



President's Message

Best Wishes for the New Year!

2023! You have my best wishes for more of whatever activities you enjoy. Do get out there with your like-minded friends.

One of my resolutions is to promote more of the RAS activities, so I am starting here. There is such a wealth of opportunities to learn more about our world. Here's a resolution for you to make, "I resolve to do one thing with my section that I have not done before." You will doubtless enjoy the experience and thank yourself when you do. I look forward to another interesting and busy year for all Academy members.

RAS Outreach Programs

"The purpose of this society shall be to promote scientific study and research, to gain and publish a thorough knowledge of natural history, particularly of that part of the State of New York in the vicinity of Rochester, to make collections of material in illustration of the natural history of that region, and to disseminate scientific knowledge."

Our various outreach programs are a important part of what we do. Besides meeting our mission goal of "disseminating scientific knowledge," it is in our own self interest, as these outreach events are often the first place that prospective members learn about us. Consider making one of these the new experience you should have. On December 31st, for example, members of most of our sections set up display tables at the RMSC for their holiday break family weekend. We engaged with hundreds of visitors and



Dan Krisher (seated), aided by Fred Hayes, John Handley, and Michael Grenier discussed fossils and provided free samples at RMSC. Anthropology, ASRAS, and publications were also represented.

several took the RAS membership literature.

ASRAS has outreach at the RMSC observatory many Saturday evenings and Mineral, Fossil and Astronomy sections will be at the Adirondack Mountain Club (ADK) Outdoor Expo at Mendon Ponds Park on Saturday, June 10th, 2023. Why not volunteer to help? Prior experience is **not** required.

Undergrad Student Grant Program Results Announced

Our Undergraduate Student Research Grant Review Committee recently selected ten students to receive research grants from the Rochester Academy of Science based on the quality of research and presentation. This important RAS program encourages the scientists of the future currently in school, especially after all

they have been through these past few years.

Committee members reviewed and graded these, consulted with each other, and presented a consensus on the awards. Thank you to chairman William Hallahan and members Helen Haller, Tim Tatakis, Karen Wolf, and Michael Richmond for their diligence in completing this.

Each September, Dr. Hallahan sends our Request for Proposals to the sciences faculty at the colleges and universities throughout Upstate NY. The money awarded principally comes from three endowments: the Katherine H. Jensen Memorial Research Grant Fund, the Thomas F. & Annie A. and Grace Murray Memorial Research Grant Funds, and the Student Grants Endowment Fund. I am thrilled to report that thanks to the generosity of a few members, we were able to make several additional awards to students and were also able to increase the size of the awards.

2024 Eclipse Watch

On January 31st, 2022, it will be just **433** days until the total solar eclipse passes through Rochester on Monday, April 8, 2024.

You may have decided that travel to an optimal location is not feasible and that you'll try to catch it in Rochester. We all know that Rochester is one of the cloudiest cities in America. One site rates Rochester #8 on its cloudiest list, with an average of 208 days a year when cloud covers more than three-quarters of the sky. That's a 55% chance of cloudiness. So, you'll be watching the forecast and if overcast

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Events for February 2023

Not Meeting in February: Anthropology Section

1 Weds: Astronomy Board Meeting

7:00 p.m. Zoom only meeting. ASRAS members are welcome. Contact: Anthony Golumbeck at semp@use.startmail.com

3 Fri: Astronomy Members Meeting (delayed to Friday 1/17)

7:30 p.m. – 10:00 p.m. RIT Carlson Center for Imaging Science, CAR-1125. Parking Lot F. Speaker: Joel Kastner, RIT. Topic: *JWST imaging*. Contact: Anthony Golumbeck at semp@use.startmail.com

5 Sun: Astronomy Open House

Open House: 12:00 p.m. - 3:00 p.m. Observatory tours and work parties. Members may bring guests. Farash Center for Observational Astronomy, 8355 County Road 14, Ionia, NY 14475. For weather related cancellations or changes contact site manager Roger McDonough at rdmcdogz@aol.com or see www.rocheasterastronomy.org/calendar-of-events

7 Tues: Fossil Section Meeting

7:30 p.m. Meeting will be held remotely via Zoom and is open to all

RAS Members and guests. Our guest is Dr. Matt Friedman, Director of the Museum of Paleontology, University of Michigan. He will speak on “The Ages of Fishes” reviewing important steps in the evolution of fishes from before the Devonian up through the present with a focus on the Devonian/Carboniferous and on the late Mesozoic/early Cenozoic. For meeting details and login info Contact Michael Grenier at paleo@frontier.com.

15 Weds: Life Sciences - Herbarium Workshop

1:00 p.m. – 4:00 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). If you plan to attend, please send an RSVP to Elizabeth Pixley. At RMSC go to the front desk to meet other participants. For more information, contact Elizabeth Pixley, herbarium curator at (585) 334-0977 or eypixley@gmail.com.

15 Weds: RAS Board Meeting

7:00 p.m. – 9:00 p.m. Zoom meeting only. For details, contact Michael Grenier at mgrenier@frontiernet.net.

22 Weds: ASRAS Forum

7:30 p.m. Zoom only meeting led by Carol Latta. The zoom link is: <https://rochester.zoom.us/j/98759936213>, Meeting ID: 987 5993 6213. If you have questions. contact: Carol Latta at cosmos@rochester.rr.com

28 Tue: Mineral Section Virtual Meeting

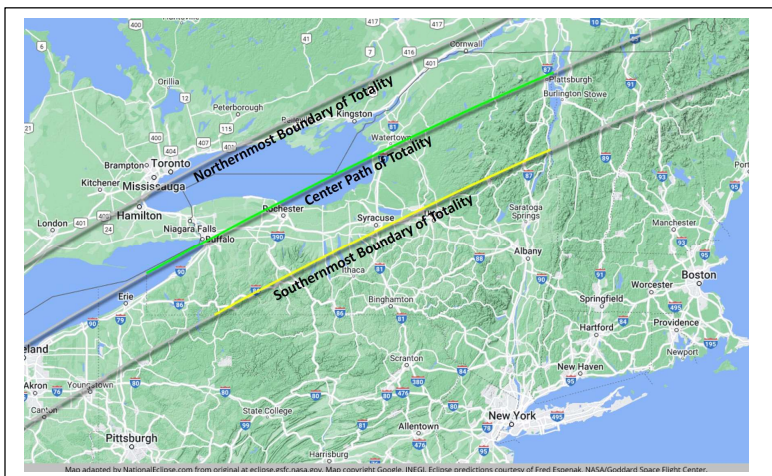
7 p.m. Zoom only meeting. The A. E. Seaman Mineral Museum on the campus of Michigan Technical University houses an amazing collection of minerals from around the world and features the minerals found in the Lake Superior region. Curator Dr. John Jaszczak will tell us about the history of the museum and its collection. Guests welcome. Contact: Jutta Dudley, juttasd@aol.com.

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is forecast, what can you do? You need a Plan “B.” Fortunately, the

swath of totality—see map below—covers a good part of western NY. Unfortunately, you cannot improve



your odds by a lot by driving. You should probably forget about Buffalo, Syracuse, or Batavia. They average 208, 205, and 202 cloudy days a year respectively—but check their forecasts also. Heading south might be a better bet—our ASRAS observatory in Ionia is often clear when Rochester is cloudy. Corning has only 195 cloudy days on average and Mansfield, PA only 185, a bit better than a 50/50 chance. *All-in-all, you better hope for good luck to us all.*

Michael Grenier, RAS President

Announcement of the 2022-2023 Undergraduate Student Research Grant Awards:

This year, we had eighteen proposals, requesting over \$12,000. Our mission was to award only significant grants rather than small, partial awards. The maximum amount of the grant is \$750. The RAS Grants Committee awarded a total of \$5750 for ten research projects. The maximum awards were \$700 so that we could fund as many proposals as possible.

First place: full funding plus \$50 to the student. **Gabriella Orfanides, Rochester Institute of Technology.** Heat Shock Proteins as a Physiological Stress Metric of Migrating Songbirds. Award: \$700. Sponsor: Susan Smith Pagano, Ph.D.

Amaya Bechler, Cornell University. Characterizing variation in gut microbiome composition and diet from breeding through molt in the migratory black-throated blue warbler. Award: (full funding) \$500. Sponsor: Sara Kaiser, Ph.D.

Charly Campanella, St. John Fisher University. Investigating the role of TET2 in human erythropoiesis using CRISPR/Cas9. Award: \$400. Sponsor: Zachary Murphy, Ph.D.

Derek Emrich, Rochester Institute of Technology. Development and optimization of a parallel poly(A) duplex-based poly(rA)-tailed mRNA purification method. Award: \$600. Sponsor: Mike Gleghorn, Ph.D.

Samantha Geis, Cornell University. Uncovering neuronal populations associated with aggressive behavior in *Danio rerio*. Award: \$400.00. Sponsor: Andrew Bass, Ph.D.

Adam Graziano, SUNY Brockport. Quantifying the presence of the allelopathic compound, emodin in local samples of *Fallopia japonica* and its effect on the growth of native plants. Award: \$600. Sponsor: Kathryn Amatangelo, Ph.D.

Aidan Lynch, Rochester Institute of Technology. X-Ray Crystallography of the Nudix Hydrolase Rv2985, a Potential Antibiotic Target in *Mycobacterium tuberculosis*. Award: \$700. Sponsors: Suzanne O'Handley, Ph.D. & Michael Gleghorn, Ph.D.

Isabelle Pilo, Rochester Institute of Technology. Inhibiting the Interaction Between Peptidoglycan-Associated Lipoprotein and TolB Proteins. Award: \$600. Sponsor: Lea Vacca Michel, Ph.D.

Braeden Thomson, Cornell University. Oxidative costs and constraints of territory quality on reproductive effort in male black-throated blue warblers. Award: \$700. Sponsor: Sara Kaiser, Ph.D.

Noor Zamamiri, Syracuse University. β -Glucosidase Expression in Poplar. Award: \$500. Sponsor: Heather Coleman, Ph.D.

All of the money for the grants this year was from the Undergraduate Student Research Grants Fund.

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.

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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