



President's Message: Come to the Scientific Paper Session!

As I hope you know already, the Rochester Academy of Science's 46th annual Scientific Paper Session will be at Monroe Community College on Saturday, November 9. Featured presenters will be area scientists, students, and RAS members, who will share their investigations and interests about scientific topics. Are you interested in climate change and other environmental changes we may be facing? Then join us for the Larry King Memorial Lecture given by Paleontological Research Institution Director and Cornell University Professor Dr. Warren Allmon. He has been studying the potential effects of present and future environmental change, including climate change, on Earth's biota. The lecture is free to the public. I hope you will come!

Michael Grenier



RAS Scientific Paper Session Schedule

**Saturday, November 9
Monroe Community College**

For more info: www.rasny.org

Parking: Free. Park in lot M.

8:30 a.m. Presenters sign in. Refreshments for all attendees. Monroe A & B, Warshof Conference Center, Building 3.

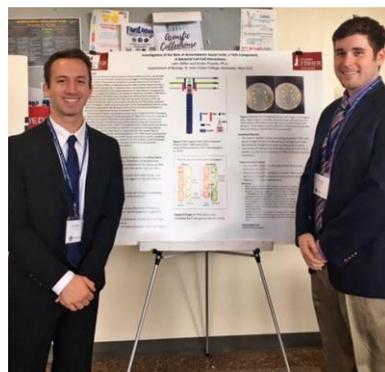
9:30 – 11:45 a.m. Oral Presentations Building 12

11:45 a.m. – 12:30 p.m. Poster Session. Atrium and Terrace of the R. Thomas Flynn Center.

12:30 p.m. Lunch available for purchase for \$8.50 per person.

1:00 p.m. Welcome & Larry King Memorial Lecture. Monroe A & B, Warshof Conference Center, Building 3.

A campus map can be had at www.monroecc.edu/about-mcc/locations-maps/brighton-campus



John Miller and Daniel Kaplan of St. John Fisher College present research at the 2018 RAS Scientific Paper Session.

Second Call for Presentations at the Fall Paper Session

Have you been engaged in a project? Share your experiences with the community! We are eager to hear all about it! You have an opportunity to present it to a wide audience at the RAS Scientific Paper Session through a poster or short oral report. There is still time to sign up and send in your abstract before the deadline October 18th. Instructions for registration and online abstract submission will be forthcoming. The registration fee is \$5 per project for RAS members, \$10 for others.

Fossil Section Children's Event October 1

In our events calendar, you will see that I have arranged for the RAS to partner with the New York State Museum to provide a special children's fossil program in Rochester on 10/1 from 4-5PM. Dr. Lisa Amati, the NY State Paleontologist, will explore fossils (especially trilobites) with children (5 years +) and their families. Seats are limited to 60 and RAS members have the first opportunity to reserve spaces for children, grandchildren, nieces & nephews, etc., if reserved immediately before all seats are taken by the public.

Michael Grenier

Larry King Memorial Lecture

November 9

1:00 p.m. Warshof Conference
Center

How Paleontology Can Help Save the World.

Presented by Dr. Warren D. Allmon.



Paleontology is sometimes thought of as just dinosaurs, or dead fossils. But paleontology is the only record we have of the actual history of life on Earth, and therefore the only test case available for judging the potential effects of present and future environmental change - including climate change - on Earth's biota. The past is not just past, it is a crucial source of data for predicting and preparing for the future.

About our Speaker

Warren D. Allmon is the Director of the Paleontological Research Institution (PRI) in Ithaca, NY and since 2008 the Hunter R. Rawlings III Professor of Paleontology in the Department of Earth and Atmospheric Sciences at Cornell University. He earned his A.B. in Earth Sciences from Dartmouth College in 1982, and his Ph.D. in Earth and Planetary Sciences from Harvard University in 1988. He became PRI's fourth Director in 1992. Since then, he has been instrumental in rejuvenating PRI's internationally known fossil collections; starting its local, regional, and national programs in Earth science education; and in planning and fundraising for the

Museum of the Earth, PRI's \$11 million education and exhibit facility which opened in September 2003. In November 2004, Allmon helped secure a formal agreement of affiliation between PRI and Cornell, ending more than 70 years of official separation.

Dr. Allmon writes and speaks frequently on evolution and creationism, natural history museums and collections, the history of science, and Earth science education. He also supervises Cornell undergraduate and graduate students' work on topics ranging from the causes of snail evolution, to unraveling the identity of problematic fossils from the Devonian rocks around Ithaca, to brain evolution in camels.

Dr. Warren D. Allmon is the author of more than 300 technical and popular publications. He is a Fellow of the Paleontological Society and Geological Society of America and was the recipient of the 2004 Award for Outstanding Contribution to Public Understanding of Geoscience from the American Geological Institute.

Dr. Allmon's research focuses on macroevolution and evolutionary paleoecology, especially the environmental and ecological context of evolutionary change, particularly in Cenozoic mollusks, and especially the gastropod family Turritellidae, ubiquitous in the marine fossil record over the past 130 million years as well as widely distributed in modern oceans. He also works on theoretical and empirical aspects of speciation as it relates to patterns of nutrient availability and primary productivity in the oceans.

Did Life on Earth Start ... On Mars? in Boron-Rich Martian Clays?

(Excerpted and paraphrased from Dr. Nan Crystal Arens' presentation to ASRAS on Friday September 6, 2019.)

One hypothesis of the origin of life on earth is that life was seeded on earth from Mars. Over 224 meteorites found on earth are thought to be from Mars because they have elemental and isotopic compositions that are similar to rocks and atmosphere gases analyzed by spacecraft on Mars.

Boron-rich clay deposits have been discovered on the surface of Mars by prior Mars expeditions. Clay deposits indicate the history of abundance and pH levels of water necessary for life. It so happens that boron-rich clays are hypothesized to have the surface chemistry required to catalyze the synthesis of ribose, a key component of RNA, not only a necessary catalyst for the synthesis of proteins from DNA but also are the carrier of genetic information in some viruses.



Mars Rover examining clay deposits.

For a clay to be effective at catalyzing the synthesis of ribose, high concentrations of boron are required in the clay to stabilize the ribose. Mars clay has much greater abundance of boron than earth clays, and clay formations on Mars are contemporaneous with the beginnings of life on earth.

Dr. Nan Crystal Arens is Professor of Geoscience, Hobart & William Smith Colleges, and speaks regularly on Mars missions to discover evidence of life on Mars.

Events for October 2019

For updates to events, check the Academy website, <http://www.rasny.org>, and Section websites.

1 Tue: FOSSIL SECTION MEETING

7:30 p.m. – 9:00 p.m. Brighton Town Hall, Downstairs Meeting Room. Dr. Lisa Amati, NY State Paleontologist and Ordovician Trilobite Specialist will speak on “Trilobites – the Lost Empire.” Contact: Michael Grenier, mgrenier@frontiernet.net or 671-8738.

1 Tue: SPECIAL CHILDREN’S FOSSIL EVENT

4:00 p.m. – 5:00 p.m. Brighton Town Hall, Downstairs Meeting Room. Led by Dr. Lisa Amati, this Fossil Fun with the State Paleontologist workshop will teach children aged 5+ how to recognize and identify ancient remains by handling real fossils and answering questions about them. Open to the public with seating limited to 60 participants, RAS members have priority. Reservations must be made through paleo@frontier.com. Contact Michael Grenier at (585) 671-8738

4 Fri: ASTRONOMY SECTION MEETING

7:30 p.m.–10:00 p.m. RIT Carlson Center for Imaging Science, CAR-1125. Parking Lot F. Speaker: Sam Morse UR, Laboratory for Laser Energetics Topic: Work done for 2018 Physics Nobel Prize. Snacks available at 7:00 p.m. Contact: Mark Minarich (585) 257-6042.

6 Sun: ASTRONOMY PUBLIC OPEN HOUSE

12:00 p.m. - 4:00 p.m. or later. Farash Center for Observational Astronomy, 8355 County Road 14, Ionia NY 14475. Events include observatory training, facilities improvement and star party in the evening – skies permitting. For weather related cancellations or changes contact Mark Minarich; (585) 257-6042 or go to: www.rochesterastronomy.org/calendar-of-events.

7 Mon: ASTRONOMY BOARD MEETING

7:00 p.m. UR, Bausch & Lomb Hall, 4th floor Chart Room. All ASRAS members welcome. Contact: Mark Minarich (585) 257-6042.

10 Thu: ANTHROPOLOGY SECTION LECTURE

7:30 p.m. Memorial Art Gallery. Dr. Stephen Batiuk of the University of Toronto will be giving his lecture: "Exploring the Roots of the Vine: The History and Archaeology of the Earliest Wines." Contact Alex Smith at 585-750-3329.

15 Tue: MINERAL SECTION MEETING

7:00 p.m. Brighton Town Hall, Downstairs Meeting Room. Speaker David Joyce will share his winter adventures in Arizona. Let's see what he found at the Red Cloud and 79 Mines! Join us for an entertaining evening, door prizes, and refreshments. Contact: Stephen Busschaert (585) 351-7633.

16 Wed: RAS BOARD MEETING

7:00 p.m. Brighton Town Hall, Stage Conference Room.

19 Sat: ANTHROPOLOGY DAY

11:00 a.m. - 3:00 p.m. Rochester Museum and Science Center. International Archaeology Day with the AIA Rochester and RAS Anthropology for children, families, and archaeology enthusiasts of all ages! Stone tool making demos, activities for kids, and information on archaeology in the region! Contact Alex Smith at 585-750-3329.

23 Wed: LIFE SCIENCES HERBARIUM WORKSHOP

1 p.m. - 4 p.m. Life Sciences section will hold a workshop at the RAS Herbarium, located in the basement of the Rochester Museum and Science Center (RMSC). No experience needed! If you plan to attend, Please RSVP Elizabeth Pixley, herbarium curator, at 334`-0977 or eypixley@gmail.com.

25 Fri: ASTRONOMY SECTION MEES OBSERVATORY TOUR

6pm. Meet at Gannett House, 6604 South Gannett Hill Rd., Naples, NY 14514. A tour of the UR CEK Mees Observatory (an F/18 24” Boller and Chivens Cassegrain Telescope) and Gannett House. This is a Rain-or-Clear event: if rain, there will be a tour and video of Mike Brown talk on Planet 9. Contact: Mark Minarich (585) 257-6042.

26 Sat: ASTRONOMY SECTION MEMBERS OBSERVING

New Moon Weekend. 10:00 p.m.-? Weather permitting. Farash Center for Observational Astronomy, 8355 County Road 14 Ionia, NY 14475. Contact Mark Minarich: (585) 257- 6042.

ONGOING EVENTS EVERY MONTH

STRASENBURGH OBSERVATORY
ASRAS will operate the telescope at Strasenburgh Planetarium on mostly clear Saturday nights.

ASTRONOMY STAR PARTY

ASRAS also hosts public outdoor star parties once a month on Fridays, either at Mendon Ponds Park or Northampton Park near Brockport. Check on prior Wednesday at ASRAS Facebook page, and www.rochesterastronomy.org/calendar-of-events.

UPCOMING RAS EVENTS

Sat Nov 9: RAS FALL SCIENTIFIC PAPER SESSION

8:30 a.m. - 2:00 p.m. Monroe Community College. Oral and Poster Sessions, 9:30 a.m. -12:15 p.m. Lecture by Dr Warren D. Allmon, 1:00 p.m. See this Bulletin for details. Contact: Michael Grenier, (585) 671-8738.



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October 2019 - Vol. 73, #8, Page 4

CHANGING ADDRESS?

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For information, contact President Michael Grenier at (585) 671-8738 or by e-mail: pres@rasny.org.

The Academy Internet website is

<http://www.rasny.org>

Or see us on Facebook at

<https://www.facebook.com/RochesterAcademyofScience>.

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