

# BULLETIN

*"An organization of people interested in the Natural Sciences"*



May 2025; Vol. 79, #4

## President's Message

### President's 2024 Annual Report

The Rochester Academy of Science continues to be a vibrantly active and growing association with extensive programming in 2024 across all sections.

The big scientific event of 2024 for the public locally was the total solar eclipse in April. The Academy and particularly our Astronomy Section played a leading community role for this auspicious event and had educational programming at several popular viewing sites. Even with overcast, it was still an amazing event. In addition, the public and our members viewed spectacular Northern Lights displays thanks to 2024's extraordinary Solar maximum activity.

The Academy held our 50th RAS Annual Scientific Paper Session at SUNY Brockport in November. We had attendees from 20 different colleges and there were 112 research projects presented. This year's session will be at SUNY Geneseo on November 1. Do come.

Our Student Grants Committee reviewed numerous applications at the end of 2024 and made fifteen research grants to undergraduates in January totaling \$5750, the most awards we have ever given thanks to endowment earnings and donations by members and by the Life Sciences Section. Fostering future scientists in their early career is an important part of our mission.

The RAS Bulletin published ten issues covering Academy business and section events and providing interesting scientific articles and

photographs from our members. Please read this to keep up with all that we do. ASRAS and Fossil also put out engaging monthly newsletters.

We provided two well-attended public lectures last year—"Biosignatures and Technosignatures: The Telescopic Search for Life Across Interstellar Distances" by Dr. Adam Frank of R.I.T. at our 2024 Annual Meeting and "Earth's Magnetic Field 'Near-Collapse' Boosted Evolution" by Dr. John A. Tarduno of the University of Rochester for our Larry King Memorial Lecture at the Scientific Paper Session. The Academy also provides important services to our sections, including insurance coverage, funding, non-profit organization status, and affiliation with the American Association for the Advancement of Science.

Our "promote scientific study and research mission" is largely met through our sections' "citizen science" programs. Members had a wealth of opportunities available in 2024. Astronomy, Fossil, and Mineral sections had regularly scheduled meetings, usually with engaging lectures. Life Sciences Section held monthly Herbarium workshops as well as lecture meetings and field trips. Anthropology Section co-sponsors lectures with the Archaeological Institute of America Rochester Society. In addition, ASRAS offered both scheduled and open observing of Space at the Marian & Max Farash Center for Observational Astronomy, the RocheStar Fest, educational Astronomy Forums, and several special events. Fossil Section conducted several collecting field trips

to sites encompassing stratigraphy and fossils. Life Sciences Section continued photography and digitization of RAS Herbarium specimens at the Rochester Museum & Science Center (RMSC) for an on-line research data base. They have completed about one-fourth of the estimated 30,000 preserved specimens.

We also have a "disseminate scientific knowledge" mission and we meet that through outreach and public science programming. In 2024, ASRAS hosted many public open house events and Scout astronomy camp-outs at the Farash Center, operated the RMSC telescope on Saturdays, gave tours at the Mees Observatory, and participated in the Ionia Fall Festival. Anthropology Section participated with hands-on displays at the Community Archaeology and History Day at the Cumming Nature Center and at the RMSC in October for Archeology Day. Fossil Section conducted a Science Olympiad training session for several local middle schools. Several sections participated in educational outreach programs at the ADK Expo in June, the Paper Session in November, and Spring and Winter break programs at the RMSC.

Our success is due to the work of scores of leaders and volunteers within the Academy and its sections. There is much to do and see in our Academy. Expand your knowledge by attending an event at any section to which you wouldn't normally go.

**Michael Grenier, RAS President**

# Events for May 2025

## May 2 Fri: Astronomy Monthly Meeting

7:30 pm - 9:30 pm

In-person at the Farash Center. Come as early to socialize and set up telescopes weather permitting. David Bishop will speak on The Astronomy Year in Review.

Contact Tony Golumbeck at [President@rochesterastronomy.org](mailto:President@rochesterastronomy.org) for details.

## May 3 Sat: Fossil Field Trip

We will visit the Gulf of Lockport, a family friendly railroad cut (all ages) west of Lockport. Contact: Dan Krisher [DLKFossil@gmail.com](mailto:DLKFossil@gmail.com) or (585) 698-3147.

## May 6 Tues: Fossil Members Meeting

7:00 p.m. – 8:30 p.m. Pittsford Community Center, room 019, 35 Lincoln Avenue Pittsford, NY 14534. Open to all RAS members and guests. It will also be broadcast on Zoom and is open to all RAS members and guests. Speaker: Section member Michael Grenier. Topic: Recent Dinosaur Research Findings. For meeting details and login info see the FossilLetter or Contact Michael Grenier at [paleo@frontier.com](mailto:paleo@frontier.com) or (585) 671-8738.

## May 7 Wed: ASRAS Board of Directors Meeting

7:00 pm - 9:00 pm. Members welcome to attend. Contact Tony Golumbeck for details.

## May 11 Sun: Astronomy Open House

12:00 pm – 3:00 pm. Farash Center. Come and see our facility's layout when it's light out, and see some of the equipment we have for member's use. Contact Tony Golumbeck at [President@rochesterastronomy.org](mailto:President@rochesterastronomy.org) for details.

## May 14 Wed: Herbarium

12:00 p.m. - 3:00 p.m. The Life Sciences section will hold a workshop at the RAS Herbarium, located in the basement of the Rochester Museum and Science Center (RMSC). We will be continuing to organize plant specimens in preparation for digitizing the collection. If you plan to attend, please send an RSVP to [rasherbarium@gmail.com](mailto:rasherbarium@gmail.com). At RMSC go to the front desk to meet other participants. For more information, contact herbarium curators, Tim Tatakis and Steven Daniel, by emailing [rasherbarium@gmail.com](mailto:rasherbarium@gmail.com).

## May 17 Fri: Astronomy Public Observing

7:30 p.m. – 11:00 p.m. Join us for Public Observing at the Marian and Max Farash Center for Observational Astronomy. All welcome. Members come help visitors look at deep sky objects through our telescopes. Contact Tony Golumbeck at [President@rochesterastronomy.org](mailto:President@rochesterastronomy.org) for details.

## May 21 Wed: RAS Board Meeting

7:00 p.m. -9:00 p.m. Pittsford Community Center, room 207, 35 Lincoln Ave, Pittsford. Zoom option available. For details, contact Michael Grenier at [mgrenier@frontiernet.net](mailto:mgrenier@frontiernet.net).

## May 24 Sat: Fossil Field Trip

Long Day Trip. We will visit the Watertown/Rodman area. Contact: Dan Krisher [DLKFossil@gmail.com](mailto:DLKFossil@gmail.com) or (585) 698-3147.

## May 24 Sat: Astronomy Member Observing

7:30 p.m. – 11:00 p.m. Includes the April Messier Marathon. Contact Tony Golumbeck at [President@rochesterastronomy.org](mailto:President@rochesterastronomy.org) for details.

## May 27 Tues: Mineral Member Hybrid Meeting

7:00 p.m. – 9:00 p.m. Zoom and Pittsford Community Center. Social gathering at 7:00 pm. Presentation at 7:30 pm. Curious about fibrous minerals? Melissa Hartwig of EMSL Analytical does microscopic analysis of construction materials and air samples and will share her expertise on the minerals of the asbestos groups. Members will receive more information in May. Contact: Jutta Dudley, [juttasd@aol.com](mailto:juttasd@aol.com).

## May 28 Wed: ASRAS Astronomy Forum

7:30 pm – 9:00 pm. Presenter: Craig Kaplan  
Topic: Cool Things to Know about a Hot Object. All are welcome to attend. Contact Craig Kaplan for zoom link.

## May TBD: Life Sciences Field Trip

Date and Time TBD. Guided tour of the Webster Arboretum tree, shrub, and plant collection. This will be a short, very leisurely walk through the Arboretum from specimen to specimen. Carole Huther, our guide, will discuss each of the trees and plants, discussing its life & history and why it is in the collection. 1700 Schlegel Rd, Webster, NY 14580. When date is set, all Life Sciences members will be notified by email along with any others who are interested. Contact: Michael Grenier [mgrenier@frontiernet.net](mailto:mgrenier@frontiernet.net) or (585) 671-8738 for more information.

## STRASENBURGH OBSERVATORY:

ASRAS will operate the telescope at the Strassenburgh Planetarium on mostly clear Saturday nights, dusk until 10:30. For more information, contact: Jim Seidewand at (585) 703-9876.

## Annual Spring Lecture Available to Watch on YouTube

### Frost Town - Archaeology of a Finger Lakes Ghost Town



Those of you interested in local history or archeology who were not able to attend the 2025 Annual Meeting and Spring Lecture will be pleased to know that the lecture was recorded and is available on our private YouTube channel at <https://youtu.be/KQd05HMrrZw>.

Our member Dr. Alexander Smith spoke on *Frost Town - Archaeology of a Finger Lakes Ghost Town*. It was very engaging, and the audience asked many questions to hear more about it. The video is only of the 46-minute talk itself and does not include the extensive discussion afterwards.

Frost Town was one of the region's earliest industrial mill and logging communities. It was settled in the late 18th Century and abandoned when logging ran out and the area moved to agriculture. Frost Town Archaeology is dedicated to the excavation and understanding of this abandoned town, located on what is now the Cumming Nature Center in South Bristol, NY.



*The site has been used for community outreach including kids' programs.*

## Museum of the Earth Update

*Dr. Warren Allman, Director of the Paleontological Research Institution has sent us the following letter.*

Wed, Apr 9 at 6:05 PM

We wanted to share an important story published this week in *The Ithaca Voice* that includes the latest update about the current financial situation at the Paleontological Research Institution (PRI), including the challenges we're facing and the steps we're taking to ensure a strong future for our organization and our community programs.

We are grateful for the outpouring of support we've received from our community this year. —Your generosity, encouragement, and belief in our mission have not only helped sustain us financially during an incredibly challenging time but have also lifted the spirits of our entire team. Knowing that so many of you care deeply about PRI, the Museum of the Earth, and the Cayuga Nature Center has given us renewed hope and determination. Your support is more than just a donation—it's a powerful reminder that we're not alone as we work to weather this storm and build a stronger future.

We continue to work to overcome these challenges, and we've created a webpage where you can find more information about what's happening, what it means for PRI and Museum of the Earth, and—if you're moved to do so—how you can help support our work going forward.

Visit our information and support page:

[www.priweb.org/savethemuseum](http://www.priweb.org/savethemuseum)

Again, we are deeply grateful for the support and encouragement of our community. PRI's mission to inspire and educate through Earth and

environmental science has never been more vital—and with your help, we will continue this work for generations to come.

Thank you for being a part of our journey,

Warren Allmon, Director



—  
The article by Judy Lucas notes that with donations from across the country, PRI has raised about \$2.1 million towards the remaining mortgage and needs another \$2.2 million before the end of the year. PRI secured a "forbearance agreement" with the mortgage holder, which ensures the museum will remain open until Dec. 31, 2025. PRI's remaining balance will be due then.

Read the article here:

<https://ithacavoice.org/2025/04/donation-spike-gives-museum-of-the-earth-new-life-but-future-remains-uncertain/>

## Rochester Academy of Science Annual Financial Report for 2024

The Rochester Academy of Science (RAS) has three categories of funds: the General Fund, the Endowment Funds, and the Expendable Funds. The General Fund receives RAS membership dues and monthly interest from the Life Fund (endowment) and the Memorial Fund (endowment). Expenses from the General Fund are outlined in the budget below. This financial report does not include the income and expenses of the individual sections. A total of 391 members paid dues for 2024 membership (including Life members).

### Revenue (combined for General, Expendable and Endowment funds):

RAS Member dues = \$3,805.00, Gifts/Donations \$3,300.00, Eclipse Glasses donations = \$503.00, Interest and Dividends = \$6,307.82, Fall Paper Session Abstract Fees/Lunches = \$1,597.51. Total revenue = \$15,513.33 .

### Expenses Summary - General Fund:

Section & Board Meetings: Room expenses	\$250.00
Eclipse Glasses (purchase, mailing expenses).	\$1,752.78
Bulletin: preparation, printing, mailing	\$1,618.78
General Office Expenses (PO Box, mail permit)	\$182.00
Liability Insurance	\$661.00
Website	\$1,528.04

**Expenses Summary - Expendable Funds:** (reported to the IRS as unrestricted assets, each are self-supporting and do not receive funds from membership dues or from the General Fund.)

Publications Fund: used to publish the Proceedings and Academy booklets. 2024 expenditure was \$0.00.

Grants Fund: used to award annual research grants to undergraduate college students. 2024 expenditure was \$5092.00.

Lecture Fund: used to pay the expenses and honoraria for invited speakers who give lectures at Academy events (the Fall Scientific Paper Session and the Spring Lecture). 2024 expenditure was \$0.00.

Paper Session Fund: used to pay expenses associated with the Fall Scientific Paper Session. 2024 expenditure was \$1,317.60.

Herbarium Fund: used to purchase supplies needed for maintaining the RAS Herbarium. 2024 expenditure was \$200.69.

**Total Expenses (General + Expendable Funds):** \$12,602.89

**Endowment Funds:** The endowment funds are not spent but generate interest, which is entered as income into the General Fund and four of the Expendable Funds. They are reported to the IRS as restricted assets.

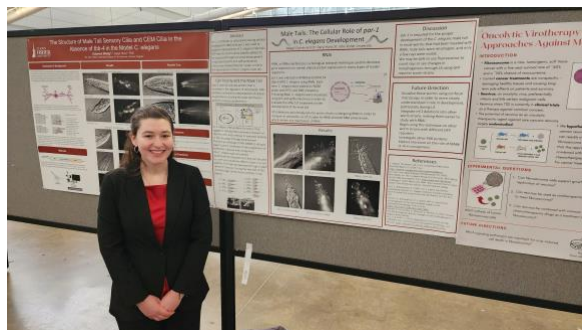
Fund	Balance (12/31/2024)	Interest Supports
Fairchild Fund	\$10,741.00	Publications
Life Fund (Life Membership dues)	\$14,100.00	General Fund
Jensen Fund	\$8,275.00	Student Grants
Speakers Fund	\$6,550.00	Lectures
Grace Murray Fund	\$8,250.00	Student Grants
Grants Program Endowment	\$37,000.00	Student Grants
Herbarium Endowment	\$ 2,000.00	Herbarium
Memorial Fund (named memorial gifts)	\$1,650.00	General Fund
Babette Coleman Bequest	<u>\$ 4,958.86</u>	Herbarium
Balance of the Endowment Funds	\$93,524.86	

**Assets and Liabilities:** The assets of the Rochester Academy of Science include money held by each of the five sections, as well as the RAS funds in the Pittsford Federal Credit Union (checking, savings) plus investments held by MorganStanley (monthly interest/dividends received from these accounts are deposited into the Expendable Funds accounts). The RAS also owns stock in ConocoPhillips and Phillips 66; the dividends received are deposited into the Grants Fund. Finally, RAS has investment money in the UBS Putnam Diversified Income Trust which was a bequest from the Babette Coleman estate. The RAS also owns the Astronomy Section observatory in Ionia, NY. The RAS has no liabilities.



## Undergraduate Student Research Grant Award

Abigail presented her project at the Rochester Academy of Science Fall Paper Session last November at SUNY Brockport. Then she went on to win RAS Student Grant awards for her projects as announced in our February issue.



Abigail Garvey from St. John Fisher University at the 2025 National Conference of Undergraduate Research in Pittsburgh, PA, April, 2025. Photo credit: Dr. Zachary Murphy.

### Abstract:

The *par-1* gene codes for PAR-1 kinase protein, which contributes to cell polarity during cellular development in *C. elegans* and other organisms. The human orthologs of *par-1* have been found to contribute to the progression of Alzheimer's Disease through phosphorylation of Tau protein in the brain. Previously, PAR-1 has been found to play an essential role in the development of the *C. elegans* vulva with a post-embryonic RNAi silencing approach. Several new worm strains were created in order to visualize development of the tail cells with GFP reporters. Post-embryonic RNAi treatment of *par-1* was used to study the development of *C. elegans* male tails. Worms that underwent RNAi treatment showed visible defects in male tail rays and cuticle shape. Visualization by DIC and epifluorescence microscopy shows that *par-1* plays a role in the development of the *C. elegans* male tail.

### The Cellular Role of *PAR-1* in the Development of the *C. elegans* Male Tail

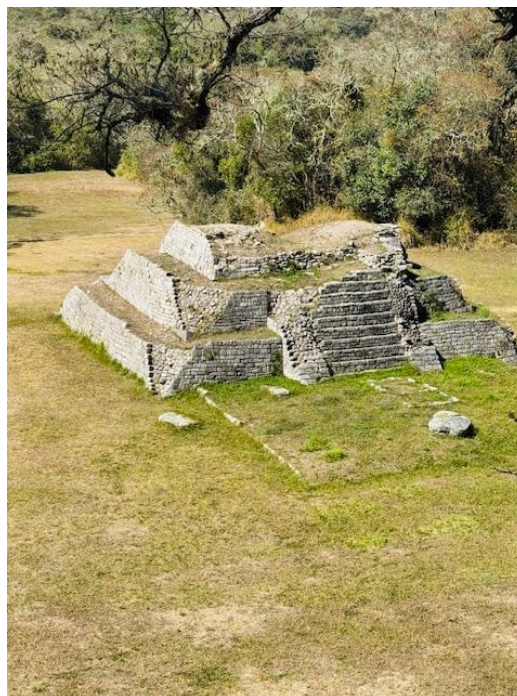
by Abigail Garvey and Dr. Daryl Hurd, St. John Fisher University Division of Life Sciences

## RAS Member Images

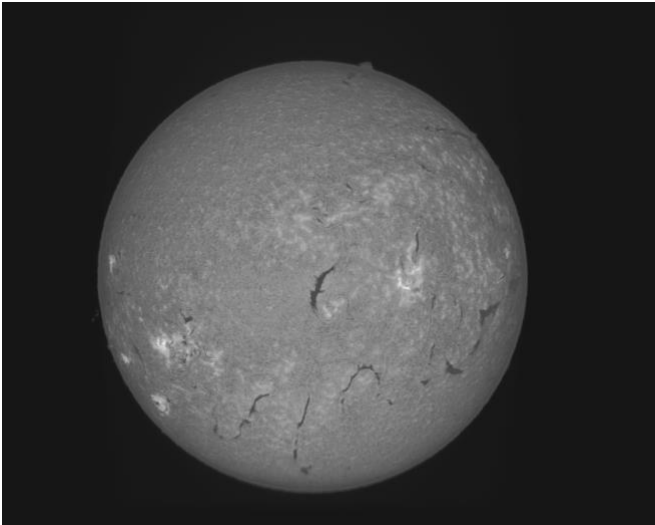


Stitchbird (Hihi, *Notiomystis cincta*), TiriTiri Matangi Island, New Zealand, February 21, 2025. Photo: R. Crumrine.

Once thought to be a Honeyeater, it is now regarded as the only member of a new family *Notiomystidae* with approximately 2000 surviving individuals. Check [here](#) and [here](#) for further reading.



Tenam Puente, Mayan ruins, Chiapas, Mexico. These ruins date from the peak of the Mayan Empire, 800-1200 A.D. Photo credit: Keewon Haller, February 16, 2025, submitted by Helen Haller.



The Sun in H-alpha. Eric Day from his spectroheliograph, April 17, 2025.



Messier 51. Bill Hugh, April, 2025.



NGC 2237 Steve Rothstein, April, 2025



M42 Mosaic Bruney Baron, April, 2025



## Rochester Research in Review.

(These are Hot Links which when clicked lead to the press release on the Science Daily and other science websites.)

[Brain's own repair mechanism: New neurons may reverse damage in Huntington's disease. University of Rochester; April 7, 2025](#)

[Air pollution exposure late in pregnancy increases NICU admission risk. University at Buffalo; February 14, 2025](#)

[Finding friendship at first whiff: Scent plays role in platonic potential. Cornell University; April 17, 2025](#)

[Robot see, robot do: System learns after watching how-to videos. Cornell University; April 22, 2025](#)

[Range expansion in lesser goldfinches. Cornell University; April 22, 2025](#)



M66 Steve Rothstein, April, 2025

### ABOUT THE ACADEMY

The Rochester Academy of Science™, Inc. is an organization that has been promoting interest in the natural sciences since 1881, with special focus on the western New York state region. Membership is open to anyone with an interest in science. Dues are minimal for the Academy and are listed in the [membership application online](#). Each Section also sets dues to cover Section-related publications and mailings. We are recognized as a 501(c)3 organization.

For information, contact President Michael Grenier at (585) 671-8738 or by email [paleo@frontier.com](mailto:paleo@frontier.com).

The Academy Internet website is <http://www.rasny.org> or see us on Facebook at <https://www.facebook.com/Rochester-Academy-of-Science-792700687474549>.

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