



CONSTELLATION

Winter 2015, No. 4

Following in the Footsteps of Clyde

By Patty Seaton

A few years ago I wrote an article with the same title. I had just visited the Lowell Observatory in Flagstaff, Arizona, for the first time since I was 16 years old, and had enjoyed walking in the steps of the young man who discovered Pluto with careful observations of photographic plates using a blink comparator. I marveled over the telescope he used. Enjoyed the scale Solar System walk on the grounds of the observatory. Wondered over the many artifacts used during the era of the Pluto discovery. Was dreaming big dreams, because I knew at that time that Clyde's ashes were on the New Horizons spacecraft, speeding towards Pluto on an epic journey that was sure to change the entire way we view our solar system.

And Pluto delivered.

I am blessed with being one of the partners with the Johns Hopkins University Applied Physics Laboratory. Not only did the H. B. Owens Science Center get to publish a planetarium program in 2008, but in January 2007, I was invited to join the New Horizons Educators at Space Camp in Huntsville, Alabama, as we dreamed big dreams then of the upcoming Jupiter Encounter. And early this past summer, I was invited to join the Educators again as they prepared for JHUAPL's Pluto Palooza event the Saturday following the Pluto Flyby.

At first, I thought I was only participating in preparing a booth for the public event. Then I was invited to share in the ENTIRE Pluto Flyby experience throughout the week. And what a week it was. While Clyde himself was speeding on to meet his planet for the first time, his family attended all the press events and conferences. I did not get to renew my acquaintance with daughter Annette, but I discovered the joy of being around some very excited scientists - the very same scientists who made the mission possible.

Dr. Leslie Young Deputy Project Scientist out of the Southwest Research Institute with Principle Investigator, Alan Stern. I happened to meet her while at lunch one day during that historic week with the Educators at the JHUAPL cafeteria. She and I joined hands, and jumped up and down crying, "Pluto!" nine times! **Cathy Olkin**, also a Deputy Project Scientist from the Southwest Research Institute. I met her on my

(Continued on page 3)



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President's Message

Hello fellow MAPS members:

Happy Winter Solstice! Hope everyone had a great holiday. The daylight hours are finally getting longer and before you know it the school year will be over. Our town actually had a candlelight solstice walk on December 20th in our new town park. I'm not sure whose idea it was, but I'll let you know how it goes since I'm writing this in early December.

The MAPS Board met on October 23 in Waldorf Maryland at the James E. Richmond Science Center, the site of our 2016 meeting. Our conference host Monique Wilson has a wonderful facility with plenty of room for all of our activities. Classrooms, workshop space, room for portables, computer labs, and a large dome to accommodate everyone and everything. I hope you are all thinking about which of your projects you will be able to share with your colleagues at the conference. The more the merrier. The conference is set for late July and you will be receiving preregistration materials by the end of February.

You may also be aware that the St Louis Science Center, in Missouri, is organizing a National Planetarium Conference in 2017. All U.S. IPS Planetarium Affiliates will be converging there in October. It will be an amazing event with well over 300 Planetarians participating. Although October will be our official MAPS Meeting in 2017, the Board realizes that many of our members may not be able to attend a fall conference. Thus we are exploring the idea of a mini conference/meeting in the spring or even more than one meeting in the May to July time frame, in multiple locations. If you like the idea of a small meeting that may only be a day or so long, consider hosting one yourself. Contact a MAPS Officer and start a discussion of how the meeting might look. It would be a great way to be more involved in MAPS and also get your feet wet for hosting a full conference in the future.

Don't forget to vote in our electronic MAPS Board election that is happening now and keep an eye out for the conference registration materials coming in the mail.

Happy New Year,
Jerry Vinski, MAPS President
Hillsborough, NC

Following in the Footsteps of Clyde

(Continued from page 1)

quick lunch break during the Pluto Palooza event. She and I discussed raising kids over a piece of pizza. She spoke proudly of starting a robotics program at her daughter's school to help support her daughter's interest in that area. **Fran Bagenal**, Co-Investigator, University of Colorado, one of our key speakers back in 2007. She took time after the NASA Press Conference in D.C. to chat with several of the Educators and share a few insights with us on the newest discoveries New Horizons had just passed



down. **Randy Monroe**, son of Jim Christy, discoverer of Pluto's largest moon, Charon: a delightful scientific man who sings with a band and has befriended all the educators on Facebook. **Alan Stern** himself: on his wife's birthday, on his way to prepare an address before Congress, met with the Educators just to share stories and thank US for what WE do. The Educators themselves: many talents from all "corners" of the United States, gathered together to create meaningful experiences for the public at the Pluto Palooza event. Our activities were the key to the public event, and everyone used their expertise and enthusiasm to keep thousands of people engaged.

Yes, these are all incomplete sentences. Fragmented thoughts. A run-on of memories that blur through my mind as I think back to that incredible week. But the overall theme is this: the New Horizons mission is all about REAL people with a REAL passion, following in the footsteps of a dream of a man named Clyde. A dream of adventure. A dream of discovery. A dream to go beyond what is predicted ("Planet X") and to re-think whole scientific models of planetary formation and worlds at the edge of the Solar System (ice volcanos? Geologically young surfaces? Nitrogen snow?!). A dream and passion we planetarians all share with our audiences. With our live and recorded programming, our passion and vision match those of the scientists and Educators I was blessed to encounter and work with.

Funny, I intended to share the events of the week in some chronological order. But the order of events doesn't matter. What I remember most vividly is standing next to April Whitt, tears streaming down both of our faces when Alice Bowman, Mission Operations Manager, reported that all systems were nominal. When Alan Stern broke into Mission Operations with a loud cheer and a huge smile. And the hundreds of us who were in the auditoriums at JHUAPL joined the cheer and waved our flags.

Look, Clyde. We made it. YOU made it. Pluto loves us.

And this is just the beginning. We're on course for the next Kuiper Belt Encounter, January 1, 2019. We have so many questions, so much to learn!

We're following your footsteps. Thanks for leading the way.

Plan Now for the 2016 MAPS Conference!



The 2016 MAPS conference will take place July 27 – 30 at the James E. Richmond Science Center in Waldorf, MD. This exciting facility houses a 60 foot inclined dome with a new Evans & Sutherland Digistar 5 planetarium, a Science On a Sphere display, and even two satellites! There is also plentiful vendor space adjacent to the snack and meal area, a computer lab, and state-of-the-art classrooms.

The presentation, “Seeing our Worlds, as only NASA can!” will be given by Maurice Henderson, education and public outreach engineer at NASA’s Goddard Space Flight Center, and the 2016 Margaret Noble Address will be presented by Steven Russo, Director of the East Kentucky Science Center & Planetarium. As conference host Monique Wilson, Director of the James E. Richmond Science Center, and the program committee put together the schedule for each day, everyone is encouraged to consider presenting a talk or workshop. More information and a call for presentations and abstracts will be sent out in February, but start thinking about it now. We hope to see you all in Waldorf in July!

Kevin Williams, MAPS president-elect on behalf of the program committee.



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You can connect with experienced people who use the dome every day to educate students at different grade levels and with different learning styles. You can find out about the trends and innovations that are popular with public audiences in domed theaters.

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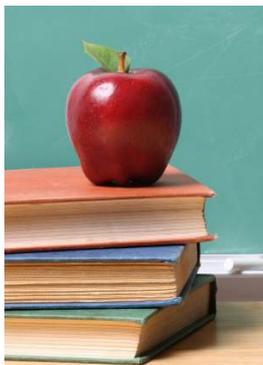
IPS members are a vital part of the society. As volunteers, they head committees, spearhead projects, and contribute. As a member, you can make a difference.

Biennial IPS conferences bring together hundreds of planetarium professionals from around the world for paper sessions, invited speakers, workshops, panel discussions, vendor demonstrations, and exhibits. Our next conference will be held 19-25 June 2016 in Warsaw, Poland.

Dues for individuals are US \$65 for one year or US \$100 for two years. For more information or to join IPS, contact Ann Bragg, IPS Treasurer/Membership Chair, at ann.bragg@marietta.edu. Join electronically by visiting the IPS website at www.ips-planetarium.org.

Just imagine what we can do together.

REPORT FROM THE MAPS EDUCATION COMMITTEE



The Winter Solstice is teasing us with the change in temperatures and the familiar transition of the Sun in its diurnal path to this season. We've all marveled at the stunning discoveries of the New Horizon's Mission since its arrival and departure in the Pluto realm - and it's not over yet!! I had a chance to attend a workshop on Nov. 8 that highlighted some of those initial amazing discoveries. "Revising the Solar System: Exploring Worlds Formerly Known as Planets", was sponsored by The Division for Planetary Sciences of the American Astronomical Society and included representatives/workshop leaders from Johns Hopkins University, the Planetary Science Institute, and the Lunar and Planetary Institute. It was a wonderful mixture of activities, lessons, and presentations that engaged and enlightened the participants. We were privileged to have scientists who were involved with the Mission and who shared their knowledge and passion for the amazing work they accomplish. Those of us in attendance were armed with new information and materials to take back to our classrooms and planetariums to share the excitement of discovery with our audiences.

- In this edition of the **Constellation**, Patty Seaton gives us a flavor of her experience when New Horizons arrived at Pluto. "Following in the Footsteps of Clyde" is a journey that Patty is documenting in her own way (see page 1).
- Megan Norris gives an example of how she incorporates constellations in our first installment of "Stories in the Stars" highlighting the stellar bears (see page 6).
- We will continue with another "Questions that Lead to Lessons" episode in the Spring Issue of the **Constellation**.

The Education Committee encourages you to contact us with any ideas you may have for workshops, and contributions to our articles on any topic.

Lee Ann A. Hennig, Chair
MAPS Education Committee
lahennig@verizon.net

Stories in the Stars

TITLE: BEAR STORIES
GRADE LEVEL: ELEMENTARY
AUTHOR: MEGAN NORRIS

Which way is North? How can you find out?

There is a very special star in the sky that helps us with direction. Do you know which star that is?

That's right - it's the North Star! It helps us find north, but it's not very bright and can be hard to spot, but there is a simple picture (shape) that can lead us to it - The Big Dipper. It is a simple pattern with fairly bright stars. This time of year we can find it low in the North in the early evening.

The Big Dipper is a picture *inside* of another picture. It's inside Ursa Major, the Big Bear. Ursa Major is a Constellation - an official pattern of stars recognized by astronomers all over the world. The cup of the Big Dipper represents the back of the Bear and the handle forms the Bear's long tail (project a constellation outline). You can still see the Big Dipper shape inside the Big Bear.

To find the North Star, use these two stars on the end of the cup as your Pointer Stars. Draw an imaginary line to this star. This is the North Star, also known as Polaris. To remember the name, think of North Pole - Polaris. Polaris is not super bright, but it's important to us where it is, not how bright it is. It is right above the Earth's North Pole!

Polaris sits on the end of the handle of the Little Dipper. So, the two Dippers are close to each other, just tipping in opposite directions. The Little Dipper is also inside a picture (constellation) - Ursa Minor, the Little Bear. Does it look like a Bear? It has quite a long tail, doesn't it? Well, it's supposed to represent a bear.

But, there are a couple of things you need to keep in mind when it comes to constellations.

Number one, you have to draw them with your own imagination. You can make them look however you want. You can make the bear's body bigger or the tail smaller. You could even put that bear on roller skates or give it polka dots if you prefer - it doesn't matter.

The other thing to remember about constellations is that there are stories that go along with them. Sometimes these stories help explain why they look the way they do or why people imagined them as they did. Well, I have heard a few versions about these Bears. One is a Native American story that says that these three stars are not part of the tail. They represent the hunters chasing after the Bear. That could be it. Another story I heard is about Zeus who lived on Mt. Olympus. He wanted to protect these Bears, so he took them by the tails and threw them way up high into the sky amongst the stars to keep them away from harm. But when he did that, it stretched out their tails! Maybe that's it.....

You can look for some of these same constellations in the sky or you can make your own!

MAPS 2016 Board of Directors Elections

As a member of the Middle Atlantic Planetarium Society, you have the privilege to vote for colleagues who will serve as your representatives on the MAPS Board. This year we have three wonderful candidates to choose from that will take three seats that are available.

This election runs until Jan. 31, 2016 at 11:55 pm Eastern Standard Time. We are using an online election system to tabulate our votes and emails containing unique keys for each ballot have been sent to all members. IF YOU DID NOT RECIEVE ONE PLEASE CONTACT us through this email: mapsplanetarium@gmail.com

Members who prefer to submit their votes on paper can receive a form by contacting the Treasurer, Keith Johnson. Send an email to johnsonk@rowan.edu or send a note by first class mail to: Keith Johnson, Science Hall, Rowan University, 201 Mullica Hill Road, Glassboro, NJ 08028

Include your name, mailing address and statement, "As a MAPS member in good standing, I request a paper ballot for voting in this year's election." Follow the directions on the ballot form for submitting it to the audit committee. Only MAPS members are eligible to vote.

If you have election questions, feedback or want to be removed from future ballot lists, please email Middle Atlantic Planetarium Society at mapsplanetarium@gmail.com.

We thank you for your participation in this election and in MAPS overall.

Please review the candidates' bios that follow:

Lee Ann A. Hennig

I have had the honor of being a MAPS member for many years. My service includes holding several offices: Secretary, President Elect, President, and Board Member, as well as serving on various committees. I have attended, presented, and participated in many of the MAPS conferences. I believe our organization can benefit from long term planning and goal setting specifically for improving services to the membership.



Through my work on the Board, I have attempted to improve the stature of MAPS as an organization and to extend and expand its benefits to the membership. My past experiences have underscored the importance of a Board that can work as a group, cooperatively, for the good of the organization and for the growth and in the best interests of its members and their concerns. Although the technology of our field is evolving we still need to be inclusive and supportive of our entire planetarium community. It is critical for MAPS to support strong leadership to face the challenges of our profession.

I have confirmed my impression of how crucial it is to have dedicated and motivated committees as a good base for our Society. As Education Chair it has been an honor to work with the other productive members of our committee in their quest for providing a service for our community.

The opportunities and experiences I have gained from my position as Secretary of the International Planetarium Society, experience in national associations for the advancement of astronomy education, and from serving in other organizations have provided critical skills and tools which also reinforce my service

as a Board member in MAPS.

The strength and soul of our organization is its membership and I will do my best to promote the goals and objectives of MAPS toward that philosophy. Thank you for the privilege of allowing me to be a candidate for office.

Professional:

1. Director of Astronomy and Astrophysics Research at Thomas Jefferson High School for Science and Technology (Fairfax County Virginia)
2. Director of the TJHSST Planetarium (Spitz A3P—30 ft Dome)
3. Coordinator of Research and Technology Labs at TJHSST

Paul J. Krupinski

Greetings fellow friends and colleagues of the Middle Atlantic Planetarium Society! I am greatly humbled and offer a heartfelt thanks, once again, for the nomination to the MAPS Executive Committee, specifically for the position of the Board of Directors. As an incumbent, I've had the opportunity to work with the Board since 2010 and I'm really excited, as well as proud the direction MAPS is headed. Yet, as always, there's much more work to be done for YOU our valued membership.



For those who are new to our planetarium community, I'm Paul J. Krupinski from Cheektowaga, New York. I've been a member of MAPS longer than I can remember, attended my first planetarium conference in Wheeling, WV in 1990. Over two decades, I've been so fortunate to meet new people, spend precious time with life-long friends, share some terrific ideas, as well as collaborate with the finest Planetarians this business has to offer.

This year marks two decades plus 3 extra orbits around the sun as Director/Owner of Mr. K.'s Mobile Dome Planetarium and twenty (20) years as Show Presenter/Technician of the world renowned Strasenburgh Planetarium of the Rochester Museum & Science Center. But wait, there's more! Recently I've been working with the Maryvale School System in my hometown of Cheektowaga, New York. Their planetarium within the middle school has been closed and unused since 2008. I'm very proud to announce new light at my old planetarium! The 50 year-old facility now has a new digital system and shows for grades 3 – 8 are about to commence!

I am so very fortunate to have the best of both planetarium worlds...the large and small dome experience! I offer 20 different current, topical interactive and participatory planetarium presentations targeting students Pre-K through high school under my portable planetarium dome. Yet, I'm truly blessed to work with the best crew under the big dome in Rochester; presenting star shows, giant screen films, and laser shows! Under either dome, my goal is to teach each visitor something new and capture the audience with the awesome beauty of the night sky, as it should be seen, under perfectly dark conditions! As you know, that's what a planetarium does best.

I served MAPS as your President Elect, President, and Past President from 2000-2006, which was truly an outstanding and rewarding experience. I've been apart of the ad hoc MAPS Strategic Planning Committee, where a select few sequester themselves in the beautiful historic region of Gettysburg, PA and after countless hours of brainstorming the results speak for themselves: the MAPS Executive Committee Calendar and Procedures, revised Conference Guidelines and Vendor Policy, as well as our Executive Handbook. And I'm currently spending quality time with our very own Web Committee, providing content, history and other valuable information for a robust experience at our site. Go check it out if you haven't been there recently!

(Continued on page 15)

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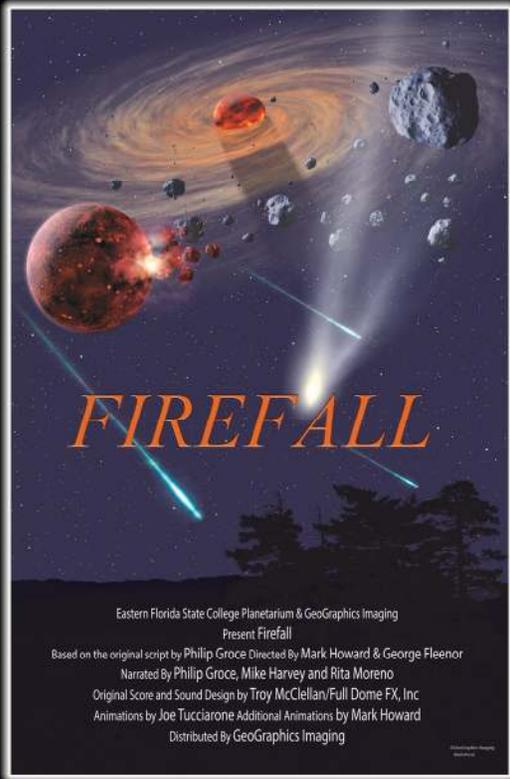
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Sahoto Benibana, Kahoku Civic Cultural Center Center
PANDIA II HYBRID

Twenty years ago, when the Sahoto Benibana, Kahoku Civic Cultural Center in Kahoku-cho Japan opened, the only way to put dramatic, colorful, animated images onto a planetarium dome was to use large format film running through an oversized cinema projector with a special lens. But today, high-cost, high-maintenance film is essentially a "dead" technology. Video is able to replace much of what the old large format projectors used to do. The Kahoku-cho staff knew that it was time to replace the obsolete large format film projector with full-dome video.

However, the Kahoku-cho staff also knew that video does a very poor job of reproducing the pin-sharp, bright starry sky of an opto-mechanical planetarium projector. So for their renovation technology, they chose a GOTO PANDIA II HYBRID system. The stars are created by the very compact PANDIA II. This LED-powered 19 inch starball shows a gorgeous sky in the tilted, 15 meter dome, including a Milky Way made up of 40,000,000 micro-stars.

Synchronized with the motions of the PANDIA II is GOTO's own VIRTUARIUM X full-dome video system. And the entire system is controlled by GOTO's unique HYBRID control console, which enables everything from simple cueing of automated movie playback to rich, yet effortless live programming.

Finally with the turnkey equipment package installed, the planetarium's original "safflower city" movie was cleaned, scratches were removed, and the movie was digitally enhanced for optimal color reproduction and stability on the dome. So the large format film that ran when the theater opened in 1995, now digitized, can be seen better than ever before. The total conversion from large-format film theater to modern GOTO PANDIA II HYBRID Planetarium is now complete. And the public loves it.

Note: PANDIA II is called PANDORA II in Japan.

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MAPS 2016 Board of Directors Elections

(Continued from page 8)

Finally, as many of you know, time doesn't always allow us to complete the task or tasks at hand, which inadvertently improve our organization. Many ideas are work-in-progress and need time to be brought to fruition for the benefit of you --- our membership! I'd like the opportunity, once again, to continue with the Executive Committee to re-visit and complete unfinished business, while cultivating new innovative ideas, which will allow the Middle Atlantic Planetarium Society an even brighter future going forward. Thank you for the opportunity!

Megan Norris

Planetarium Director, Suits-Bueche Planetarium at miSci, the museum of innovation & science

I feel privileged to, once again, run for a seat on the board of the Middle Atlantic Planetarium Society. I have really enjoyed the opportunity to learn about the inner workings of this organization. I have a much better understanding and appreciation for the work that MAPS is doing for the membership.

I have been working in Science education at miSci, the museum of innovation and science since 2000. In my 15 years, I have had the opportunity to be a part of many aspects of the Education Department.



Since my involvement, the planetarium has gone through three major renovations. The most recent was completed in January of this year, which included a digital system, new seats, and carpeting. Our planetarium consists of a Goto Chronos star machine, for more realistic live sky presentations, as well as a Discovery Dome system for up-to-date digital programs. We still have our slide projectors run by East Coast Control Systems for more flexibility with various presentations.

My experience in the planetarium field includes co-hosting the MAPS conference in 2008, and PIPS meetings in 2005 and 2007. I have hosted Space Days and Engineering Days with Knowles Atomic Power Labs, developed curricula for on-site and outreach programs in Astronomy and other sciences, produced new planetarium shows, designed classes, workshops, and hands-on activities about Astronomy and Space Science, and developed programs for schools, public, scout groups and civic organizations at the Museum. I have done joint programming with other planetaria and Astronomy organizations, including the Albany Area Amateur Astronomers and the Dudley Observatory, the oldest private organization in the United States dedicated to the Support of Astronomical research. I became a Starlab educator for Dudley in 2013. In addition, miSci is a designated NASA Space Place, and we now have a Challenger Learning Center on site, of which I am co-chair of the CLC committee.

I have been a MAPS member since 2005 and an IPS member since 2008, and have received the MAPS Exceptional Service Award and MAPS Fellows Award.

I am currently a member of the Constitution Review Committee and the Education Committee and I am part of the MAPS Educator Mentor Network.

If I am re-elected to the Board of the Middle Atlantic Planetarium Society, I will continue working with the Board and the membership to help further the goals of Astronomy education in our field.



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