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## MEMBERS MEETING RECAP

ON PAGE 4



Kevin Sevey — Recipient of the 2018 Karl G. Henize Award



Connie Kahl — Recipient of the 2018 James Paglin Award — with Diane Sipiera

## AN OBSERVATORY IS BORN

BY GRANT HARKNESS

Nestled in the corn fields of East Central Iowa, you'll find a town like many others in rural America. A mighty water tower bearing the name "Wilton" stands amongst razor-straight streets lined with well-kept houses. Flags wave in gentle breezes as families ride bikes and greet those out for walks. Perched on the outskirts of this idyllic homestead of hard working middle-class families is a low, white building, barely noticeable against the grand backdrop of the mighty school

on whose grounds it sits. A resplendent baseball field in the distance and neighbored by a mighty football field, this small building is hardly noticed by those outside of the know. Inside is housed a slowly emerging giant; an educational juggernaut picking up steam, soon to be unleashed. This is the home of the Wilton Observatory.

Born of a simple conversation between the husband and wife team

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# PRESIDENT'S MESSAGE

As the third quarter of PFS's transitional year comes to an end, I am pleased to announce that we are succeeding in balancing our monetary resources with our financial obligations.

Our 1876 Banwarth House & Museum is once again the focal point of our activities throughout the Iowa, Illinois, and Wisconsin tri-state region. In science, PSF's meteorite research program continues to classify and add new specimens each year to the world-wide database. In our educational endeavors we are developing new partnerships and seeking a museum home for many of our unique and valuable geological and meteorite specimens.

Even though our temporary science facility in Elizabeth, IL was forced to close due to reasons outside our control, our programs at the Doug Firebaugh Astronomical Observatory in Freeport, IL have been attended this summer by a record number of people.

In celebration of the 50<sup>th</sup> Anniversary of the July 20<sup>th</sup> 1969 Apollo 11 moon landing, PSF speakers gave presentations at several different venues. We are extremely proud of our relationship with many of the Apollo astronauts and of their contributions to mankind's understanding of the universe. PSF was also able to preserve and make available some of the knowledge from our now closed science museum at 115 North Main Street in Elizabeth, IL. It was through the efforts of our two high school student interns, Evelyn Larson and Echo Taylor, that we were finally able to create a virtual museum experience on the PSF website. Before we closed its doors we asked them to create a photographic record of our unique exhibits for future electronic visitors that will never have the actual experience of seeing them in person. In the five years of its operation our Earth & Space Science Museum introduced hundreds of excited children to the wonders of science through our summer programs. It is most gratifying that many of those children retained their enthusiasm and developed a life-long interest in astronomy and earth science. For our educational staff, that is their best reward for all the effort they put into creating all those exciting science programs over those past five years. Thank you to Evelyn and Echo, and be sure to check it out on our website!

The Annual Members Meeting was held this year on September 14<sup>th</sup> at our 1876 Banwarth House & Museum. It was well attended and supported by a record number of proxy votes. Following a delicious pot-luck luncheon, the meeting was called to order with a welcome by Vice President, Caroline Szipiera. Next on the agenda was certification of the ballots by Executive Secretary, Andrea Nolan, and her announcement of the new Executive Board members for the 2019-2022 terms. My congratulations go out to Mary Becker, James Dole, and Dr. Douglas L. Hicks on their re-elections. I want to offer my sincere thanks to our retiring Executive Board members Jess Farlow and Jennifer Schwartz for their many years of dedicated service. Over the years, Jess and Jennifer have been there through both times of triumph and disappointment with the organization. Each made their own special contributions to the overall success of the PSF. As Life Members, both Jess and Jennifer can be assured that I will still call upon them for their valuable advice and consultation as the need arises. As the meeting progressed, the Executive Board approved the 2020 operations budget and authorized the repainting of the 1876 Banwarth House & Museum. In Executive Session, the Board elected the following officers for the 2019-2020 terms: Paul P. Szipiera, president, Caroline A. Szipiera, vice president, Andrea M. Nolan, executive secretary and Ryan Nolan as treasurer. The Board also recognized and thanked Kathie Farlow for her many years of service as PSF Treasurer.

For the remaining quarter of 2019, I see a bright future for the PSF and look forward to the many new opportunities that await us in both our educational activities and meteorite research.



***Paul P. Szipiera***

# DONORS' SPOTLIGHT

## 'President's Circle' \$10,000+

William and Valerie Anders Foundation

## \$1,000+

Albert & Audrey Ratner Foundation

## \$50 — \$500

Connie Kahl  
Diane & Paul Sipiera

## Meteoritical Society Student Travel Grant

Marc Biren

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# MEMBERS' CORNER

## NEW MEMBER

The PSF is proud to announce the birth of its youngest member, Olivia Feiner. Paul and Diane Sipiera are thrilled with the arrival of their granddaughter on August 25<sup>th</sup>.

## RENEWING MEMBERS

### Contributing Membership

William & Mary Sue Coates

### Supporting Membership

Joseph & Bonnie Garrity

### Family Membership

Leo & Karen Baran  
Matt Harmston  
Dr. David & Jennifer Kahn  
Craig & Elizabeth Larson  
James & Sandy Napolitan

# 2018 AWARDS & 2020 BUDGET

## JAMES PAGLIN AWARD

Connie Kahl

## KARL G. HENIZE AWARD

Kevin Sevey

## APPRECIATION AWARD

Jim & Pam Dole

Christina Hollis

Tom Dunmore

Dino Milani & Ellen Tsagaris

Steve Hoyer

Jim Kahl

Lyle Johnsen

Jess Farlow

Mike Otte

Jennifer Schwartz

### 1876 BANWARTH HOUSE & MUSEUM

Property Tax =	3,300
Insurance (off-site locations included) =	3,200
Utilities =	3,400
Security =	800
Maintenance & Misc. =	12,300
(Includes Re-painting House, \$10,000)	
Sub-total =	\$23,000

### GENERAL OPERATING EXPENSES FOR 2020

Staff & Programs:	
Administration:	5,000
Office Support:	5,000
General Office:	
Internet Services =	500
Office Supplies =	500
Newsletter & Postage =	3,000
Firebaugh Observatory =	1,000
Marketing:	
Meteoritical Society student travel grant =	2,000
Sub-total =	\$17,000
<b>Grand Total =</b>	<b>\$40,000</b>

### KEY TAKEAWAYS

- The PSF is small, but mighty. The PSF tries every year to do a lot with a little. From meteorite research to advancing science education, a lot of what gets accomplished is done with minimal capital. Imagine our reach and impact with additional funding!
- The majority of PSF's income came from one generous grant that expired this past August and our financial future is uncertain. The anticipated income for 2020 is less than the \$40,000 needed to balance the budget. We need to find new sources of income.
- When the PSF team sends out communications about year-end giving or to renew your membership, we hope you consider the work we do when deciding to contribute to our mission. We understand choosing between good causes can be difficult, but rest assured, every dollar given to the PSF goes *straight to the cause* (not executive salaries or expensive overhead). During the year-end giving campaign, we even provide the option to choose *exactly* where you want your money to go!

### QUESTIONS OR IDEAS FOR FUNDRAISING?

Contact Diane Sipierya or Andrea Nolan  
(815) 858-2014 or amcplanets@gmail.com

*CONTINUED FROM FRONT PAGE*

of Grant and Katrina Harkness, this project is nearing the two-year anniversary of its launch. Having now grown far past the initial vision, this project now encompasses far more than originally planned. Not only does the community's Pre-K through 12<sup>th</sup> grade school now have the low-slung white observatory structure housing the main instrumentation, but they also now have a large, newly renovated command center, expansive mural wall and three meteorite displays spread amongst the various grades. Quickly becoming an otherworldly STEAM powerhouse, the students and community are growing to become a new wave in science education!

The split-roof observatory, being fully automated, contains a 12" Meade LX600ACF telescope mounted atop a robotic pier. Paired to this is a 60mm H-alpha telescope with a dedicated camera and robotic focusing unit, as well as a guidance system. The 12" telescope features a primary instrumentation package comprised of an Atik 16200 monochrome camera fitted to a 12 position FLI filter wheel, containing a broad selection of wide-band and narrow-band filtration. Secondary instrumentation packages include an automated spectroscopy module, as well as a dedicated planetary module. All modules feature dedicated cameras fitted to their respective applications. With these tools alone, student will have an amazing power to peer deep into the universe and explore that which surrounds us!

Building upon the observatory idea, the school district joined forces and renovated an underutilized space, making it into a world-class command center to house the main astronomy operations. This large space features seven collaborative

work stations, each with four chairs, a 55" 4k television, and two computers with dedicated, maneuverable monitors. The head of the room features a teacher center, with 75" 4k television, vast computer controls capable of manipulating each station independently, as well as a desktop camera to capture and transmit pictures and video of samples and specimens for classes. This command center is connected via fiber optics to the observatory structure, allowing 24-hour operational capabilities, bathroom access and full ADA compliance. In addition, automation software allows students to add their research requests to a list that is monitored and maintained automatically by the computer, allowing data capture of their desired targets even when they aren't present. This is accomplished through advanced upgrades, allowing students to pursue not only academics but other pursuits as well. These options also allow for a higher degree of asset utilization, adding value to the investment being made.

Beyond what has been described thus far is a selection of handheld, nearly child-proof telescopes for both daytime and nighttime use, a small radio telescope for solar analysis, and what is growing to become one of the most exciting publicly available meteorite selections in the area.

Encompassing specimens from near and far, the displays house a large selection of hands-on specimens meant for interaction and instruction. Through their organization, The Organization for the Proliferation of Space Studies, the Harknesses are working hard with the PSF to expand this collection and program to include destructive analysis labs for older students and year-round courses for



not only astronomy, but also planetary science. Through the hard work and vivacious dedication of Paul and Diane, a bubbly partnership has emerged and is overflowing into all aspects of what's taking place!

All programs not explicitly for students will be free and open to the public and feature a variety of topics, guest speakers and times. From nights with specific topics like planets and galaxies to you-pick-em evenings, viewing parties, meet and greets and so on, anyone within driving distance will find something to delight their minds.

This tiny seed of educational ingenuity is quickly budding, growing and taking shape! Through the robust and unceasing support of our sponsors, including the PSF, we are sure to grow far beyond the bounds of where we currently exist. We will become an entity guided by the spark of our student body's relentless exploration and with us we will take generations of future explorers deep into the unknown! Come, let us explore the stars together! ♦

# MEMBER SPOTLIGHT: Tom Dunmore

*Tom Dunmore has been a PSF member for the past 5 years and plays an integral role as the Assistant Director of the Firebaugh Observatory. Read more about how he got started and new observatory developments below.*

## **PSF News: Can you tell us about your background?**

**Tom Dunmore (TD):** I was born in Clinton, Iowa and moved to Freeport, IL right after graduating from college. I have a degree in Electronics Engineering Technology and for the last eleven years have been working as a quality specialist for Honeywell/Eclipse in Rockford. My wife is a financial aid specialist at Highland Community College and my daughter will be starting 4th grade at Aquin elementary this fall.

## **PSF News: What interested you about astronomy and how did you get involved with the Doug Firebaugh Observatory?**

**TD:** I remember one night when I was about 8 years old, my dad and brothers were out on our driveway looking at the sky. My dad said something like "That's the big dipper isn't it?" and I was asking "Where, where?" From that point on I was always bringing home astronomy books from the library. When I moved to Freeport I learned of the observatory through a friend at work. It was still run by the high school back then. The enthusiasm shown by Mr. Firebaugh on public nights was incredible. When JETS disbanded, I was happy to be able to help Jim Dole out with keeping the observatory running.

## **PSF News: The observatory looks fantastic, what was one of the challenges you faced?**

**TD:** Our partnership with PSF and the Freeport Park District has been

amazing and has made the continuation of the observatory possible. When we first built the domed structure a few years ago, it consisted of a motorized cable/pulley system to open and close the shutters. This design was consistently malfunctioning and unreliable. I found a video online where someone re-configured the shutters using a chain drive. Since we had little to go by except this video, it was quite a challenge to design and install the components required. However, we ended up with a working drive that was much simpler and trouble free.

## **PSF News: How did you get interested in space flight?**

**TD:** I grew up during the Apollo program when anything space related was really popular. I had lots of space toys like "Major Matt Mason" as well as posters of the moon landing on my wall. I remember rushing home from my morning paper route to turn on the news and see the first pictures from the Viking I lander on the surface of Mars in 1976.

## **PSF News: Do your wife and daughter share in your astronomy hobby?**

**TD:** They have both been very supportive — and patient — considering the amount of time I've put into it. When my daughter was about three years old she told me that she was going to be the first person to walk on Mars.



## **PSF News: Do you have any other interests?**

**TD:** I enjoy designing and playing around with electrical/electronic circuits. I also enjoy genealogy. I found out that one of the original signers of the Declaration of Independence is my great, great, great, great, great, grandfather. (John Hart from New Jersey)

## **PSF News: Where is the most memorable place(s) you have traveled to?**

**TD:** I had a chance to travel to Europe about thirty years ago and was very impressed by the architecture and culture of the several countries I visited. In the states, one of my most favorite trips was in November of 2009 when my wife and I took a side trip from Disney World to the Kennedy Space Center. Seeing the museum — complete with an actual Saturn V rocket — and the Vehicle Assembly building was awesome. As an added bonus we were able to see the space shuttle Atlantis sitting on

pad 39A awaiting liftoff about a week later for STS-129.

**PSF News: Do you have advice for young scientists and students?**

**TD:** You are living in a time of great discovery. Never pass up an opportunity to learn something new. ♦



Planetary Studies Foundation Endowment Scholarship awardee, Sean James, at Harper College with (from left to right) Pat Tierney, Paul Sipiera, Mary Becker and Diane Sipiera



In addition to donations and dues, you can help contribute to the PSF by participating in Amazon's charitable program.

- **SELECT THE PSF:** Search Amazon Smile and select the Planetary Studies Foundation as your charity.
- **START SHOPPING:** Be sure to start each purchase at smile.amazon.com and the PSF will receive .05% from all eligible purchases. You can bookmark the webpage to make sure you don't forget this important step.
- **SPREAD THE WORD:** Encourage your family and friends to choose the PSF, too. Amazon earned over \$232 billion in revenue in 2018 alone — help us receive a tiny piece of that pie! — it's free to you and helps us earn valuable funds.

# FALL CELESTIAL CALENDAR

## Oct. 13 — Full Moon

*Did you know?* This full moon was known by early Native American tribes as the Full Hunters Moon because at this time of year the leaves are falling and the game is fat and ready to hunt.

## Oct. 20 — Mercury at Greatest Eastern Elongation

Mercury reaches greatest eastern elongation of 24.6 degrees from the Sun. This is the best time to view Mercury since it will be at its highest point above the horizon in the evening sky. Look for the planet low in the western sky just after sunset.

## Oct. 21, 22 — Orionids Meteor Shower

The Orionids is produced by dust left behind by Halley's comet. The moon will block some of the fainter meteors this year, so best viewing will be from a dark location after midnight. Meteors will radiate from the Orion constellation, but can appear anywhere in the sky.

## Nov. 11 — Rare Transit of Mercury Across the Sun

Viewers with telescopes and approved solar filters will be able to observe the dark disk of the planet Mercury moving across the face of the Sun. This is a rare event with the next transit not until 2039. The best place to view this event in its entirety will be the eastern United States, Central America, and South America.

## Nov. 12 — Full Moon

*Did you know?* This full moon was known by early Native American tribes as the Full Beaver Moon because this was the time of year to set the beaver traps before swamps and rivers froze.

## Nov. 24 — Conjunction of Venus and Jupiter

The two bright planets will be visible within 1.4 degrees of each other in the evening sky. Look for his impressive sight in the western sky just after sunset.

## Nov. 28 — Mercury at Greatest Western Elongation

This is the best time to view Mercury since it will be at its highest point above the horizon in the morning sky. Look for the planet low in the eastern sky just before sunrise.

# MEMBERSHIP FORM

Regular Membership      \_\_\_ \$ 20.00 1 year    or \_\_\_ \$ 35.00 for 2 years

Family Membership      \_\_\_ \$ 35.00 1 year    or \_\_\_ \$ 60.00 for 2 years

Sponsoring Membership    \_\_\_ \$ 50.00 1 year    or \_\_\_ \$ 90.00 for 2 years

Contributing Membership   \_\_\_ \$ 100.00 1 year    or \_\_\_ \$180.00 for 2 years

Student Membership      \_\_\_ \$ 10.00 1 year

Life Membership         \_\_\_ \$ 500.00

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