SPRING 2024

CONSTELLATION

The newsletter of the Middle Atlantic Planetarium Society

IN THIS ISSUE:

The BIG story...

"Launching into the Next 100 Years"

In this Centennial Year for planetariums, the Middle Atlantic Planetarium Society is inviting all members to our 2024 conference, which will be held in Mystic, CT from June 20-23, 2024.

The theme of this year's conference is, "Launching into the Next 100 Years," and events during the conference will both celebrate all that we have been, and also dream about what we can be, in this new century for domes...

Registration for the conference is now open, and information on the gathering can be found in this issue and on the MAPS website. We hope to see you all in Connecticut for the first few official days of summer!

“Oh, the places we have been. Oh, the places we will go!”

President’s Message by Noreen Grice

On a warm and sunny day, a group of children left the elementary school for an adventure they would never forget. The first graders had never been on a field trip before, and the school bus was filled with excitement. Upon arrival, the children stepped off the bus and onto a brick plaza before entering the tall building. A person with a maroon coat guided everyone down a long hallway and to the waiting area. Then, the doors opened and a tall person welcomed the class to the special room and guided them to their seats. The sight of the giant robot in the middle of the room scared some of the children. But one little girl was intrigued. She wondered what would happen in this strange room. She looked up at the view of the Boston skyline and watched the Sun slowly drift across the sky. Then a voice welcomed everyone to the planetarium and invited the audience to watch the sky change from daytime to night. The Sun slowly set in the west, and an orange and red glow faded as bright stars slowly began to appear. The little girl was amazed. Then, the lights of the city faded as the audience traveled to the country to see the night sky. The little girl couldn’t believe what she was seeing! It was the most amazing thing she had ever seen in her life! How could anything be so wonderful as this!

Who was that little girl? That was me. And it might have been you, too, when you saw your first planetarium show. Ask anyone who works in the planetarium field, and they will tell you that planetariums are the most wonderful places in the world!

As a first grader, I had no idea that one day I would be welcoming learners to that very same planetarium. But it happened. I have some wonderful memories of my time there. You probably feel the same about your planetarium experiences.

MAPS is an organization of like-minded planetarium educators, who love what they do and want to share their love of astronomy with learners of all ages and abilities. Individually, we bring the gift of astronomy to learners we meet, and as a group, we plant the seeds of interest in space science through a wide swath of the country. Some of us travel with portable domes to diverse locations and others welcome visitors to their fixed domes. Some of us are planetarium consultants. What we do... really matters.

This year we are celebrating where we have been, through the centennial of the planetarium field, and we are also celebrating the history of our own organization. Some of our members will travel to Germany for the International Planetarium Society’s Centennial Conference. As our own contribution to the Centennial celebration, we are inviting you

"Oh, the places we have been. Oh, the places we will go!"

President's Message by Noreen Grice (continued from previous page)

to host a "Picture Yourself in the Planetarium" Day in May at your own facility (portable or fixed). We have included some suggested activities in this issue. And we invite you to share pictures of your events on our new Middle Atlantic Planetarium Society Facebook Page. (Not yet a member of the new Facebook page? **Please join!**)

In June, we will gather in Mystic, Connecticut, for the 2024 MAPS Conference. Details are provided in this issue. Please register and join your planetarium friends in the beautiful setting of the Mystic Seaport Museum's Planetarium. Our conference host (and Editor of the *Constellation* newsletter) is Brian Koehler. He is keen on making this conference one that we will long remember. We know that it will be great!

I'll end this message with reference to someone who always knew how to encourage learners and colleagues of all ages. Dr. Seuss wrote a book entitled, Oh, The Places You'll Go, to commemorate the transition of graduation from one moment in life to the next. The Middle Atlantic Planetarium Society has gone through many transitions, beginning with its foundation as a small organization of dedicated planetarians.

Today we have members from Maine to Georgia, and west to the Great Lakes and beyond. We are a planetarium family. **Oh, the places we will go into the next century of MAPS!**

Sincerely,

MAPS Executive Committee

***The Constellation* is the newsletter of the Middle Atlantic Planetarium Society (MAPS). It is published four times a year near the equinoxes and solstices. To submit an article or ad, please contact us at publications@mapsplanetarium.org.**

Connect with MAPS!

Groups.io

Follow us on LinkedIn

NEW!!!

Join us on Facebook

We have a NEW Facebook group (created in early 2024) for the Middle Atlantic Planetarium Society. This is replacing our old "Facebook Fan Page" which was populated by thousands of Facebook users who had nothing to do with MAPS.

This new group is ours - For MAPS, by MAPS! If you are not a member yet, click the button above to join today!

Stories from MAPS

Bringing Astrophotography into the Planetarium

by Elliot Severn

Astrophotography is the essence of STEAM; a perfect convergence between science, technology, and art. Many of us in the planetarium community do astrophotography as hobbyists, spending countless nights in the cold, countless hours processing our images, and spending our paychecks on the latest gear. But why do we do it? For some of us, it's not enough to seek dark skies to hunt for faint fuzzies through the eyepiece. We want to see and share deep space in vivid detail and color. But every degree of sky has been photographed a million times over with better equipment than we could ever hope to own. With ESO, Hubble, JWST, and EUCLID, your image of NGC4565 will never be the best. Despite that, we all take pride in our special image of M42.

Going through the process of gathering and processing the data makes space seem more real and accessible.

After chasing photons for most of my life, becoming a planetarian has renewed my purpose as an astrophotographer. New methods of displaying images on the dome give great context to objects that are mostly invisible to the human eye. And sharing images with audiences that were taken in their own neighborhood the night before makes their planetarium experience unique and authentic. The tools that make it possible are plate solving and sky surveys. To overlay an image in the correct position in the sky, you need to know the coordinates of the image center (RA and DEC), the field of view in degrees, arcminutes, and

Stories from MAPS

Bringing Astrophotography into the Planetarium

(continued from previous page)

arcseconds, and its orientation with respect to North. These can be determined automatically by uploading your image to a free program such as astrometry.net or ASTAP. These tools detect stars in your image and calculate its attributes.

Most planetarium systems have a way to overlay an image in the correct position using this metadata. Then, you can either use camera controls or write a script to slowly zoom into the object. If your system supports sky surveys, activating them makes for an immersive experience by showing additional stars and nebulosity beyond the borders of your image. In some cases, you can even make your image blend seamlessly with the background sky.

This context changes people's perspective like nothing else. Once you zoom into it on the dome, you can't look at Orion's belt without imagining the invisible Horsehead Nebula suspended below Alnitak. Knowing when and where the image was taken and hearing about it from the photographer makes these celestial targets seem more real and relatable. After the show, I'm always approached by people wanting to learn more about how I take these images and how they can try it themselves.
As long as the weather cooperates, astrophotography ensures a steady stream of fresh content for your shows and an incentive to get out and enjoy the sky more often.

Stories from MAPS

Updates from the East Kentucky Science Center and the Varia Planetarium

by Steven L.J. Russo

"Mesmerica" had its first showings at the EKSC, and attendance was good. Over 1500 tickets were sold since November.

The big news was an upgrade to the Planetarium. Back in September the EKSC upgraded to a new Digistar D7 projection system. The D7 replaced the Spitz SciDome HD that was installed in 2011 when Steve Russo took over as the Director. Steve was the one who originally proposed and researched the new system, but the project was put on hold when Covid hit. At the same time, the College was changing Presidents, and the Planetarium was in the process of changing Directors after Steve retired in March of 2021.

Chrysta Ghent became the new Director in August of 2021, and continued the process with the new college president.

The D7 joins the GOTO Chronos and the Sky Lase laser system in the 40-foot dome.

During the past five years, the Planetarium also upgraded their cove lighting system to a new ChromaCove system, and the dome and the whole science center received new carpeting, exhibit hall flooring, and new wall carpeting due to a flood.

This year will also mark the 20th Anniversary of the opening of the EKSC, and special events are in the planning.

Stories from MAPS

P-TECH Planetarium News and Updates

by Dr. Carlos Miranda

On December 9th, the Paterson Museum was abuzz with excitement as families and guests embarked on a captivating "Voyage Through the Solar System." The event was organized in collaboration with Paterson P-Tech High School students, the Paterson Museum, Great Falls National Park, NASA Solar System Ambassadors, and the P-Tech Planetarium's portable program, aimed to inspire a love and appreciation for space exploration and science.

Over 170 families gathered for a day filled with hands-on activities, informative presentations, and mesmerizing planetarium programming. The event showcased the incredible collaborative efforts of our local educational institutions and organizations, bringing the wonders of the solar system to life for participants of all ages.

Paterson P-Tech High School students took the lead in organizing and running various activities, displaying their passion for science and commitment to community engagement. Their enthusiasm was contagious, creating an engaging atmosphere that made learning about our solar system both educational and enjoyable.

The hands-on activities ranged from creating models to interactive experiments that allowed participants to experience the wonders of space firsthand. These activities not only captivated the young minds present, but also provided valuable insights into the marvels of our solar system.

Informational presentations were a highlight of the day, with experts from NASA Solar System Ambassadors sharing their knowledge and insights. Families had the unique opportunity to learn about recent discoveries, upcoming space missions, and the broader significance of space exploration in our lives.

The P-Tech Planetarium's portable program added an extra layer of excitement to the event, offering planetarium programming that transported attendees on a virtual journey through the cosmos. The immersive experience left a lasting impression, sparking curiosity and fascination among both children and adults.

Stories from MAPS

P-TECH Planetarium News and Updates

(continued from previous page)

A photo from the "Voyage Through the Solar System" program that is referenced on the previous page.

We here at the P-Tech Planetarium were awarded the SEPA mini-grant for $1000. These funds will be used to purchase astronomy/space/STEM-themed texts for struggling readers in our district's after-school reading programs. Our portable planetarium will visit those schools in hopes to engage and motivate students to want to learn more.

The Planetarium was also the beneficiary of the 2024 NJ STEM Month Mini-Grant for $500 to assist in purchasing materials to enhance STEM related programming. Our event Casting Shadows: Everything you need to know about the eclipse (mentioned next) was supported by this mini-grant, Astronomical Society of the Pacific (Eclipse Ambassador Program) provided solar viewers and hands-on activities, and the NASA SSA program provided additional viewers.

Stories from MAPS

Mobile Planetariums Worldwide Meeting

by Susan Button

Mark your calendars! The International Planetarium Society invites you to join us in our next Worldwide Portable Planetarium online meeting. All are welcome (owners, producers, operators, manufacturers, vendors, and collaborators) to share your activities, ideas, techniques, and products.

Mobile Planetariums Worldwide Meeting
April 13, 2024 @ 14:00 GMT

At our January meeting we had 71 attendees from over 25 countries (Brazil, Canada, Colombia, Egypt, France, Germany, Greece, Honduras, Hungary, Iraq, Islamic Republic of Mauritania, Italy, Jordan, Latvia, Napal, Nigeria, Oman, Poland, Sweden, Switzerland, Ukraine, United Kingdom, United Arab Emirates, and USA (9 States)!

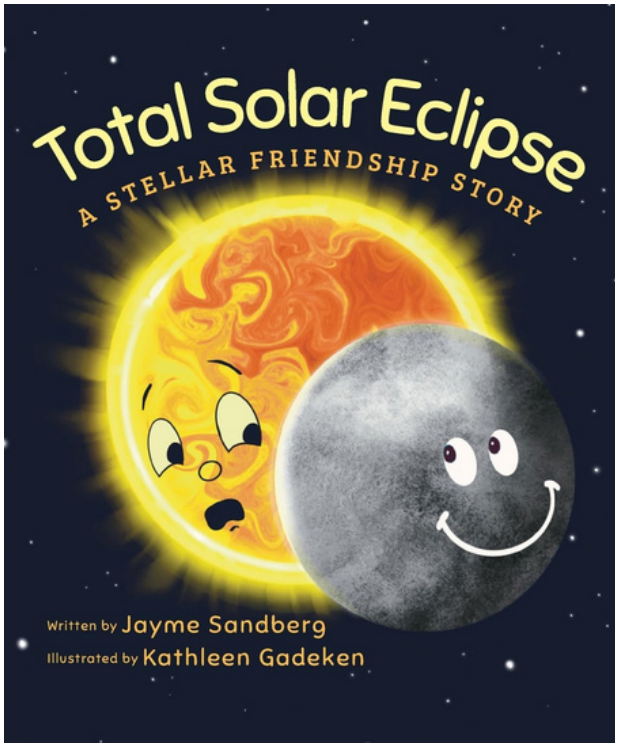
Six wonderful presentations were given:

- Omar Fikry - Egypt. "A wrong use of the inflatable dome"
- Lionel Ruiz - France. A variety of interesting topics including free shows and software.
- Muhammad Muslim and Sabra Mahmoud - Iraq. Two active mobile dome businesses.
- Air El-Laithy - Egypt. A Case study.
- Alexander Block - Sweden. OpenSpace resource.
- Maciej Mucha - Poland. The Aesthetic of Planetarium Visuals.

Stories from MAPS

Total Solar Eclipse: A Stellar Friendship Story

Book Review by Francine Jackson



Have you ever wondered how the Sun feels when his best friend, Moon, decides to pass right in front of him? Sun is very proud of the job he has, taking care of us Earthlings, but will they think less of him?

He also worries that suddenly Earthlings are looking directly at him; he knows that's not right, but, wait! They seem to be wearing strange glasses.

But, then, they take them off, and "love" seeing the Sun in the dark, showing his solar corona. He's so surprised, he wants to see for himself how he looks, so he tries a diamond ring! But, then, everyone's glasses come back on.

Sun is so happy how everyone liked him – plus no one was hurt – that he sends a note to Moon on how special they both are.

When it comes to introducing solar eclipses to young children, this little book is really special. A total solar eclipse, as told by the Sun, is a great way to show both how important our Sun is, and how it realizes how important it is not to observe it without special eye protection. The Sun is worried we will think less of him by being blocked by the Moon, but he learns the reverse is true, that we are grateful for him, despite leaving us for a short time.

As an introduction to the beauty of a total solar eclipse, this book will inspire children to want to see one, especially as this will be the last one in the U.S. until they reach adulthood. Families should read this as soon as possible, as our country's last total eclipse for over 20 years is fast approaching. Don't let this opportunity be lost.

Total Solar Eclipse: A Stellar Friendship Story

written by Jayme Sandberg

ISBN: 979-8988284116

Ages 5-8
$14.95 USD

Stories from MAPS

2024 Live Interactive Planetarium Symposium

by Mark Webb

The 2024 Live Interactive Planetarium Symposium has been announced. This year LIPS will be held in the GLPA/SEPA borderlands and will be hosted by Christa Speights of the Haille Planetarium at Northern Kentucky University (near Cincinnati) on September 4, 5, and 6.

LIPS 2024

September 4-6

Many have experienced the one-day Mini-LIPS workshops held at conferences; these are a mere shadow of the full-blown multi-day version, and are also very different from the activities found at regional conferences. Sessions can be 15-90 minutes, almost always interactive, and are definitely inspiring. LIPS is a great meeting for first-timers, as well as seasoned veterans. LIPS meetings are small, usually under 50 participants, and all demonstrations and activities are led as open discussions – it's a three-day-long question and answer session. The quality of presentations (and presenters), the time allotted to explore ideas, and the unique format is why LIPS is recognized around the world for its high level of planetarian professional development.

You can find out more about past LIPS and keep current with announcements for this year's meeting by visiting the LIPS **website** or **Facebook group**.

If you have specific questions, feel free to contact **Mark Webb** or **Karrie Berglund** for answers.

We hope that you will consider attending LIPS 2024 and start making plans to join us in September!

Stories from MAPS

Why the Moon and Stars Receive Their Light from the Sun

from the Library of the Smithsonian Museum of African Art
shared here by April Whitt

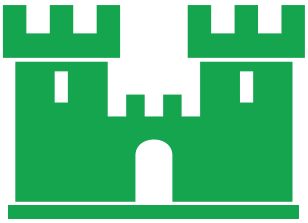
NOTE FROM THE EDITOR: This is the fourth story in a multi-part series shared by April Whitt. April continues to bring us star stories that she has collected over the years!

Once upon a time there was great scarcity of food in the land. Father Anansi and his son, Kweku Tsin, being very hungry, set out one morning to hunt in the forest. In a short time Kweku Tsin was fortunate enough to kill a fine deer – which he carried to his father at their resting-place. Anansi was very glad to see such a supply of food, and requested his son to remain there on guard, while he went for a large basket in which to carry it home. An hour or so passed without his return, and Kweku Tsin became anxious. Fearing lest his father had lost his way, he called out loudly, "Father, father!" to guide him to the spot. To his joy he heard a voice reply, "Yes, my son," and immediately he shouted again, thinking it was Anansi. Instead of the latter, however, a terrible dragon appeared. This monster breathed fire from his great nostrils, and was altogether a dreadful sight to behold. Kewku Tsin was terrified at his approach and speedily hid himself in a cave nearby.

The dragon arrived at the resting-place, and was much annoyed to find only the deer's body. He vented his anger in blows upon the latter and went away.

Soon after, Father Anansi made his appearance. He was greatly interested in his son's tale, and wished to see the dragon for himself.

He soon had his desire, for the monster, smelling human flesh, hastily returned to the spot and seized them both. They were carried off by him to his castle, where they found many other unfortunate creatures also awaiting their fate. All were left in charge of the dragon's servant – a fine, white rooster – which always crowed to summon his master, if anything unusual happened in the latter's absence. The dragon then went off in search of more prey.



Kweku Tsin now summoned all his fellow-prisoners together, to arrange a way of escape. All feared to run away – because of the wonderful powers of the monster. His eyesight was so keen that he could detect a fly moving miles away. Not only that, but he could move over the ground so swiftly that none could outdistance him. Kewku Tsin, however, being exceedingly clever, soon thought of a plan.

Stories from MAPS

Why the Moon and Stars Receive Their Light from the Sun

continued from previous page

Knowing that the white rooster would not crow as long as he had grains of rice to pick up, Kewku scattered on the ground the contents of forty bags of grain – which were stored in the great hall. While the rooster was thus busily engaged, Kweku Tsin made a strong rope ladder. One end of this he intended to throw up to heaven, trusting that the gods would catch it and hold it fast, while he and his fellow-prisoners mounted.

While the ladder was being made, the men killed and ate all the cattle they needed – reserving all the bones for Kweku Tsin at his express desire. When all was ready the young man gathered the bones into a great sack. He also procured the dragon's fiddle, and placed it by his side.

Everything was now ready. Kweku Tsin threw one end of the ladder up to the sky. It was caught and held. The dragon's victims began to mount, one after the other, Kweku remaining at the bottom.

By this time, however, the monster's powerful eyesight showed him that something unusual was happening at this abode. He hastened his return. On seeing his approach, Kweku Tsin also mounted the ladder – with the bag of bones on his back, and the fiddle under his arm. The dragon began to climb after him. Each time the monster came too near the young man threw him a bone, with which, being very hungry, he was obliged to descend to the ground to eat.

Kweku Tsin repeated this performance till all the bones were gone, by which time the people were safely up in the heavens. Then he mounted himself, as rapidly as possible, stopping every now and then to play a tune on the wonderful fiddle. Each time he did this, the dragon had to return to earth to dance – as he could not resist the magic music. When Kweku was quite close to the top, the dragon had nearly reached him again. The brave youth bent down and cut the ladder away below his own feet. The dragon was dashed to the ground – but Kweku was pulled to safety by the gods.

The latter were so pleased with his wisdom and bravery in giving freedom to his fellow men, that they made him the Sun – the source of all light and heat to the world. His father, Anansi, became the Moon, and his friends, the stars.

Thereafter, it was Kweku Tsin's privilege to supply all these with light, each being dull and powerless without him.

Stories from MAPS

“Constellation Sky”
(sung to the tune of “American Pie” by Don McLean)

by Patrick McQuillan

A long, long time ago
I can still remember
How that night sky used to make me smile
And I knew if I had my chance
That I could keep those people entranced
And maybe they’d learn something for a while

But in February the projector shivered
With every star show I delivered
Bad notes in the soundtrack
The motor wouldn’t turn one more step

I can’t remember if I cried
When I learned the slip rings had been fried
But something touched me deep inside
The day the star lamp died

So bye, bye constellation night sky
Turned the lamp knob to eleven
But there wasn’t a sky
The planetarians were drinking Woodchuck, Hot Damn!
Singing this’ll be the day with no sky
This’ll be the day with no sky

Did you book the service call?
And do you think they will F’ it up?
If the lamps even available

Now, do you believe in laser shows?
Can music save your bottom line?
And can you teach me some Blender, but real slow?

Well, street lights are making the stars be dim
The inner harbor dome’s run by a guy named Jim
Out of the cove there fell some screws
Now those lamps only turn on the blues

I was a young naive plan-e-tar-i-an
The night they towed the museum truck
In downtown Nashville I was stuck
The day the starlamp died

I started singin’

Bye, bye constellation night sky
Turned the lamp knob to eleven
But there wasn’t a sky
The planetarians were drinking Woodchuck, Hot Damn!
Singing this’ll be the day with no sky
This’ll be the day with no sky

Now, for ten years we’ve been digital
And Taylor Swift replaced the Rolling Stones
But, that’s not how it used to be

Back when we saw that red planet scene
And the narrator said MAHZS, what did that mean?
In a voice that came from behind the dome.

(song continues on next page)

Stories from MAPS

“Constellation Sky”

(continued from previous page)

Oh, and while King Cepheus was shining down
Someone stole the Corona Borealis crown
The winter season had adjourned
But Virgo had not returned

The meteor shower effect threw a bunch of sparks
The computer hard drives were stuck in park
And we sang Pink Floyd in the dark
The day, the starlamp died

We were singin'

Bye, bye constellation night sky
Turned the lamp knob to eleven
But there wasn’t a sky
The planetarians were drinking Woodchuck, Hot Damn!
Singing this’ll be the day with no sky
This’ll be the day with no sky

Hertzsprung and Russell viewed a data graph
And video replaced all the live staff
8K res’ and rising faaaast...

We argue about it on Dome-L
Many hoped that digital would come real fast
With the Jester wanting analog to forever last

You can search for the llama in the sky
You won’t find it, even if you try
We all got up to dance
Without a dollar you’ll never get the chance

‘Cause the planetarians tried to go home
But in Gastonia they still roam
A child of the Universe cried
The day the starlamp died.

We started singin'

Bye, bye constellation night sky
Turned the lamp knob to eleven
But there wasn’t a sky
The planetarians were drinking Woodchuck, Hot Damn!
Singing this’ll be the day with no sky
This’ll be the day with no sky

Oh, and there we were in one strange space
A hole in the dome and no chairs in the place
With no funds left to start again

So come on Jack you hustle, you don’t gaze
Jack regaled us with his laser shtick
‘cause ILDA is the laser’s only friend

(song continues on next page)

Stories from MAPS

“Constellation Sky”

(continued from previous page)

As I watched the special effect up on the stage
It failed to properly engage
The manatees slept well
elsewhere there was a fiery hell

And as the flames climbed high onto the dome
To light the Bradenton sky night
There’d be no starshows today nor tonight
The day the starlamp died

We were singin'

Bye, bye constellation night sky
Turned the lamp knob to eleven
But there wasn’t a sky
The planetarians were drinking Woodchuck Hot Damn!
Singing this’ll be the day with no sky
This’ll be the day with no sky

I met a girl who danced in fountains
And I asked her for some happy news
But she just smiled and splashed away

I went down to the sacred dome
Where I'd found Carmen San Diego years before
But the man there said that Pluto couldn’t stay

And in the seats the children screamed
The lumalines dimmed and the precession leaned
But not a word was spoken
The Tascams all were broken

And the three folks I admire most
Larry, Mike, and Elizabeth
They caught the laserium show on the coast
The day the starlamp died

And they were singing

Bye, bye constellation night sky
Turned the lamp knob to eleven
But there wasn’t a sky
The planetarians were drinking Woodchuck, Hot Damn!
Singing this’ll be the day with no sky
This’ll be the day with no sky

They were singing
Bye, bye constellation night sky
Turned the lamp knob to eleven
But there wasn’t a sky
The planetarians were drinking Woodchuck, Hot Damn!
Singing this’ll be the day with no sky

Stories from MAPS

Earth Science for Jovians

by ##*)+%*+_!^>}
translated from Scientific Jovian by Thomas Wm. Hamilton

NOTE FROM THE EDITOR: This is the final part of a series of science fiction stories written by Tom Hamilton. Please enjoy this satirical look at how Earth and its Moon might be viewed from a different vantage point in our solar system.

Public curiosity about the planets of lesser importance than ours has inspired me to provide some knowledge on a typical example.

The third planet from the Sun is the largest of its type, a collection of rocks embedded in what passes for an atmosphere. But largest of its type is pathetic, a mere one-eleventh the size of our Jupiter. In keeping with the size, it has but one moon, unlike our collection of nearly a hundred. Its moon is no impressive member of the Solar System, smaller than three of our moons, but at least it does cause some minor tides in its planet.

This third planet lacks the rich gasses we know, such as ammonia, ethane, methane, phosgene, sulfur dioxide. Its atmosphere is mostly nitrogen, with some oxygen, largely lacking the supplies of hydrogen that we enjoy. The prime occurrence of hydrogen seems to be in the molecule oxygen dihydride, a rather rare molecule here, but seen as a fairly common molecule on some of our moons. Chemists believe this pretty much assures life is impossible, but a few biologists have tried to speculate about some off-beat possibilities, which has encouraged our more far out fiction writers. Here, I am sticking to real scientific knowledge and possibilities.

The third planet's density is nearly four times the density of our planet, and in fact is highest of any planet. This assures it must have an impressive core of the denser elements, such as iron, uranium or mercury. Presumably it does have iron, because it has a magnetic field similar to ours, although far weaker. This density means the surface gravity will be uncomfortably high.

Temperatures are in a much smaller range than seen in our atmosphere, generally matching what we see at depths of 100 to 300)_^+&$. Winds are a pathetic one tenth of what we enjoy. Clouds appear to be solely the oxygen dihydride molecule. Such monotony surely further depresses the chances for any native life forming.

Stories from MAPS

Earth Science for Jovians

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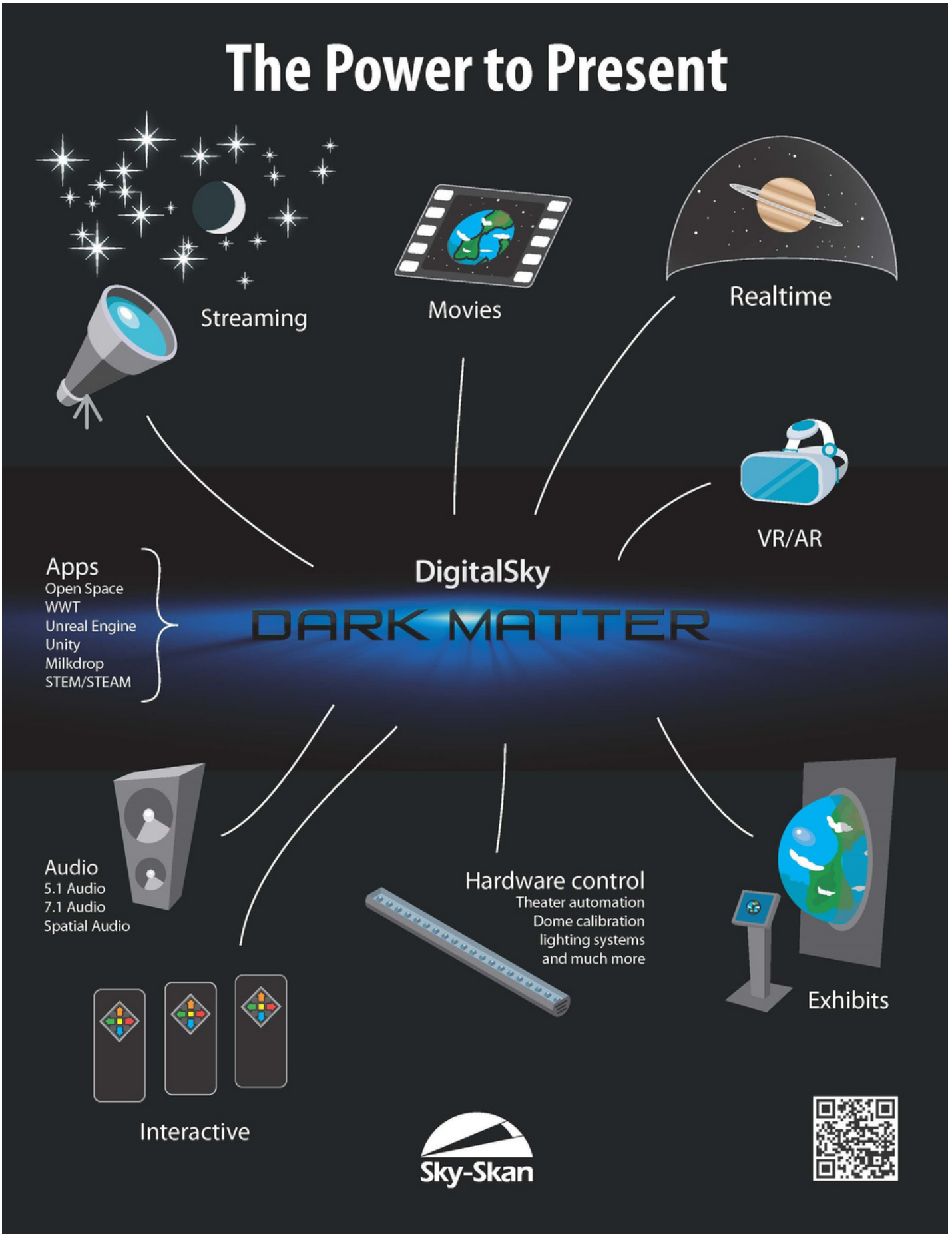
There appears to be some undetermined gravitational link between our planet and the third one, as in recent years astronomers have tracked several small objects whose perihelion lies near or at the third planet's orbit, and whose aphelion is our orbit. This should not be confused with our Trojan asteroids or other known and explained classes such as the Belinda family. One of the things that makes astronomy so exciting is the discovery of new mysteries waiting to be solved.

Many thanks to Tom Hamilton for sharing his science-fiction creations with us! You can find the other parts of Tom's series in the past three issues of the Constellation:

Summer 2023: Earth Science for Mercurians
Fall 2023: Earth Science for Venusians
Winter 2023: Earth Science for Martians


The Power to Present
Streaming
Movies
Realtime
VR/AR
DigitalSky
DARK MATTER
Apps
Open Space
WWT
Unreal Engine
Unity
Milkdrop
STEM/STEAM
Audio
5.1 Audio
7.1 Audio
Spatial Audio
Hardware control
Theater automation
Dome calibration
lighting systems
and much more
Exhibits
Interactive
Sky-Skan

2024 MAPS Conference Information

Launching Into the Next 100 Years: Our 2024 Conference Theme

by Brian Koehler

"A ship in the harbor is safe, but that is not what ships are built for."

--- John A. Shedd

In the maritime world, the word "LAUNCH" conjures up a special image in the mind. It is the culmination of a tremendous amount of time and preparation – shaping the hull, forming the planks, rigging up sails and fastening lines into place.

And yet there is still so much more work to be done. The launching of a ship is not the end of the ship's story, but rather the turning of a page, the transition to a new chapter, the end of a time spent on land, and the beginning of a voyage out into the unknown.

All of the effort that was exhausted on land, that time was spent with the hopes that the vessel will sail, that it will steer, that it will EXPLORE...

2024 MAPS Conference Information

Launching Into the Next 100 Years: Our 2024 Conference Theme

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In the realm of space exploration, the word "LAUNCH" has a similarly-compelling definition. Again, it is the end-result of so much work – engineering design, fabrication, and precise calculations, among other tasks. Watching a rocket soar into the sky is just as captivating – if not even more captivating – than watching a vessel splash into the water for the first time.

But once again, the work does not end there. A rocket launch is the end of a spacecraft's time on our planet, but it is also the beginning of a new era, a new mission, one that seeks knowledge and discovery.

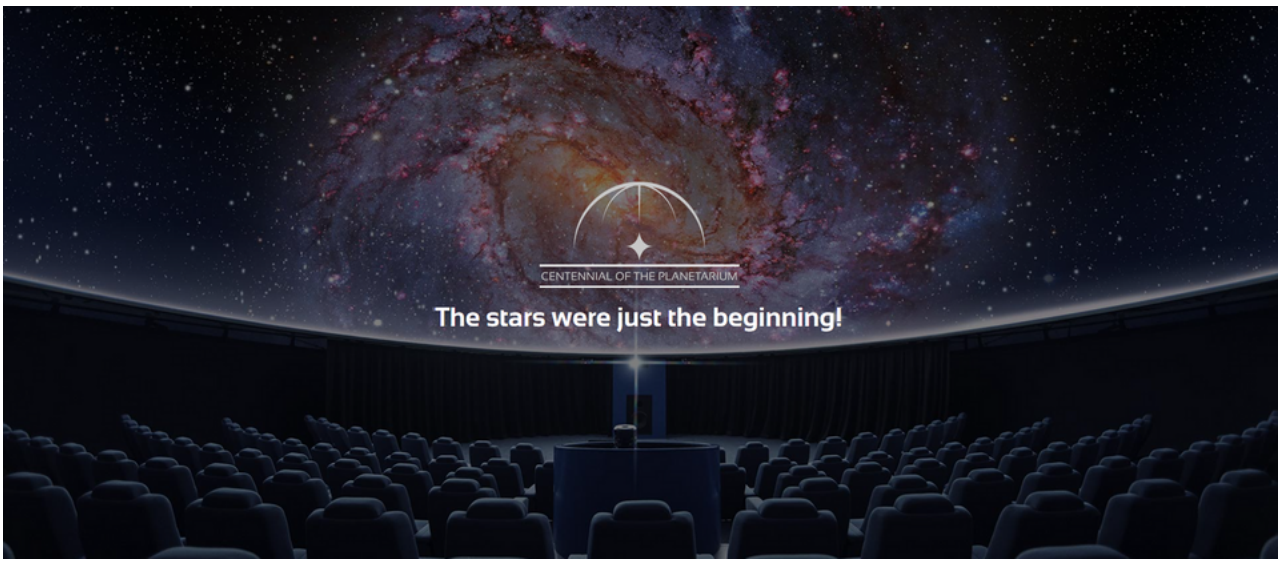
As humans, it is in our DNA to be curious, to imagine, and to wonder. Thousands of years ago, we stood along the shore and saw eternity in two directions – out over the horizon, and up into the heavens. And whichever brave soul first saw fit to construct a means to sail over that horizon, their spirit of adventure was surely passed all the way along to the first explorers to soar into outer space. So very much has changed over the years, but as long as the spirit endures, humans will always imagine, we will always wonder, and when the time is right, we will LAUNCH...

2024 MAPS Conference Information

Launching Into the Next 100 Years: Our 2024 Conference Theme

(continued from previous page)

There must always be a leap-of-faith involved in a launch. Perhaps you are scanning that boat in the water for the first time, checking for leaks and making sure that it stands upright. Or maybe you are on the edge of your seat, watching the rocket climb higher and higher, anticipating that exact moment of second-stage separation. At some point, we all reach that moment when we must trust the steps that helped us to arrive at a particular moment, take a deep breath, and then take that crucial next step forward...



And so we come to 2024, and the 100th anniversary of the opening of the first planetarium in the world. A significant amount of time this year will be spent reflecting on everything that planetariums around the world have accomplished over the last century, and rightfully so! We have all played a part in the story of the first 100 years of these amazing institutions, and we have all earned the right to celebrate.

While we take that time to celebrate and reflect, the Middle Atlantic Planetarium Society is challenging its 2024 conference attendees to imagine what the next 100 years will bring. How will we continue to engage the public? What new discoveries will we make, and how can we explain them to audiences of all ages? How will these domes enable us to learn, to teach, and to inspire?

When we ponder these questions, we are standing along the shore, or gazing out at the rocket on its platform. As we answer these questions – TOGETHER – we are officially "**Launching into the Next 100 Years!**"

2024 MAPS Conference Information

Links to Conference Registration and Information

The theme of this year's MAPS Conference is, "Launching into the Next 100 Years." We are taking advantage of this Centennial Year to not only celebrate all that planetariums have been, but also to imagine all that planetariums can be. Let's reflect fondly together, and let's also dream of what the next 100 years might be like for our domes!

Our MAPS website has a special page posted - Conference Central - that will be updated with more and more information as the conference draws closer. Below is a checklist (with button links) for all the things you can do now to prepare for the 2024 MAPS Conference.

- ☐ **Renew your MAPS dues for 2024 (if you haven't done so already)**
- ☐ **Register for the 2024 MAPS Conference as a Delegate**
- ☐ **Register for the 2024 MAPS Conference as a Sponsor**
- ☐ **Make your arrangements at the Conference Hotel**
- ☐ **Propose a Conference Session (ex. talk, workshop, panel)**
- ☐ **Bringing a Door Prize? Let us know!**

2024 MAPS Conference Information

Here are some of the highlights of each day of the 2024 MAPS Conference...

Thursday, June 20

- Vendor Hall setup
- Conference Registration
- Welcome Reception
- Evening access to explore the Mystic Seaport Museum

Friday, June 21

- Conference Sessions
- Workshops
- Sponsor Demonstrations
- MAPS Committee Meetings

Saturday, June 22

- Conference Sessions
- Workshops
- Sponsor Demonstrations
- MAPS Business Meeting
- Banquet and Margaret Noble Address

Sunday, June 23

- Conference Sessions
- MAPS User Group Meetings
- Post-conference outing

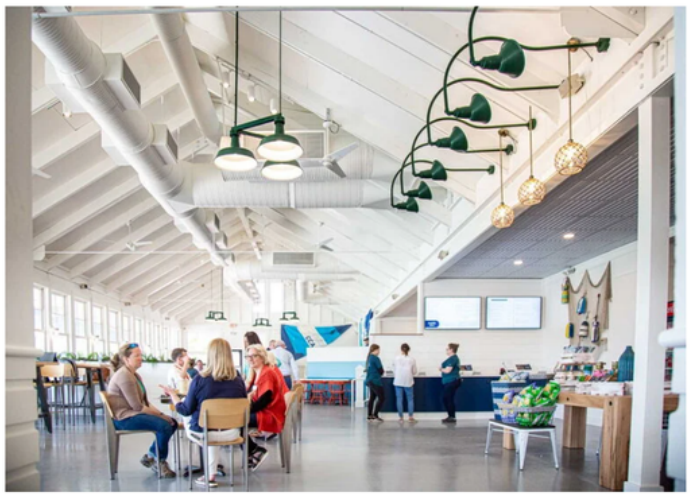
2024 MAPS Conference Information

WHAT'S NEW at our Conference Host Site?

While it has only been six years since the 2018 MAPS Conference at the Mystic Seaport Museum, quite a bit has changed at the nation's premier maritime history museum since that time! It took some time, but the Museum and its Planetarium have emerged from the pandemic as dynamic and engaging as ever. Here are some NEW things you can look forward to in the 2024 "re-boot" of MAPS in Mystic...

Our Treworgy Planetarium theater received a seating upgrade with seats from Sedia installed by Ash Enterprises in 2022. These comfortable seats present a huge upgrade over our old, curved wooden benches that used to encircle the space. We will have plenty of "dome time" at this conference, and the comfort of all attendees will be enhanced by this upgrade!

Our Museum entered into a new catering contract with Lancer Hospitality, who renovated our old Galley Restaurant into the all-new Greenman's Landing Restaurant. And if you think it looks nice during the day, you should see it at night! As in... see it on Saturday night, at our 2024 MAPS Conference Banquet!



The opening night Welcome Reception will include after-hours access to the Museum's newest exhibit: "Entwined: Freedom, Sovereignty, and the Sea." This major exhibition centers maritime histories in Indigenous, African, and African-descended worldviews and experiences. Curated by collaboration with community partners, this exhibit promises to be a must-see at the Museum this summer!

2024 MAPS Conference Information

Finally, here are a few important dates and deadlines leading up to the Conference...

MAY 20

Last day for special rate at Conference Hotel

MAY 31

Last day before "late registration" begins

JUNE 10

Last day to propose a conference session

Committee Update: MEMBERSHIP

Committee Chair: Mike Francis

You've probably already read about the Launching Into the Next 100 Years Conference coming up in June, and that means membership is in the thick of it. Remember, our membership runs from January 1 to December 31, and if you haven't renewed your membership for 2024, you won't be able to register for the conference. Here's a link to renew: **https://mapsplanetarium.org/society-membership/**

We've been contacting planetariums that haven't renewed in a while or have never joined, and membership is growing. So far, we've been contacting organizations in Massachusetts, New Hampshire, Connecticut, New Jersey and Pennsylvania. We need representatives on the committee in New York, Virginia, Delaware, Maine, Vermont and the Carolinas. If you reside in one of those states, please consider joining the committee. Emails to the different planetariums remind folks we're still here, but a visit to a dome makes a much bigger impression. If you want to join the committee or just help with this project, drop an email to **membership@mapsplanetarium.org**. We'll let you know what to do.

Recently, I dropped in to the Christa McAuliffe Planetarium in Concord, NH. I met Amanda, one of the center's planetarium staff, and got a short tour. They haven't had anyone join MAPS in several years, primarily due to staff changes, so she was very interested. She also pointed me to a dome that hadn't shown up on web searches, at the Nashua South High School. We'd really appreciate it if you could help with membership outreach, too.

Committee Update: ELECTIONS

Committee Chair: Kevin Williams

Congratulations to Stephen Dubois, Paul Krupinksi, and Patty Seaton on being elected as MAPS Directors during our January election. Their 2-year terms will begin on June 1. The Elections Committee thanks all 5 candidates and the MAPS membership for a robust slate of candidates and a successful election.

It is not too early to start thinking about nominating yourself or a colleague for our next election! Nominations of candidates for the positions of President-Elect, Treasurer, and Secretary are due with a "second" to the Elections Committee by November 1, 2024.

Committee Update: PUBLICATIONS

Committee Chair: Brian Koehler

The MAPS Publications Committee would like to thank the MAPS members who continue to send us fantastic content for our quarterly newsletters! At a time when so many of us are swamped in preparing for eclipse-related programming, the "Stories from MAPS" section of this issue stands at a robust 15 pages!

We are going to keep our June 7 deadline for our summer issue, but that issue will have a slight publishing delay due to our MAPS Conference dates of June 20-23. Our committee will work hard to have that issue out as close to the end of June as possible.

We are also excited to share that we have made some decisions regarding the accent colors of Constellation issues moving forward...

Upcoming Deadlines for submitting content for the Constellation:

SUMMER 2024
Friday, June 7, 2024

FALL 2024
Friday, September 6, 2024

WINTER 2024
Friday, December 6, 2024

Future SPRING issues of the Constellation will feature the GREEN color from the MAPS logo!

(Think about all of the greenery that is starting to emerge at this time of year)

Future SUMMER issues of the Constellation will feature the BLUE color from the MAPS logo!

(Think about that crisp blue water all along the Middle Atlantic coastline)

Future AUTUMN issues of the Constellation will feature the GOLD color from the MAPS logo!

(Think about one of the many gorgeous changing colors of leaves during this season)

Future WINTER issues of the Constellation will feature the BLACK color from the MAPS logo!

(Imagine the bright stars of winter contrasted with dark skies that accompany an earlier sunset)

“Astronomy Day” in May 2024 - Participate!

Celebrate MAPS, Astronomy Day, and the Centennial of Planetariums with us in May 2024!

In conjunction with the commencement of regular operation of the first Zeiss planetarium at the Deutsches Museum in Munich on 07 May 1925, the International Planetarium Society (IPS) is planning to celebrate the International Day of Planetariums on that anniversary! In addition, The 18th of May is currently designated as the (Northern Hemisphere) Spring Astronomy Day.

With these dates in mind, the Middle Atlantic Planetarium Society (MAPS) encourages your institution to designate a date in May to help encourage your surrounding community to “picture yourself in the planetarium.” Celebrate the Centennial of the Planetarium and the timeless joy of stargazing with activities like the ones suggested on the following two pages...

"Astronomy Day" in May 2024 - Participate!

Here are some suggested activities to inspire you to participate in Astronomy Day 2024

LEARN THE SKY!

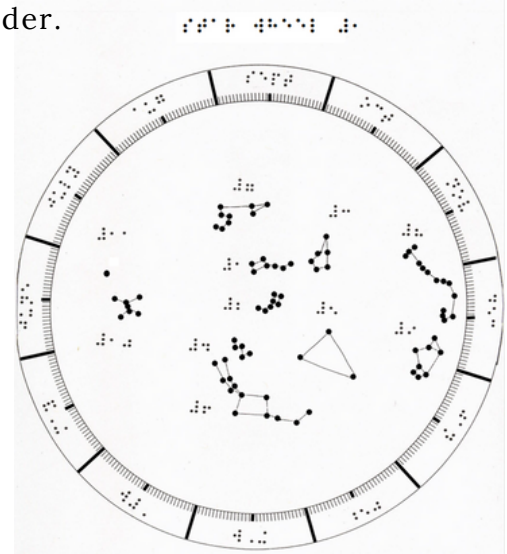
Make a star wheel, using **Uncle Al's Star Wheels** (Planispheres)

- Available in English, Japanese, Icelandic
- Kepler Star Wheel shows Kepler target field and naked eye stars with known exoplanets

Create a printed star wheel, by printing out (on heavy paper), the templates called:

- **Original starwheelholder**
- **Reference starwheelprinted**
- Additionally, you need one piece of plain paper (for the back page)

Place the blank paper behind the star wheel template. Using the star wheel cover as a template, cut out the star wheel and blank page together. Then only cut out the oval in the star wheel. Line the blank page back up with the star finder holder, and staple where indicated in the east and west, and also add a staple below the arrow in the south. Cut out the printed star wheel, and insert into the star finder holder.



The Star Wheel pattern codes file tells you the names of the star patterns.

Make a tactile star wheel, by printing out these two files on heavy paper:

- **SEEtactilestarwheel1**
- **SEE-TactileStarwheelholder**
- Additionally, you need one piece of plain paper (for the back page)

Place the blank paper behind the star wheel template. Using the Braille star wheel cover as a template, cut out the star wheel and blank page together. Then only cut out the oval in the star wheel. Line the blank page back up with the star finder holder, and staple where indicated in the east and west, and also add a staple below the arrow in the south. Cut out the Braille star wheel and insert into the star finder holder.

To make the stars tactile, you will need to use a push pin to punch out the holes for the stars and Braille dots BUT(!!) – VERY Important (!!) you must punch them out from the reverse (back) side so when you assemble the star wheel, the tactile part faces the correct orientation. It is helpful to place the Braille pages against a window or on a light table so you can see where the dots are from the back side.

Once you carefully punch out the dots, turn the star wheel holder over and assemble the star wheel.

"Astronomy Day" in May 2024 - Participate!

Here are some suggested activities to inspire you to participate in Astronomy Day 2024

PROJECT THE SKY!

There are a variety of constellation projection activities you can use with your public. We recommend the following:

California Academy of Sciences - Paper Cup Planetarium
https://www.calacademy.org/educators/lesson-plans/paper-cup-planetarium

Toilet Paper Constellation tube:
https://www.youtube.com/watch?v=aMj13ndZzPo

Constellation projector using a Pringles Can:
https://www.youtube.com/watch?v=GxIHeEx6oSg

Make Your Own Planetarium Projector:
https://www.skyatnightmagazine.com/advice/diy/planetarium-projector

Make a Box Planetarium Projector:
https://www.youtube.com/watch?app=desktop&v=aWbZUGTYj7w

CELEBRATE THE SKY!

Share the history of the planetarium with a poster exhibition! Files are free to download and print!

- Available in Czech, English, French, German, Italian, Portuguese, Slovak, and Spanish

Share the Centennial of the Planetarium with this fabulous trailer!

- Available in DOME version and flatscreen full HD version

However you choose to celebrate Astronomy Day in May 2024, we invite you to SHARE your photos, stories, and other details on our new MAPS Facebook Group Page!

FUN & GAMES

MAPS-themed Puzzles

Welcome to our second edition of our "Fun and Games" section of the Constellation! Did you enjoy the MAPS-themed puzzles and games from the winter issue? If so, try your hand at a few new ones that we have come up with...

Grab a pencil and PRINT out the last few pages of this newsletter - you'll want to make sure your print settings are set to **only print pages 36-40**, otherwise you will get 40 total pages flying out of your printer!

PUZZLE #1: Guess the year...

This is the year in which Margaret Noble delivered the first keynote address - the one that would come to be forever known as the Margaret Noble Address.

Need a few hints?

The FIRST digit of the year is the number of constellations, in the "Western" view of the night sky, that begin with the letter "N."

The SECOND digit of the year completes the title of this 1957 science-fiction-horror film - "Plan # From Outer Space."

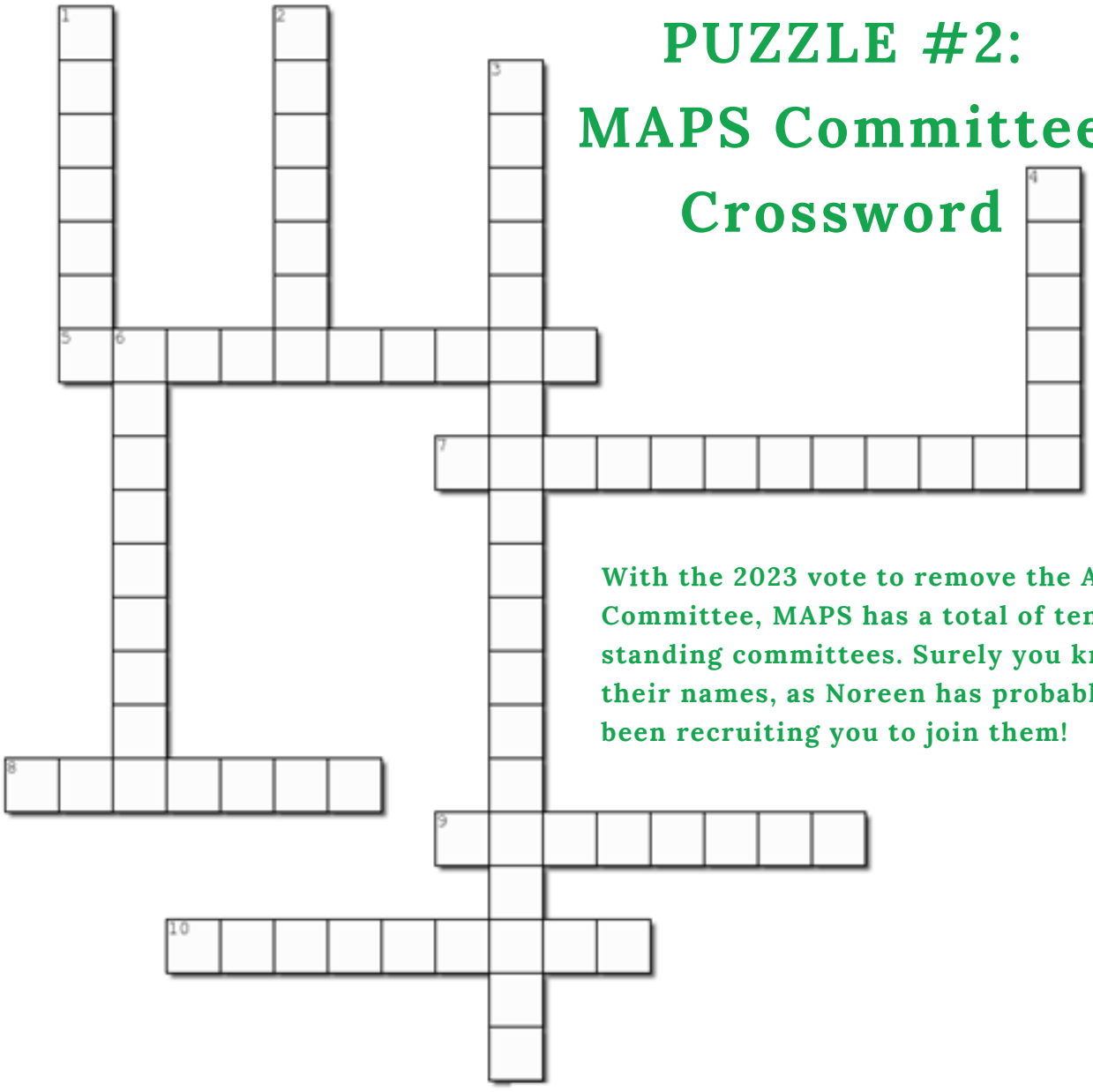
The THIRD digit of the year is the number of "mythological sisters" that can be found in the star cluster known as the Pleiades (# sisters).

The FOURTH digit of the year is in the number of successful launches to date as part of the Artemis missions.

FUN & GAMES

MAPS-themed Puzzles

PUZZLE #2: MAPS Committee Crossword



With the 2023 vote to remove the Audit Committee, MAPS has a total of ten standing committees. Surely you know their names, as Noreen has probably been recruiting you to join them!

Across

5. Committee that recruits people to join MAPS
7. Committee in charge of the Constellation newsletter
8. Committee that archives MAPS memories
9. Committee that honors MAPS members who have passed away
10. Committee that gathers and shares teaching resources

Down

1. Committee that helps with our annual conference
2. Committee in charge of www.mapsplanetarium.org
3. Committee that works with the founding documents of MAPS
4. Committee that oversees honors and recognitions for MAPS members
6. Committee that oversees the process of choosing officers and directors

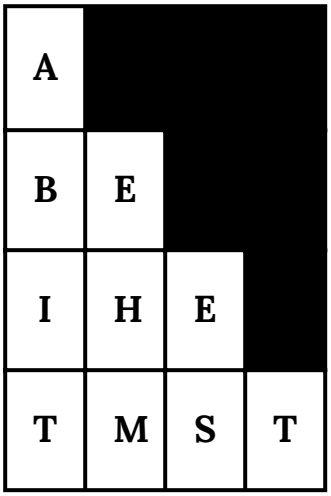
FUN & GAMES

MAPS-themed Puzzles

PUZZLE #3: SPACE QUOTE PUZZLE

The REAL puzzle is on the final page of this issue, but if you have never tried a "Fallen Phrase Puzzle" before, here are some tips about how it works...

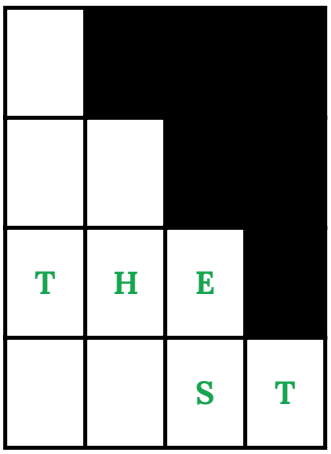
The phrase or quote that you need to solve will go in the BLANK puzzle grid on the BOTTOM half of the page. The TOP grid contains all of the letters you will need, but it is up to you to determine which letters go where...



Here are the available letters for our "Sample Puzzle."

Every letter can only move DOWN into its proper position - so the four letters in the first column are each the first letter of one of the four rows. Making sense so far?

So if the fourth column, only has one letter, then we know exactly where it goes - it goes in the only fourth-column opening, at the end of the final row.



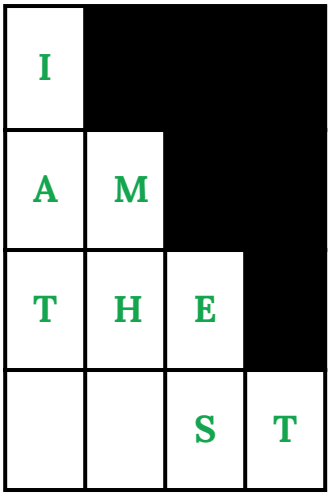
Where next? It helps to look for common words. The three letter word in row 3 looks like it could be "THE."

If we take that assumption, then there is only one more letter available in the third column - a "S." That letter will need to go in the final word, as the second-to-last letter.

FUN & GAMES

MAPS-themed Puzzles

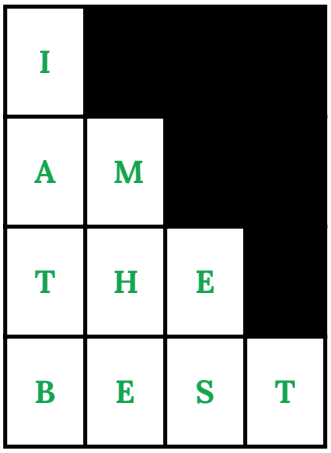
PUZZLE #3: SPACE QUOTE PUZZLE



Now what? Well, the first row is a one-letter word, and there aren't too many of those. Neither "B" nor "T" is a word all by itself, so it needs to be either "A" or "I."

And the second row is a two-letter word. The only two-letter words you can form using the available letters in each column are "BE" or "AM" (the contraction "I'm" would need to have an apostrophe shown).

So, the first two words of the sample phrase are either "A be" or "I am" - and if the third word is likely "The" then we are onto something!



There's only a few letters left, and they all need to go in the fourth row to complete the final word of the phrase!

SOLVED!

OK, are you ready to try a much bigger puzzle? This one has more of a MAPS theme to it - it is a famous quote about space from Carl Sagan.

Refer back to these pages for tips if you need, and good luck with the final puzzle on the following page!

FUN & GAMES

MAPS-themed Puzzles

PUZZLE #3: SPACE QUOTE PUZZLE

F	A				A			A	P							
I	F	E	E		F	C	R	A	R	C	E					
M	H	K	M		N	I	R	E	S	H	H	E		E	I	E
M	R	O	T	O	S	I	W	I	T	P	I	N	O	P	N	T
T	U	S	Y	U	U	N	V	S	T	S	L	T	V	Y	O	U

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												.				

--- *Carl Sagan*