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Rochester Academy of Science  
**BULLETIN**

“An organization of people in the Natural Sciences”

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ABOUT THE **ACADEMY** - The Rochester Academy Of Science, Inc. is an organization which 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. Each Section also sets dues to cover Section-related publications and mailings.



For applications and/or more information contact membership chairman Stephen Busschaert, 54 Keswick Rd., Rochester, NY 14609; by telephone 288-5683; or by e-mail <sbusschaert@msn.com>.

The *Academy* Internet web page is <http://www.rasny.org>

The *Astronomy Section* Information phone number is (585) 987-5330. The *Astronomy Section* Internet web page is <http://rochesterastronomy.org>

This “**BULLETIN**” is produced monthly, *except July and September*, by the *Astronomy Section, Rochester Academy of Science*. The editor is Frank Bov, 16 Gladbrook Rd., Pittsford, NY 14534 Phone (585) 422-9910 (days) and (585) 385-1518 (evenings), e-mail <editor@rasny.org>

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The Academy Postal address is P.O. Box 92642, Rochester, NY 14692

**RAS DISPLAY AT  
CENTRAL LIBRARY**

Throughout the month of May, Academy Sections, Fossil, Mineral, Life Sciences, and Astronomy are being featured in the History and Science Department of the Central Library of Rochester and Monroe County. We encourage you to visit the RAS displays located on the third floor of the Bausch and Lomb Building.

RAS members contributed photographs and specimens for the displays, focusing on the natural history of the region. Specimens collected by Mineral and Fossil Section members give visitors a glimpse into New York’s geological past, while plants from the Herbarium Collection reveal more recent environmental changes. The Astronomy Section exhibit features photographs of celestial objects seen in the Rochester sky, tools of the trade, and pictures of the Ionia Observatory. We hope the collections and the information presented will spark interest and curiosity about the natural world, and bring new members to RAS!

The exhibit opens Sunday, May 3. An opening reception between 3:30- 5:00 PM is free to RAS members and friends.

**RAS HERBARIUM  
MAY 2009 UPDATE**

Herbarium activities have accelerated over the past year and are continuing to do so through the summer. Why don’t you consider joining us?

Monthly herbarium workshops, held since last fall, have focused on replacement of old, cracked genus folders with new acid-free folders. Along the way, we have re-filed specimens found in the wrong location and repaired specimens as needed. We have also moved folders as needed so they are not crowded on the shelves. We’ve had 2 to 5 volunteers involved in each workshop. RMSC staff has provided a long table and extra chairs which we set up in the hallway.

On April 18th, Peter Debes led a workshop on mounting herbarium specimens; 7 people attended and we are anxious to have a repeat workshop. I have ordered new acid-free genus folders (and other herbarium supplies) from a source in Montana recommended by Peter, and will continue to order more as needed.

The Herbarium is also a resource for display materials for the upcoming May RAS exhibit at the Rochester Central Library.

Selected herbarium specimens and written background material will be on display, including American elm, American chestnut, 1800’s era orchid specimens and other relevant plants from the collection.

While replacement of genus folders has been a priority this year because of potential damage to the plant specimens in the current folders, we are continuing discussions with Peter Debes and others about creating a digital image catalog of specimens in the collection. We are looking into grants to fund the computer digitizing project, possibly with the assistance of student interns and other volunteers, and to update the “Specify” software and computer we use for cataloging specimens.

While there has been tremendous progress, there is much to do. You don’t need experience, or a background in Botany, just a willingness to learn and help. This collection is unique in the scientific world and your help will make it an even more valuable resource for the scientific community.

Please consider becoming an Herbarium Volunteer!

Elizabeth Pixley  
Herbarium Curator

## SCIENCE EXPLORATION DAYS 2009

For over three decades, Science Exploration Days has been providing enrichment opportunities for students in the Rochester area. Founded and organized by the Central Western Section of the Science Teachers Association of New York State (STANYS), the program brings together people from the community, industry and academia to share their scientific expertise and science-based technology with secondary students. Through seminars and a large exhibit hall, the young people become acquainted with research, scientific concepts, applied technology, local natural history, and various topics beyond the standard curriculum.

Hosting the event, since its inception, is St. John Fisher College. Presenters, exhibitors, and teachers with students will be welcomed on campus Wednesday May 13th and Thursday May 14th. Registered junior high students will attend from 9:30 AM to 1:00 PM on Wednesday, followed by the senior high students on Thursday. The public is invited to view the exhibits on Wednesday evening, between 7:00 and 9:00 PM.

The Rochester Academy of Science is an important presence at Science Exploration Days, especially in the exhibit hall. Hands on exhibits and informative displays by the Sections teach and enlighten visitors of all ages. It's an excellent opportunity for us to make the Academy known and to solicit new members.

You are encouraged to participate

in this upcoming event by helping your Section prepare an educational, interactive exhibit. Please volunteer to provide materials or be present to engage with the visitors. Contact your Section Leader or Karen Wolf, who is the RAS liaison to the SED program. These people can provide you with more information.

Jutta Siefert Dudley  
RAS Director  
President, STANYS

(Note: St. John Fisher College is located on East Ave. (Rt. 96) at Fairport Rd. (Rt. 31F))

### ABSTRACTS OF PAPERS GIVEN AT THE 2008 PAPER SESSION.

#### MULTIPLE ANTIBIOTIC RESISTANCE FOUND IN BACTERIA FROM WILD GREEN FROGS.

Jillian Lund  
Department of Biological Sciences, Rochester Institute of Technology, Rochester, NY

An increase in the incidence of antibiotic resistant enteric bacteria has been observed in wild vertebrate species that have never had direct contact with humans. In the United States, livestock farms may be contributing to this problem through their use of antibiotics to promote growth and prevent infection. We tested this hypothesis by comparing the antibiotic resistance of enteric bacteria sampled from *Lithobates clamitans* at sites in central New York with different levels of exposure to livestock wastes. A chi-square analysis indicated that the isolates from the site with direct exposure to livestock wastes had significantly different

levels of resistance to erythromycin and tetracycline, as compared to the isolates from the site that was protected from livestock wastes.

\* \* \*

#### NOVEL SYNTHESIS OF THE ANTI-TUMOR AGENT; GENISTEIN.

James Gordon IV, Jeffrey St. Denis, Ronny Priefer  
Department of Chemistry and Biochemistry, Niagara University, Lewiston, NY

Genistein is a naturally occurring isoflavone found primarily in soy products. Previously, Genistein was recognized for its strong antioxidative effects as well as astounding estrogenic activity. Most recent studies of genistein suggest tumor repressive properties. We have effectively synthesized genistein from 2,4,6-trihydroxyacetophenone using a novel five-step synthesis. This novel synthesis employs an enamine addition followed by a ring closure and Suzuki coupling, using PEG 10000.

#### ADK OUTDOOR EXPO SATURDAY JUNE 13

9:00 AM to 4:00 PM at Mendon Ponds Park, Hundred Acre Pond beach area. Have you ever wanted to just try a canoe or kayak but didn't know where to go? Have you ever wondered if there was a club with your outdoor interests? Here's your chance to find out! Join the members of several RAS Sections in sharing what we do, and finding out what other outdoor organizations have to offer. This event is free and open to the public. Contact your Section leadership to find out how you can participate.

## EVENTS for MAY 2009

(For updates to events, check the Academy web site, <http://www.rasny.org>, or appropriate Section web site.)

#### Fri 01 ASTRONOMY GENERAL MEETING

7:30 PM at RIT, Gosnell Hall, room A300. This month's meeting speaker is the U of R's Alice Quillen, presenting "Pinpointing Planets in Circumstellar Disks", plus short talks by members. Visitors are always welcome. Come early, starting at 7:00, if you're new or would like to chat with other members over light snacks. For information, contact Carol Latta at 230-9548, or <cosmos@rochester.rr.com>

#### Sat 02 LIFE SCIENCES FIELD TRIP

10:00 AM at Bauman's Farm Market. Enjoy the early spring flowers, both annuals and perennials ready for your garden. Most were grown on the premises in Jim Bauman's many filled-to-overflowing greenhouses. See amazing mass production of seedlings in progress to become some common and some not-so-common plants. Karen has arranged a special 10% off cost for anything purchased by Life Science members that day. Also Karen is looking for assistants at the SED table in May (13 and 14) at St. John Fisher. The more the merrier. Contact Karen Wolf (585) 670-9709.

#### Fri 08 FOSSIL MEETING

7:30 PM at the Arts and Crafts Room, Brighton Recreation Center (off Winton Rd), Dr.

Gordon Baird, SUNY Fredonia will update us on his work "Deconvoluting the Geology of Northwestern PA." Visitors are welcome. Please email Anne Roth-Blizzard at <Annethefossil@aol.com> or contact John Handley at (585) 802-8567 or for more information.

#### Wed/Thur 13/14. SCIENCE EXPLORATION DAYS

9:30 AM to 1:00 PM both days and 7:00 to 9:00 PM Wednesday at St. John Fisher College. Set up Tuesday evening and Wednesday and Thursday mornings. All RAS Sections will be participating. Volunteer with your Section to help. See the article on page 1 for more information or contact Karen Wolf at (585) 670-9709.

#### Fri 15 RAS BULLETIN

Deadline for event notices and articles for the June/July issue.

#### Fri 15 ASTRONOMY STAR PARTY

9:30 to 11:00 PM at Northampton Park, on Hubble Road, the first left off Rt. 31 after the end of the 531 expressway. Our second star party of the year spotlights Saturn and deep sky objects. No need to bring equipment or a deep understanding; just come and enjoy the views. Dress warmly as evenings may still be chilly! For information, contact Jim Seidewand at (585) 723-6225.

#### Sat 16 LIFE SCIENCES WORKSHOP

10:00 AM to 2:00 PM at the RAS Herbarium, Rochester Museum and Science Center (Ask the front desk to call ext. 368) No experience needed! Plan to come and help with this valuable historic collection, and become acquainted with some interesting plants in the process. Please RSVP to Elizabeth Pixley if you plan to attend. You can either bring a lunch or purchase food at the RMSC café. For more information, contact Elizabeth Pixley, herbarium curator at (585) 334-0977 or <epixley@rochester.rr.com>

#### Tue 19 MINERAL MEETING

7:30 p.m. at the Brighton Town Hall at 2300 Elmwood Avenue, in the Downstairs Meeting Room. David Bailey, Assoc. Professor of Geoscience at Hamilton College, will speak on "Basalts: The Key to Understanding Life, the Universe, and Everything!" Door prizes and refreshments; visitors welcome. For more information, e-mail <mineral@rasny.org>, or check the Academy web site for updates.

#### Wed 20 RAS BOARD MEETING

7:00 PM Brighton Town Hall, 2300 Elmwood Ave. Check the agenda when you enter for the meeting room. Everyone welcomed.