaces and shapes of stars but also seeing spots, gas and dust disks, and close stellar companions. The CHARA Array functions as a single, giant telescope some 330 meters across and is providing details about stars, including images of them, never before directly seen. This talk will tell you how the CHARA Array works and give you selections from the rich smorgasbord of CHARA scientific results.

8:30 – 11:15 pm Planetarium Presentations

8:30 – 9:15 pm Spitz Presentation World Premiere of Solar Super Storms

9:15 – 9:45 pm Kris McCall, Sudekum Planetarium at the Adventure Science Center, Rusty Rocket's Last Blast

9:45 – 10:15 pm Ash Enterprises John Hare

10:15 – 10:45 pm Ken Miller Presentation from GOTO

10:30 - 12:30 pm Tellus Observatory Open

11:00 pm – 2 am Hospitality Suite Open Clarion Inn

Thursday, June 25:

Buses leave from Clarion @ 8 am for Huntsville Space Center Trip Sponsored by Sky-Skan

Bus Activities:

Title: Robin Byrne: **Astronomy Titles**
How well do you know books, music and films? How many can you name with specific astronomy words in the title? Find out, as you work with your fellow bus riders, to vie for the title of King or Queen of the Astronomical Arts.

Project Management & Success in Production: Utilizing teamwork and overcoming creative hurdles to produce a successful planetarium program in a short timeframe. Adam Thanz Astronomy & Space Sciences Program Coordinator - Planetarium Director
Bays Mountain Park & Planetarium

Have you ever wanted to produce your own planetarium show but were concerned about how long it takes? This workshop is designed to show that with a little time management and allowing your team to be creative, a fun program can be created in a relatively short period of time. This workshop will be held on the bus ride to Huntsville, AL. The workshop will be lots of fun and take about one hour. It will incorporate everyone on board. At the end of the hour, a planetarium show storyboard will be created. Following lunch in Huntsville, the two halves of the show (one from each bus) will be combined to reveal the complete show to everyone!
The workshop will incorporate time management, writing and drawing creativity, and tons of fun! See you on the bus!

10:30 am CDT Arrive at Space Center

12:30 pm CDT lunch in Astrotrek Conference Room

Welcome: 12:30 - 12:45 Dr. Deborah Barnhart, Space Center Director

Thursday, June 25, continued:

Luncheon Speakers:
12:45 - 1:15 pm CDT Ms Mitzi L. Adams, Astrophysicist, NASA/MSFC, Science Research Office, Heliophysics and Planetary Science.

Apollo, Helios, Inti, K'iin, Ravi, sUrya, Sun -- these words name a familiar object of the sky, the closest star to Earth. Through myth, legend, and attributes, the importance of the Sun is obvious. When the Sun shines, we feel heat, when the Sun is not in the sky, we feel cold. Observations of the Sun over a year reveal a path that takes it highest in the sky at noon on the summer solstice and lowest at noon on the winter solstice, a trait that affects local weather. Without modern technology, our ancestors tracked these motions and predicted the best times for planting and harvesting crops. Today, NASA resources not only track the motions of Earth around the Sun and the Sun through the galaxy, but they allow us to understand how the Sun produces the energy that allows our crops to grow. NASA's resources can track energy from Sun to Earth and can make predictions about the impact of that radiation on Earth's magnetic field, for example. In addition, looking back at Earth. NASA's orbiting satellites can see red tides, fires, floods, deforestation, and they can even track illegal fishing. This talk will review what we know about the Sun, the Sun-Earth connection, and a little of what we've learned about Earth by viewing it from space. We will also discuss the resources that are available to you, the planetarian.

1:15 - 1:45 pm CDT Dr. Bill Cooke NASA Meteoroid Environments Office: “Fireballs and Meteorites”

We explore the range of characteristics needed for a bright meteor (fireball) to produce meteorites on the ground. In particular, the focus will be on using the meteor’s speed, strength, mass, and end height to determine whether or not there may have been a meteorite fall. A comparison to historical data indicates that a meteorite-producing fireball must have an initial speed of less than 30 kilometers per second, decelerate to under 10 kilometers per second, and penetrate to under 35 kilometers altitude before the optical track is lost. In addition to these constraints, the meteor must also possess an initial mass larger than 20 kilograms and have a strength roughly equivalent to carbonaceous chondrites. Applying these criteria to the several thousand events observed by the NASA all sky camera network indicates that less than 0.2% of fireballs have a decent chance of producing meteorites.

Thursday, June 25, continued:

1:45 pm CDT The presentation of the Bus Planetarium show.

2:00 pm CDT NASA Bus tour of Marshall Space Flight Center

5:00 pm CDT Buses Depart for Monte Sano State Park

6:30 pm CDT BBQ Dinner at Monte Sano State Park

Special Presentation at Wernher von Braun Planetarium plus sky watching with Von Braun Astronomical Society.

8:00 pm CDT Buses depart for Holiday Inn

12:30 am EDT Arrive @ Clarion

Friday, June 26:

Vendor Space is Open 10:30 am–11:30 pm (Banquet Room B)

9:00 – 9:30 am Planetarium Presentation: Habitat Earth California Academy of Sciences. (Tellus Planetarium)

9:30 – 10:15 am Planetarium Presentation: Konica-Minolta/Magna-tech

10:15 – 10:30 am Planetarium Presentation: Chromacove, Lynn Forster

10:30 – 11:00 am Morning coffee break (Banquet Room B)

Friday, June 26, continued:

11:00 –Noon Ken Brandt - Workshop - Lab 4 (Limit 30)
Developing educational materials to accompany your programming: how, why, and who (30-60 min, desks and space to move & work in groups)

11:00 – 12:30 pm Paper Sessions 1 Tellus Theater Sponsored by Konica – Minolta & Magna Tech.

11:00 – 11:15 am Kris McCall - ECLIPSE 2017: Engaging Classrooms, Libraries, Individuals, and Planetariums in a Solar Eclipse

11:15 – 11:30 am Renovations at the Sharpe Planetarium: Dave Maness, Planetarium Supervisor, Sharpe Planetarium.

I will talk about the project in Memphis and the decisions we made toward upgrading the existing facility. Some decisions were based on my personal beliefs about the medium, some were due to the unique public/private partnership between the city of Memphis and Memphis Museums Incorporated, and others were made by consensus.

11:30 – 11:45 am Terry Johnson, Arkansas Public Schools. Small Town, Bright Stars:

Astronomy courses are being cut across the country. So how was I able to convince a small district with limited resources to begin a new astronomy program? (A presentation designed by my students!)

With today's technology, the ability to create your own music and sound effects is easier than ever. However, when you want to output what you've created, you are often presented with a plethora of options: MP3, WAV, Stereo, Surround, etc. This session will attempt to demystify the many options presented to you when saving an audio file. We'll explore bit depth, sampling frequency, stereo vs. surround and look at a few of the various audio formats and codecs available.

11:45 am – 12:00 pm Robert Turner, James Madison University, Using Social Media for Informal Science Education.

Social media has many forms and new types are being produced every day. With all of these choices it can be hard to select one to help aid informal science education let alone use it in an effective manner. Fear not, as there are a few key principles to consider that will help to guide you in making social media decisions for use in an informal science setting.

12:00 – 12:15 pm Phil Groce, President, Helping Planetariums Succeed – A Tale of two Pixels (Actually Four)

Regardless of what fulldome system you use, they all have characteristics in common. This is an overview of the four different pixels that affect a fulldome digital system's apparent resolution and image quality. The presenter will show the need for standardizing the language we use to describe digital systems and the meaningless (and often deceptive) specifications used to describe fulldome digital systems.

Simply put, the Four Pixels are:

1) THE PROJECTOR CHIP PIXEL. (all square and the same size)

2) THE PROJECTED IMAGE PIXEL. The apparent and often variable size/shape of the pixels actually on the dome.

3) THE CONTENT PIXEL. This is the circular fisheye dome master source or content image pixel generated in real-time or by the playback of movie frame files.

4) THE RELATIONAL PIXEL. This is the apparent pixel that changes in size depending on where the viewer sits.
This primer will also examine how different chip display technologies, resolution, brightness, contrast and the dome itself all contribute the quality of the image seen by our audiences.

12:15 – 12:30 pm Bob Hayward - The latest at PARI and how our Outdoor Planetarium has worked or not.

As PARI continues to repurpose facilities left by NASA and DOD, innovative renovations and additions are being made. In the past year these include 1) modifying the base of a previous dome facility into an "outdoor planetarium" and nature center, 2) develop a mineral/meteorite display area, 3) paint planetary orbits in the parking lot for use in Galaxy Walk programs and 4) remove the radome from the 12-meter antenna and repurpose it as a 22.35 GHz radio telescope to search for water masers.

Friday, June 26, continued:

12:30 – 1:30 pm Lunch (Banquet Room A)
Luncheon Speaker: Mark Kochte: MESSENGER Mission Operations Specialist: MESSENGER Mission to Mercury.

MESSENGER: The Mercury Adventure

On March 18, 2011, space exploration history was made when the MESSENGER spacecraft became the first probe from Earth to go into orbit around Mercury. Since that time, it has taken more than 270,000 images and made tens of millions of spectra observations. From all this more has been learned about our solar system's innermost world than had been dreamed to ask at the onset of the mission. From newly seen impact basins to the surprising status of the magnetic field, from the make up of the exosphere to the verification of water ice at the poles and to the discovery of geologic features not found on any other body in the solar system, MESSENGER's discoveries at Mercury have reshaped the theories planetary geologists have had on the origins of the solar system's littlest planet.

Join MESSENGER team member Mark 'Indy' Kochte as he takes you on a historic journey to one of the most elusive bodies in our Solar System, where not even the vaunted Hubble Space Telescope can peer.

Vendor Space is Open 1:30 pm– 3:30 pm(Banquet Room B)

Paper sessions: 1:30 – 3:00 pm

1:30 – 3:00 David Dundee: Tell Me A Story: Planetarium workshop. Participants bring and share their favorite stories of the sky. (Tellus Planetarium) (Limit 20)

Friday, June 26, continued:

1:30 – 2:00 pm Jack Dunn: Alternative uses for laser projection in planetariums (Lab 4)

Aside from traditional laser shows, laser projected graphics, logos and text can be very useful in normal planetarium program. I will discuss and demonstrate examples from 25 years of laser projection in Mueller Planetarium as well as describing how it is done in Pangolin software. Essentially all the laser systems offered to planetarians include this software. The ability to have custom text and graphics can add a lot of personal touch to presentations. And it is not difficult to do.

2:00 – 2:15 pm Jason Talley, Planetarium Supervisor, St. Charles Parish Library.
Telling Your Planetarium's Story: lessons in drafting a strategic plan:

How does one communicate a planetarium's work and future plans? Are there future plans? Creating a strategic plan for your facility is no small task, but the benefits abound. Come, and hear first-hand lessons learned when a small planetarium developed big plans.

2:15 – 2:30 pm Lindsie Smith, Clark Planetarium's Associate Director and Director of Marketing

Join Clark Planetarium's Associate Director and Director of Marketing, Lindsie Smith, for an overview of the marketing strategies she employs to maximize results with limited resources. Ms. Smith holds a Master's Degree in Professional Communication and has over ten years of marketing experience in private, non-profit, and public sectors.

2:30 – 2:45 pm Jason Dorfman:Astronomy & Space Sciences Program Administrator, Bays Mountain Park & Planetarium - Making Sense of Audio Formats

With today's technology, the ability to create your own music and sound effects is easier than ever. However, when you want to output what you've created, you are often presented with a plethora of options: MP3, WAV, Stereo, Surround, etc. This session will attempt to demystify the many options presented to you when saving an audio file. We'll explore bit depth, sampling frequency, stereo vs. surround and look at a few of the various audio formats and codecs available.

Friday, June 26, continued:

2:45 – 3:00 pm Fisheye video production for small domes. Matthew Mascheri Dome3D

Matthew Mascheri of Dome3D will present fisheye video production for small domes. Using the GP185 fisheye video camera, this powerful yet affordable kit will allow anyone to produce content for their digital dome. Matthew will discuss shooting techniques, best practices, basic color correction and post production workflow and rendering to a dome master image sequence.

2:00 – 2:15 pm Special Session in the Museum Great hall in the Digitalis Inflated Universe:

Kortnee Crumpler, Outreach Educator, The Children's Museum of South Carolina.
Spinning on your Axis: Bringing Motion into your Planetarium: (Limit 18) (First come , First served)

The idea of incorporating movement into educational lessons is something that we have seen more often in the last couple of years than we have in previous years. Does movement make a significant difference in retention of knowledge? How can you bring motion into your planetarium while ensuring that you teach to the standards in your state? I have answered these questions and more by conducting my own research during portable planetarium lessons. Come join me, as I share my findings and teach a brief fun lesson that is sure to inspire you to incorporate motion into your planetarium.

3:00 – 3:30 Afternoon break (Banquet Room B)

3:30 – 4:30 SEPA Business Meeting (Tellus Theater)

4:30 – 5:30 pm Derek Demeter, Director, Buehler Planetarium at Seminole State College, Sanford, FL. – (Tellus Planetarium)
Live interactive planetarium workshop (limit 30)

The planetarium is the ideal venue to capture and inspire those who seek knowledge about the wonders of the universe. Whether be storytelling, a sky tour, or a unique journey through the cosmos, one of the best ways to engage your attendees is by presenting a live and interactive planetarium program. In this workshop, Derek Demeter from the Emil Buehler Planetarium will provide ways to connect with your audience and present techniques found in a effective live presentation that will be sure to make a lastly impression on your audience for years to come.

Friday, June 26, continued:

3:30 pm – Vendor area closes

Collections Area open 5pm – 6pm

6:00 – 7:00 pm Cocktail hour (Great Hall)

6:00 – 8:00 pm Silent Auction (Banquet room B)

7:00 – 9:00 pm SEPA Banquet (Great Hall) Sponsored by Konica – Minolta & Magna Tech.

8:00 – 9:00 pm Keynote Speaker (Tellus Theater)
Mark Kochte, New Horizons Encounter Mission Specialist at Applied Physics Laboratory, Johns Hopkins University.

New Horizons –
The Journey to Pluto

Planet or dwarf planet, does it really matter? Pluto has long been considered an oddball planet since it's discovery, but over the decades we've learned much about what it is and what it isn't. And very soon, this July, the New Horizons spacecraft will be the first manmade craft from Earth to visit this unique world of our solar system. Accompany Indy on a journey of wonder to a place in our own solar system that the awesome Hubble Space Telescope can only barely resolve.

9:00 – 9:30 pm Chuck Rau Planetarium Sales Director, Seiler Instrument & Mfg. Co. Inc. VELVET projectors demonstration.

9:30 – 10:00 pm Presentation by Evans & Sutherland Computer Corporation

10:00 - 10:30 pm Ken Yager

10:30 – 11:30 pm Constellation Shoot out

10:00 pm – 2 am Hospitality Suite Open Clarion

Saturday, June 27:

9:00 – 9:30 am Jon Bell Presents "The Planets" (Tellus Planetarium)

Tellus Theater

9:30 – 10:00 am Ken Brant - SEPA's new committees: How you can help us retain, attract, and improve benefits for members.

10:00 am – 10:15 am

Seismology on the Red Planet: the NASA Mars InSight Lander

Patrick McQuillan, Vice President of STEM Education, Liberty Science Center

In 2016 NASA is sending a lander to Mars to learn about the internal structure of the planet. A seismometer will be deployed on the surface to detect surface impacts and internal quakes. IRIS is developing free public display products to highlight the mission and display live data from the mission.

10:15 am – 10:45 am Jon Bell, Planetarium Director, Hallstrom Planetarium.

STEM Songs (Science, Technology, Engineering and Math)

In addition to many well-loved astronomy songs such as, "Why Does the Sun Shine?", "Space is the Place," and "The Ballad of the Hertzsprung-Russell Diagram," Jon Bell will introduce many new science songs like, "DNA," "Fungus Isn't Fun," "The Malacologist's Farewell," and the classic, "That's A Moray" to anyone willing to sit in the room and sing along, karaoke-style for about a half an hour (or until our hosts decide to make us go outside and busk in some nearby forest setting.

10:45 am Door Prizes Tellus Theater

Noonish Farewell to all.

SEPA Speakers

Mitzi L. Adams, Astrophysicist, NASA/MSFC, Science Research Office, Heliophysics and Planetary Science.

Ms. Adams is originally from Atlanta, Georgia, where she wasable to volunteer at Fernbank Science Center as a high-school observatory/planetarium assistant. Her research interests involve the magnetic fields associated with sunspots and the mechanisms that drive solar erputions. Ms. Adams is part of a team, teaching "Theories of the Universe" at UAH. She has led several sessions concerning the thoughts and perceptions of the cosmos by the Maya and Inca civilizations of Central and South America. Also interested in solar eclipses, Ms. Adams has journeyed away from home to view four total solar eclipses: Georgia (March 1970), Chile (November 1994), Romania (August 1999), and Zambia (June 2001). Ms. Adams has five cats, the oldest is 22.

Bill Cooke

William “Bill” J. Cooke Jr. is the lead of NASA’s Meteoroid Environments Office and is located at Marshall Space Flight Center. In this role, he is responsible for generating risk assessments of meteoroid environments for spacecraft and crew, and rebuilding the U.S.’s meteoroid expertise that was lost during the 1970s and 1980s when the Apollo program came to an end. In addition, he generates meteor shower forecasts for spacecraft operations on behalf of the agency.

Cooke was a primary coordinator of the NASA and Department of Defense’s response to the Leonid meteor storms of 1999, 2001 and 2002. He also established NASA’s All Sky Fireball Network — a network of cameras designed to observe meteors known as fireballs.

Prior to joining NASA, Cooke was an analyst for the Long Duration Exposure Facility Interplanetary Dust Experiment, STS-3 Shuttle Induced Atmosphere Experiment, and Orbital Debris and Meteoroid Counter on the third stage of the Clementine

mission to the moon. He calibrated the Optical Probe Experiment onboard the European Space Agency's Giotto mission to Halley's Comet and developed a pointing algorithm for the balloon-borne Gamma Ray Advanced Detector.

Cooke has a Bachelor of Science degree in Physics and Astronomy from Valdosta State College and a Doctorate of Philosophy in Astronomy from the University of Florida. He is a member of the International Meteor Organization. Throughout his career, he has earned the Exceptional Service Medal, Silver Snoopy Award and Director's Commendation Award.

Cooke has been an avid model rocketeer since 1968 and is very active in promoting hobby rocketry at local schools and organizations. On May 24, 2005, main belt asteroid 15058 was named Billcooke in honor of Cooke's contributions to the field of meteors.

Mark Kochte

Mark 'Indy' Kochte had always been interested in space and astronomy since he was a kid. To that end, he pursued a degree in Astronomy & Physics from the Ohio State University, and shortly thereafter joined the Hubble Project prior to launch of the Space Telescope, where he was instrumental in performing the data processing and archiving for Hubble. After 17 years of this, he took a position on the ailing FUSE mission to tackle the unique challenges of planning and scheduling of that ultraviolet-viewing space telescope. In 2006 he was given the opportunity to climb aboard the MESSENGER mission as a Payload & Mission Operations Specialist, sequencing critical instrument and spacecraft commanding. Late summer 2014, he also became involved with the New Horizons mission as a Mission Analyst to cover the command sequencing of the Solar Wind Around Pluto (SWAP) plasma spectrometer. Throughout his tenure in space mission operations, Indy has published a half a dozen papers on spacecraft design and mission operations, as well as co-authored a dozen additional papers on spacecraft design, mission operations, and science analysis results of early exoplanet research.

Not being an all-work/no-play kinda guy, in his spare time, when not staring at the stars, Indy can be found exploring our planet. In addition to having authored the rock climbing guidebook "Climb Maryland!", he is often out scaling cliffs from Maryland to Thailand, mapping cave systems in West Virginia, mountain climbing in Colorado, California, Washington and Wyoming, diving for fossilized Megalodon shark teeth (or to just look at the pretty fish) in the Atlantic or Caribbean, working on

various time-lapse and astro-lapse photography projects, or generally capturing moments in time by photographing the world we live in. No moss gathers under his feet!

Harold McCalister

Harold ("Hal") A. McAlister was born and raised in Chattanooga, Tennessee. After graduating in 1971 with a BA in physics from the University of Tennessee at Chattanooga, which named him its 2008 Distinguished Alumnus, he attended the University of Virginia and received MS and PhD degrees in astronomy in 1973 and 1975. Following a two-year appointment as a post-doctoral researcher at the Kitt Peak National Observatory in Tucson, Arizona, McAlister joined the faculty of Georgia State University in 1977 where he is now Regents' Professor Emeritus of Astronomy, having retired from teaching in 2011. His earlier work was in the area of binary star speckle interferometry, which has now become the primary means for measuring the orbital motion in resolved binary star systems.

His research in high resolution astronomical imaging has been continuously supported by the National Science Foundation since 1978 with additional grant support from the Air Force Office of Scientific Research, the Naval Research Laboratory, the Space Telescope Science Institute as well as from private foundations. The total of this peer-reviewed support exceeds $15M.

McAlister is the author or co-author of some 300 research publications and has served on numerous review, advisory and oversight panels for the National Science Foundation, NASA, and the National Academy of Sciences. He has directed the studies of nearly two-dozen doctoral students and post-doctoral research associates. McAlister is the recipient of the 2007 Maria and Eric Muhlmann Award from the Astronomical Society of the Pacific for "significant observational results made possible by innovative advances in astronomical instrumentation."

McAlister founded the Center for High Angular Resolution Astronomy (CHARA) at Georgia State in 1983 and continues to serve at its director. CHARA has gone on to build the world's most powerful optical interferometric telescope array – the CHARA Array, located on the grounds of Mount Wilson Observatory. The Array produced the first image ever obtained for a resolved main sequence star – Altair – in 2007.

In addition to teaching and directing CHARA, McAlister served from 2003 until 2014 as Director of the Mount Wilson Observatory.

McAlister has published two books: Diary of a Fire relating the hour-by-hour events surrounding the 2009 Station Fire in the Angeles National Forest that threatened Mount Wilson Observatory for nearly a month; and an astronomy-themed thriller/mystery novel Sunward Passage. Both are available as Amazon Kindle books.

He is married to Susan Johnson McAlister, who provided extensive volunteer services to Mount Wilson Observatory during his directorship. Their daughter, Merritt Ellen McAlister is an Atlanta attorney.

David Dundee

It is an honor to welcome SEPA 2015 to Tellus. We are proud of our museum and that in less than 6 years we have seen over a million visitors and over a half million through the planetarium. This conference is a group effort by all the departments of the museum who have worked hard to make this special event happen. I am indebted to the upper levels of the museum administration and to all my collegues for their support and hard work.

All conference hosts go through three phases of hosting SEPA. Phase one; euphoria of being selected as a conference site, quickly followed by be they thought of "oh, Dear what have I done?". Phase two; the anxiety of hoping all the plans and preparations made for the past two years come together and the conference happens like clockwork. This is finally followed by phase three; at noon on Saturday when hopefully I can breathe a sigh of relief and satisfaction that all the planning paid off.

I hope you will enjoy your time with us.

Welcome!

David A. Dundee
Astronomy Program Manager