



CONSTELLATION

Summer 2018, No. 2



Happy Summer!

The MAPS 2018 Conference was great meeting! From May 30 through June 2, sixty attendees were treated to interesting and informative delegate talks and posters, workshops, vendor demonstrations, and special guest speakers during lunch on Thursday and Friday. There were also fruitful discussions and networking opportunities during visits with the sponsors and during dinner and the banquet. At the banquet, Patty Seaton gave this year's Margaret Noble Address and reminded us all of our passion for the planetarium as she recounted her history in the field. We also had the honor of presenting the MAPS Distinguished Service Award to Keith Johnson in recognition of his years of service to MAPS and the planetarium field. We look forward to his continuing contributions.

On behalf of all of MAPS, I'd like to give a big THANK YOU to Brian Koehler, Larry Krozel and the staff of the Treworgy Planetarium at the Mystic Seaport for organizing and running a great conference!

I'd also like to recognize the support of our sponsors. In addition to being friends and colleagues, their support of MAPS helps keep conference registration affordable for our members. A list of our sponsors appears on page 4.

Two of the outcomes of the Executive Board meeting on the first night of the conference were the formation of two new committees: The Memorial Committee will collect information on the lives of MAPS members who pass on. The committee will share the information with IPS and will make sure it gets published in the Constellation. Paul Krupinski is chair of that committee. Please contact him if you would like to be on that committee or have information to contribute. This committee is temporarily an ad-hoc committee, but membership will vote in January on making it a permanent committee.

(Continued on page 2)

CONTACT!

MAPS Executive Committee

Officers (2018-2019)

President

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President's Message

(Continued from page 1)

A second ad-hoc committee is the Code of Conduct Committee. Most professional societies now have codes of conduct, and IPS recently approved theirs in 2017 ([check it out](#) if you haven't already). To protect our members and to protect the Society, we will be instituting a code of conduct by the end of 2018. In order to make sure there is plenty of opportunity for input from the membership, the Code of Conduct Committee is soliciting comments. With the IPS code and several others as a starting point, the committee will draft a code of conduct that will be distributed to the membership for even more comments. Based on those comments, the draft will be revised as seen fit. Amie Gallagher is the chair of the committee, so please contact her if you have comments and/or would like to be on the committee (see page 4).



Also at the conference, a new, colorized version of the MAPS logo was approved. Thank you to Steve Dubois for creating the updated version.

Did you know that MAPS is on Facebook and Twitter? Unfortunately, MAPS members haven't been using these social media outlets (nor MAPS-L) to any great extent. I call on all of us to use MAPS-L, Facebook, and Twitter to share the great things you are doing at your planetariums, ask questions of your colleagues, and exchange other information related to astronomy and planetariums. I also encourage everyone to contribute to The Constellation! Although longer articles are great, even short snippets about something neat you did in your planetarium, a cool image you found, or anything that you want to share can be submitted to [Constellation editor Kevin Conod](#).

Speaking of The Constellation . . . you might not realize it, but printing and mailing hardcopies of our newsletter adds up to a pretty hefty cost each year. Remember that you can get The Constellation as hard copy and/or electronically. I'd like to ask those that are getting the hard copy to consider receiving only the electronic version if that works for you. If we can cut even half of the hard copy versions, that will save several hundred dollars!

Lastly, the MAPS Executive Board started a discussion about assessing the benefits of MAPS membership. You will hear more about this in the near future, but if you have any suggestions for how we can make a MAPS membership more useful to YOU, please contact me with your ideas.

Enjoy the summer sky, both outside and inside your planetarium.

Kevin Williams
MAPS President
planetarium@buffalostate.edu

MAPS EDUCATION COMMITTEE

Lee Ann A. Hennig, Chair

Greetings from the Education Committee with the hopes that you had a successful academic year and are ready for a summer recharge! In this issue you will find three articles from Committee members to give you a few ideas to share with your audiences and to help you in seeking guidance under your dome.

In “QUESTIONS THAT LEAD TO LESSONS”, Mark Percy gives his take on how he answers the question related to the Pluto dilemma.

In “STORIES IN THE STARS” on page 13, Susan Button shares her adaptation of the Native American myth of the Big Bear along with a version of the Bear Wheel that can be used in conjunction with the story.

Megan Norris introduces a new topic in “DID YOU KNOW...” (see page 18). Megan suggested that this section would serve as a reminder for our MAPS members who do not attend conferences on a regular basis or for new members that have not heard of all the great things we offer. The first topic introduces our MAPS Mentoring Network.

We encourage you to send in articles, suggestions, and comments to our committee. We learn from each other and everyone has something to contribute!

Have a great summer!

Lee Ann

Thomas Jefferson High School

Alexandria, VA

lahennig@verizon.net

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QUESTIONS THAT LEAD TO LESSONS! What about Pluto?

That was my favorite planet! Why did astronomers kill it? Did Pluto blow up? We have all had to figure out how to explain the reclassification of Pluto. Here's my way of helping kids understand what happened while hopefully also giving them some insight into the nature of science.

I start by flying out from the Sun explaining the two major groupings and how while they are very different on the outside, they are similar on the inside. We humans love to group things, and they fall into two logical groups. I talk about shirts and socks in your dresser. We like to put them in separate drawers.

Along the way, I mention the asteroid belt and how when Ceres was called a planet when it was first spotted. Then another and another... I put up the attached picture from about 1845 and explain that you would have been told that Ceres, Pallas, Vesta, and Juno were planets too if you were in school back then. I turn on the rest of the asteroids and explain that after a while, scientists decided to make up a new grouping called “asteroids” so that they could keep these little guys in their own group.

If you had always gotten either stuffed animals or toy cars for your birthday presents, you could easily keep your

(Continued on page 6)

MAPS CONFERENCE SPONSORS

The MAPS 2018 Conference sponsors were:

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Code of Conduct

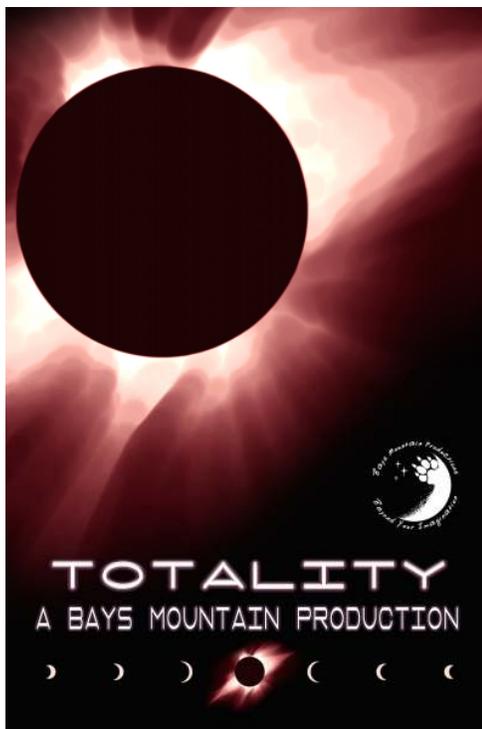
The MAPS Executive Committee has asked that a Code of Conduct be created for our organization. Most businesses and professional organizations have them. Our plan is to have it in place by November 1, so that members can agree to it as they renew their membership at the end of the year.

Currently, we have four members: Amie Gallagher (Chair), Talia Sepersky, Francine Jackson, and Steve Shipley. If anyone would like to join this important group, please contact me.

If you have any comments, concerns, and questions regarding a Code of Conduct, please let me know. Comments will be forwarded anonymously to the committee.

Thanks,

Amie Gallagher
MAPS Secretary
Chair, Ad Hoc Committee on Code of Conduct
Amie.Gallagher@rarityval.edu



CONSTELLATION DEADLINES

The Constellation is published quarterly near the equinoxes and solstices. Please keep in mind the following deadlines:

Cover Date	Deadline
Sep. 2018	Friday, Sep. 7
Dec. 2018	Friday, Dec. 7
Mar. 2019	Friday, Mar. 1
Jun. 2019	Friday, Jun. 7

Submissions should be sent to the editor:

Kevin Conod
(973) 596-6609
kdconod@yahoo.com

MAPS Business Meeting – June 1, 2018 Mystic, CT

The meeting was called to order by Kevin Williams at 4:19 pm.

Kevin Williams thanked Megan Norris for her service on the Board of Directors, and welcomed Patty Seaton to the Board. Paul Krupinski and Lee Ann Hennig were voted by the membership to continue as Board members. Kevin Williams thanked Seiler Instruments for sponsoring our morning break and the Museum of Science for our afternoon break.

Secretary's Report

Amie Gallagher handed out minutes from the October 13, 2017 Business meeting held at the Pleiades conference. Brian Koehler noted that his name was misspelled in one place. Going forward, Business meeting minutes will be printed in the Constellation. The October 13, 2017 minutes were approved.

Treasurer's Report

Talia Sepersky informed the membership that we have a net gain for the year. As of now, she hasn't gotten all the receipts for conference expenses, but it looks like it's going to be one of the least expensive conferences we've had. We still haven't gotten our share of the profits from the Pleiades conference. Keith Johnson clarified that the "Penny Arcade" money, \$0.29, is a credit from TD Bank, when they took out their coin counting machines. After conference expenses, we should break even.

Membership Report

Even though the Pleiades minutes say our membership numbers are going down, that might be an effect of how people and vendors registered for the Pleiades conference. Our numbers are actually pretty much the same as in 2015. Paul Krupinski asked if GLPA will give a full financial break down of the Pleiades conference.

Current Conference Report

Brian Koehler reported that the conference is going well. There are 58 attendees (members + vendors). Brian welcomes any feedback. There will be an email evaluation, group photo, and attendee list. The Banquet will be at the Hilton in the Cutter Ballroom at 6:30 pm tonight.

Future Conferences

SEPA has invited us to join their 2019 conference in Columbia, South Carolina. The dates are June 4-8, 2019. Our membership, by a show of hands, is interested.

Kevin Williams said another idea is to have a couple of facilities to host together. For instance, in 2011, the Edelman Planetarium, HW Ray Planetarium, and Upper Dublin School District Planetarium jointly hosted a conference. Shawn Laatsch is willing to host in 2021, after he's finished with his IPS responsibilities. Patty Seaton said she has hosted twice, and did all the work by herself, so it is possible for a small staff to pull this off. Brian Koehler said LIPS has past conference hosts mentor the new conference host, and he'd be willing to help out the next person.

Steve Russo asked who would be willing to come to his facility, knowing that mass transit is 2 hours away. Steve is certain the entire town would be on board, so will the membership consider his place as an option? Kevin Williams suggested Steve Russo make a proposal for 2020. Brian Koehler reminded that IPS is that year, so people may have to choose which one to go to. Shawn Laatsch reminded us that IPS has travel stipends one can apply for, especially for first time attendees. Mark Percy said Buffalo is thinking of hosting in 2024, in the days after the April 8 eclipse. Megan Norris suggested mini-MAPS conferences in an IPS year.

The Executive Board will request a formal proposal for 2019 from South Carolina.

One USA regional society suggested doing a "national" conference before the IPS conference in Edmonton, Canada before the 2020 IPS conference. The Executive Board is not in favor of it for several reasons including it would not be taking place in our country, who would be invited or not invited (USA only or can international people attend), would extend one's time away from home facilities for additional days adding to cost of travel, etc.

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QUESTIONS THAT LEAD TO LESSONS!

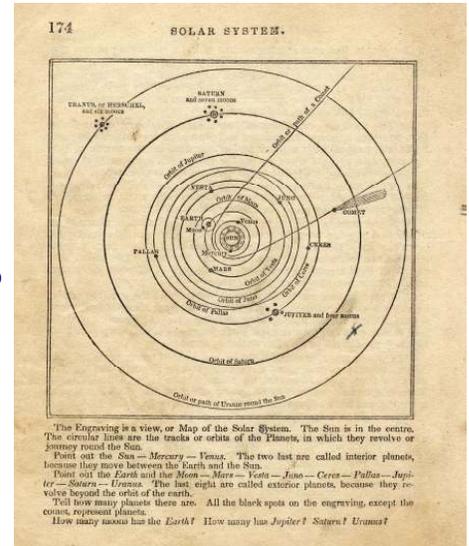
(Continued from page 3)

toys in two groups. But what if you got some Legos™ for your next birthday? At first, maybe you could put them in the cars box since you can make a car out of them. But what if you got more and more? Wouldn't you eventually want a new box? Scientists made up the new box "asteroids" for all those little guys. Nobody remembers this regrouping because it was so long ago.

Then, I fly out to Pluto and show how it is an oddball in terms of its orbit and composition. For a long time, it was the only thing we knew about out there so we called it a regular planet. (Maybe I also talk about how it "shrunk" over the years.) Then I turn on Eris, Haumea, and Makemake. Next, I turn on all the KBOs and ask the kids if they want to have to keep track of all those guys for their next test? So once again, astronomers made new discoveries which led to them creating a new box. Nothing changed about Pluto. It is the same old iceball, but we now know that it is far from alone out there. I proceed to explain the definition of a dwarf planet and how most of the KBOs don't fit into that box because they are not spherical (or nearly so). Then I have them recall the asteroid belt and explain that Ceres fits in our new box. Lastly we fly back in near the Sun and I review all the names and groupings.

I finish up by making sure to explain that discoveries are not done. Science is never done. It is very likely that more dwarf planets will be discovered and there's a hypothesis about another large planet waaaaay out there. We WILL get new information and then we will have to figure out how we want to incorporate that into our understanding and classification scheme. However, nothing changed about Pluto besides our grouping system. It is the same old iceball it has always been and it probably doesn't care what we call it.

— Mark Percy



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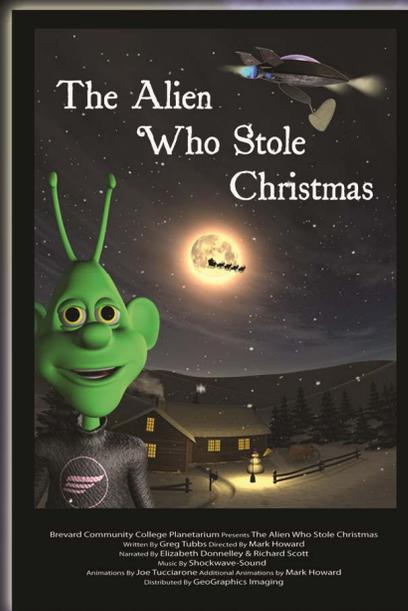
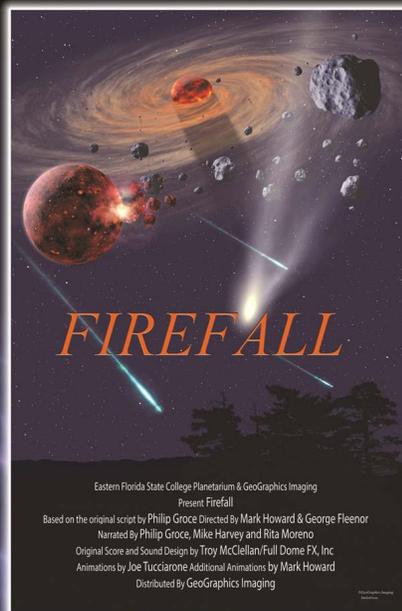


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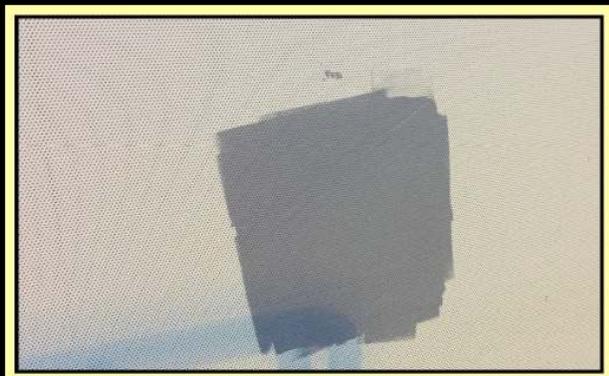


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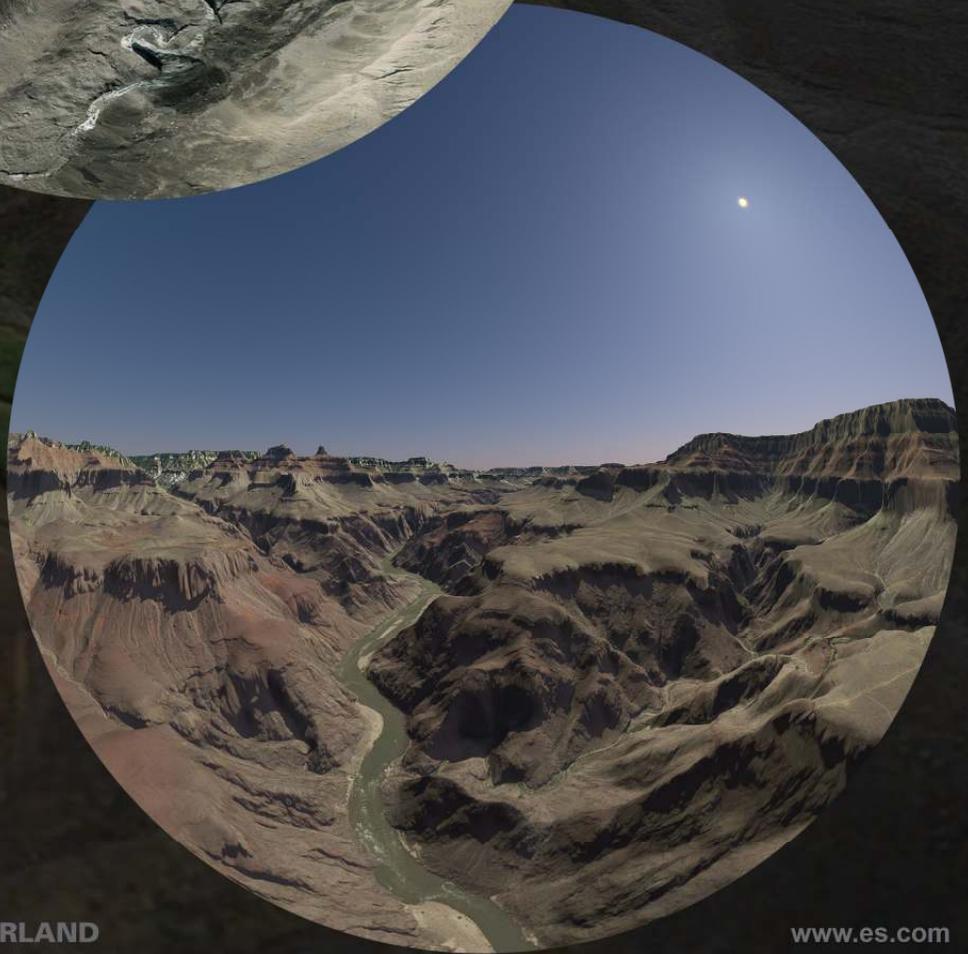
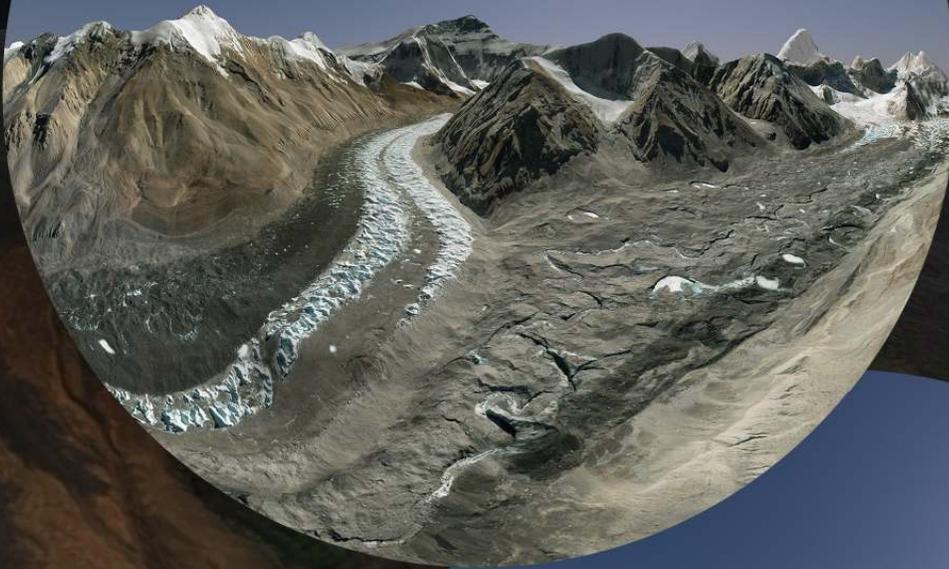
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Stories in the Stars

An Iroquois Indian Bear Tale Adopted and retold by Susan Reynolds Button from a story told by Ray and John Fadden (Mohawk)

Long ago, there was a village at the edge of a forest. Usually the hunters of this village found plenty of game to feed the people for the entire year. There was a time, however, when they found the food becoming scarce and they had to travel greater and greater distances from the village to find any game at all.

On one of their hunting trips they came upon some huge tracks of a bear. These tracks were abnormally big and the hunters understood that this bear must be huge too. Probably it was the reason there was less and less game, for this bear must have a huge appetite to go along with its size.

When they returned to their village, the hunters told what they saw. This caused all of the strong young men to become excited about hunting this stealer of the peoples' food. They made preparations for a big hunting party to go after this bear. They even put on war paint, danced around the central fire and sent smoke prayers to the creator to increase their chances of success.

Unfortunately this hunting party was unsuccessful. That bear was so big that the men had no chance against it. Most men were killed or wounded by one or two mere swipes of that bear's paws. The other men ran back to the village to tell their tale of woe.

No one knew quite what to make of this and much discussion went on but no solutions were found. One night one of the remaining braves had a dream that he was able to kill that bear. When he awoke he was astonished to find that two other braves had the exact same dream! Now, if two had the same dream that could just be a coincidence...but three having the same dream must be a powerful sign from the creator.

So the three braves set out to make the dream come true. The first brave had his bow and arrows, the second had a knife and a pot to cook the bear and the third took on the job of gathering wood for the fire they would build under the pot.

When they came upon the huge bear they were surprised to see it turn and run from them. That bear ran and ran and so did the hunters. The first brave was able to shoot that bear just as it ran right off the top of a mountain into the sky! As the hunters began to cut the bear into pieces and put it into the cooking pot, the bear's blood and fat dripped out of the sky onto the maple trees below and the leaves turned all red and orange and yellow.

Well those braves had a great feast and thought they had gotten rid of that bear for good. But little did they know that they had not killed the spirit of the bear. The spirit of the bear found a sky cave to rest in for many moons until he was strong enough to reassemble himself and come back to the earth. The hunters must chase and kill him every year and every year he returns.



Credits:

Tehanetorens (Ray Fadden), "Legends of the Iroquois", Summertown, TN: The Book Publishing Company, 1998 reprint. Reprint of story pamphlets that were originally published in the late 1930s and 1940s by Ray Fadden. These ancient Haudenosaunee stories are presented in pictographs with English translation, plus they are supported by illustrations by the author's son, John Kahionhes Fadden. This contains a version of the Seven Dancers, plus the Story of the Monster Bear (Big Dipper)

The Bear constellation wheel that follows on the next few pages is adapted from another Native American story in the STARLAB curriculum which is online at:

<https://starlab.com/wp-content/uploads/2017/04/D.-9.-Native-American-Myth-v616.pdf>

Horizon for Bear Hunt Constellation Wheel

Instructions

Cut out the horizon below along all sides and along the contour of the trees and mountain. Glue or tape the three side edges to the template shown on the next page. Remember: do not glue or tape the entire horizon, just three edges to the template: the bottom, left and right. The top of the horizon must be free to accommodate the constellation wheel as it is turned.

*Cut out along the contour of the trees and mountain.
Remember: do not glue or tape this edge*



Cut along edge

Bear Hunt Constellation Wheel

Instructions

Position yourself to face north in the planetarium. While facing north, hold the constellation wheel in front of you and turn it until the season mentioned in the story is below these instructions. Make sure the position of the bear (Big Dipper) on the wheel matches the position of the Big Dipper in the planetarium sky.

Note

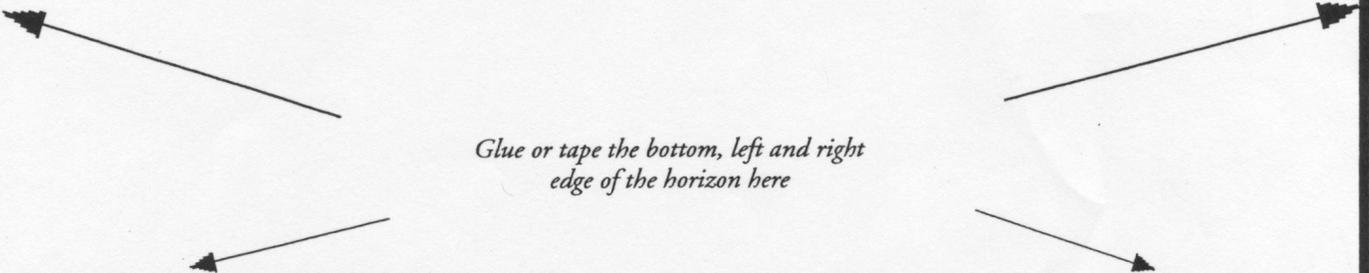
Seasonal viewing times are for 9 pm from 50° N latitude.

Polaris



Punch out hole and fasten the Constellation Wheel by placing a brad through Polaris on the wheel and this template.

Glue or tape the bottom, left and right edge of the horizon here

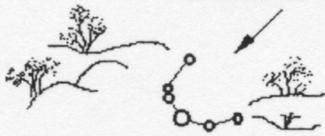


Autumn

Late Summer

Winter

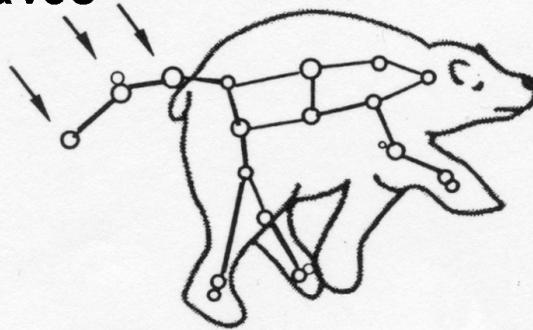
Bear's Den



Polaris



Three Braves



Early Spring

(Continued from page 5)

Audit Committee

Paul Krupinski thanked everyone who ran for the Board of Directors positions. There were many excellent candidates.

Elections Committee

Patty Seaton informed us that the positions of President Elect, Secretary, and Treasurer are up for election this year. It was so exciting to see a big turn out of candidates for the last election. Please let Patty know if you want to run or want to nominate someone for a position. It's very rewarding to be part of the Board or on a Committee.

Awards Committee

Wendy Ackerman has stepped down from chairing this position. Patty Seaton has taken over. Patty is happy to have anyone join her on the committee. Patty reminded us of the different awards. All the descriptions and criteria as well as forms, are on the website.

Constitution Review

Steve Russo and Megan Norris said that their committee goes into effect when there needs to be a change to the By Laws or Constitution.

Education Committee

Patty Seaton spoke on behalf of Lee Ann Hennig who was not in attendance. Lee Ann had asked for eclipse reports for the Fall 2017 Constellation. Thanks to those who contributed. Let us know what you want the Education Committee to do and how we can help you.

Lee Ann is also concerned that there's an overall general apathy from the membership towards our newsletter (lack of contributions) and towards our organization. Lee Ann urges members to write articles, join committees, and run for officer positions.

Historian

John Meader has a filing cabinet filled with documents and pictures. He occasionally does a column for the Constellation called "Old MAPS," publishing articles and pictures from years past. He is missing some issues of the Constellation. He will check which ones, and asks if anyone has one they can send him, please do so.

Publications Committee

Kevin Conod (not in attendance) is a committee of 1. Kevin Williams asked if anyone is interested in joining this committee, let us know.

Website

Tim Collins spoke for the committee. Committee Chairs, think about your content on the website. What do you want to get out to the membership more immediately. Conference attendees: Please send Tim your pictures from this conference, preferably via Dropbox.

Steve Russo spoke up, asking to go back to the Publications. We all really need to submit content to the Constellation. One idea might be "how we got into this field." And we are all doing stuff in our domes, so please share a story. Kevin Williams asked if you are getting a paper copy and don't want it, let Talia know. Most of the cost of the Constellation goes towards printing and mailing. It's always available on the website.

Ad Hoc Committees

Two Ad Hoc Committees have been formed.

- Code of Conduct. IPS, as well as other organizations and businesses, all have one, and we need one. Our timeline is to have one in place by November 1, so that you can agree to it when you renew your membership for next year. Amie Gallagher is the Chair. If you have questions, concerns, comments, you can send them to Amie. Amie.Gallagher@raritanval.edu. Comments will remain anonymous. Shawn Laatsch said that all professional organization have codes of conduct. He recommends looking at IAU's because it covers a broad range of topics.

(Continued on page 18)

(Continued from page 17)

- Memorial Committee. Paul Krupinski will Chair this committee to recognize when someone passes away. The Chair can be the point person to gather information and obituaries to be published in the Constellation and remembered at the annual conference.

Steve Russo pointed out that the Memorial should be a standing committee, not an Ad Hoc Committee. Shawn Laatsch said IPS has a Memorial Committee. Please share any deaths with John Hare or Ian McClennan. They will be recognized at IPS's conference.

Unfinished Business

Steve Dubois reported that Education Research Grants are available. The description is on the website. Susan Button asked us to please consider hosting an international planetarian. The USA host needs to cover room and board, plus \$500 towards the cost of travel for the visitor. IPS covers an additional \$500 in travel fees. Can the Executive Board discuss putting covering that \$500?

New Business

The old black and white logo has been updated to a color version. Steve Dubois created it several years ago. Steve also did the logo for this conference. Kathy Michaels wonders why the radiant point is so low. Patty Seaton said we could ask Steve how hard it is to move. We recognize that there is not an accurate starfield on the top half. A motion was made to approve the color logo as is. We voted unanimously to accept it.

IPS News

Shawn Laatsch encouraged all MAPS members to become IPS members. The next conference is in July in Toulouse, France. 2020 is in Edmonton, Canada. Submissions are being accepted for 2022. The Council is working on Vision 2020. There have been improvements to member services, like multiple membership fees from student and career starter to individual, institution, and corporate members. Shawn said they would like to do IPS events are regional conferences. There are lots of resources on the website. Elections for officers will happen this year.

The meeting adjourned at 5:33 pm.

Respectfully submitted,
Amie Gallagher, Secretary

Did you know?

MAPS has an Education Mentoring Network

Our field tends to be a specialty in which one often finds oneself operating single handedly without the benefit of immediate consultation with a colleague facing the same challenges. If you are starting out in the planetarium field or have recently moved to a new facility with unfamiliar equipment or curriculum, and have questions for a fellow educator, technician, or coordinator, our mentors can help.

The contact information for our mentors is located on our website:
mapsplanetarium.org — see the “Education” section.

The Accessible Planetarium: Why It's Good for Your Bottom Line

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According to the U.S. Department of Labor, people with disabilities represent the third largest market segment in the United States. The 2016 American Community Survey of the U.S. Census found that almost 13% of the U.S. population has a disability. It is estimated that there are more than one billion people with disabilities globally, and more than two billion people have a family member with a disability or are friends with a person who has a disability. Combined, their economic power in annual disposable income is in the trillions of dollars (Donovan, 2016). If you consider the spending power of this population, making your programs accessible is good business sense.

Who are your visitors? About 75 million people are considered "baby boomers" (born between 1946 and 1964), and more than half of people aged 65 or higher self-identify as having a disability. An important consideration is that baby boomers have the highest spending power, controlling seventy percent of the country's disposable income. Over the next 20 years, spending by people 50 and older is expected to increase by 58 percent to \$4.74 trillion, while spending by Americans aged 25 to 50 will grow by only 24 percent. (Immersion Active, 2017). Chart 1 shows the 2016 age distribution of people with and without disabilities. Notice that more disabilities are associated with people ages 65 and over.

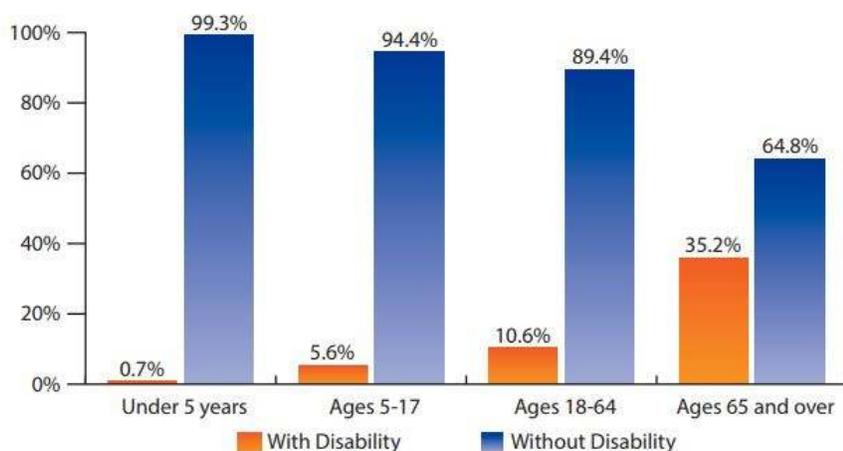


Chart 1: Age Distribution Of Disability in the U.S. Population, 2016 (adapted by N. Grice from the University of NH Institute on Disability)

Administrators often focus on revenue and return on investment in their quest to balance the budget today and plan for the future of the institution. Investments of human and capital resources made toward accessibility today are planning for the future. Consider the baby boomers as a target market segment; they may visit a planetarium alone or with a friend, or take the grandchildren for a visit. A positive experience can motivate people to return and transform them into longtime members. Table 1 lists the estimated prevalence of disabilities in each of the New England states, based upon the 2016 U.S. Census.

Table 1: Estimated Prevalence of Disabilities in New England States in 2016 (CornellDisabilityStatistics.org)

Location	Population	Percentage with Disability
Connecticut	3,533,200	11.1%
Maine	1,319,000	15.7%
Massachusetts	6,741,600	11.6%
New Hampshire	1,319,100	12.8%
Rhode Island	1,043,900	13.4%
Vermont	619,100	14.3%

What does accessibility mean? The first thing that might come to mind is an image of a person in a wheelchair. However, the use of a wheelchair does not represent all disabilities. A disability can also be related to mobility, vision, hearing, communication, learning or cognition impairments, or someone who needs personal assistance to live independently.

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In their *2016 Annual Report on the Global Economics of Disability*, the Return on Investment Group states that “people with disabilities (including their friends and families) control over \$8 trillion in annual disposable income globally and about \$4 trillion in the United States.” Meanwhile, the American Institutes for Research states (April 2018) “The total after-tax disposable income for working-age people with disabilities is about \$490 billion.” It’s difficult to place a monetary value on people with different disabilities, but the goal should really be access for everyone.

Consider curb cuts and ramps. They were designed for people with mobility difficulties, yet everyone uses them, especially people pushing baby strollers. Large print maps were originally designed for visitors with visual impairments, but a lot of people prefer them because they are easier to read. Captioning was designed for people with hearing impairments, but people who are not native English speakers often request it. Computer kiosks with large buttons, or computer keyboards with highly contrasting keys, are often preferred for their ease of use. The artificial intelligences Siri and Alexa are not just assisting people with disabilities; they are also used by millions of people in various business and personal applications.

Increased accessibility options allow visitors to actively engage with programs and exhibits. Some solutions involve assistive technology, while others may involve universal design or creative use of common items. *Everyone’s Universe: A Guide to Accessible Astronomy Places* (available through Amazon.com) is a resource I wrote that documents programs and facilities that are accessible for a wide range of disabilities. You might find it especially helpful to have a copy as a reference.

Consider the potential of the baby boomer population as a target population for your museum and planetarium. They have the highest percentage of disabilities in their age bracket. They like to spend leisure time with family and friends. They are the fastest growing population segment and have the highest spending power.

In addressing accessibility, don’t be surprised if you notice revenue rising because you have solved a problem or enhanced an opportunity that has positive benefits for a wide range of visitors. The bottom line is that there is an untapped segment of the population with disabilities, interested in visiting your facility. Your goal should be to create a value proposition that they can’t resist and develop new relationships that will flourish.

This article has made a Business case for why planetariums should be more accessible and welcoming for visitors with disabilities. Once you have established or increased accessibility options, be sure to include that information in all of your marketing materials so that your planetarium can benefit from increased attendance. The author has experience with developing inclusive materials and programs for large and small museums.

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