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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>

ROCHESTER ACADEMY OF SCIENCE OFFICERS

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

**ALL SECTION MEETING
JANUARY 4th AT RIT**

Let's get together! We will kick off 2008 with a joint meeting of all Sections, by sharing the Astronomy Section's meeting night and location for a speaker of interest to many of the Sections.

Scientist and radiation safety expert Dr. Andrew Karam will speak on *Supernovae, Gamma Ray Bursts, Extinctions, and Panspermia: Radiation and Life in the Universe*. A synopsis of Dr. Karam's talk is on page 2.

We will meet at RIT in the Gosnell Building, ground floor at 7:30PM on Friday, January 4th. Find a map of the campus at <<http://facilities.rit.edu/campus/maps/general/general.pdf>>. The Gosnell building is #8. If you enter from the entrance nearest the bus loop in front of the Watson Library, the auditorium where we meet is immediately on your right.

Come at 7PM for a chance to meet and chat with other members. Snacks and beverages will be available before the meeting and at break. (A \$1 donation per person is helpful in covering the cost of the snacks.) Everyone is welcome to stay after the break for the rest of the meeting.



**PRESIDENTS MESSAGE
JANUARY, 2008**

I'd like to take this New Years time to lay out my vision for the RAS in 2008. The Board has worked on many of these ideas already. I am looking for more input into these ideas or other ideas; we are always looking for people who want to volunteer to work on these projects. Contact me at President@RASNY.org with your suggestions.

- More joint meetings between Sections and more members attending Section meetings that they are not members. This will help bring more value to your membership dollars that you pay each year for the RAS. You will see that the Astronomy and Fossil sections have set up an all-Sections meeting for January on a subject that applies to several Sections and all RAS members are invited. Watch your bulletin's calendar and

the web site for lectures that may interest you

- Continue the growth in the Fall Scientific Paper Session into an important local, technical presentation event. This year the SUNY Geneseo event was attended by more people than we have had during the last few years. We are looking for more ideas on how to continue to grow this event.
- The Spring Lecture will be similar to the last few years but we will not be having a formal dinner before the lecture. Instead, we will have a less formal get-together after the speaker has finished. Final plans are now being made for the event. We are looking into the possibly of turning this event into a major community educational seminar on a science-based subject. We are considering having the 2008 event on Sustainable Energy Solutions and bringing in a few well-known national speakers to help educate out members and the public on this subject. The RAS has a nationally recognized expert in alternative vehicle energy on the board in Jeff Gutterman and we will build on his expertise and national

reputation.

- I want to get a publicity working group together to help get more media coverage of Section and Academy events. This is the way we can get more Rochestarians involved in our events.
- I would like to see the RAS website kept up-to-date and have it provide more content to people who are attracted to it. You will see a 'help wanted' ad in a coming issue looking for a content manager to ensure and push people to provide the needed information so our web site managers can get the information on it.
- Develop a more comprehensive plan on the use of the Ionia property. The Astronomy Section utilizes it a lot for their telescopes and social events. The Mineral Section is looking at putting up a building for their needs. If any additional uses are to be made of this facility, we should have a plan for the future.
- Providing more information on people running for RAS Board positions so you can make intelligent decisions on whom to vote for. When this year's slate of candidates is published in the *Bulletin*, it will include a brief biography of each candidate who has been recommended by the nominating committee. There is a bio format shown below; let me know if you would like to know more about us!

Stan Spector
President, RAS

DESIRED CONTENT FOR DIRECTOR/OFFICER BIOGRAPHIES

- Educational Background
- General scientific interests, contributions, achievements (e.g., research, publications, teaching, presentations, talks)
- General leadership and organizational skills (e.g., other committee service, publications, etc.)
- Length of time in Academy
- Academy contributions (e.g., section officer positions, volunteer work, projects implemented)
- Suggested goals for the Academy

* * *

Synopsis of Dr. Andrew Karam's Talk: *Supernovae, Gamma Ray Bursts, Extinctions, and Panspermia: Radiation and Life in the Universe*

Supernovae and gamma ray bursts are among the most powerful events in the universe. These events emit tremendously high levels of UV and ionizing radiation, and it is natural to wonder about the effects of this radiation on life - not only on Earth, but throughout the universe. In fact, there has been a great deal of speculation that supernovae or gamma ray bursts may have contributed to mass extinctions in the past. On the other hand, while there has also been speculation about the transportation of living organisms between planets, very few have examined the possible impact of cosmic radiation on this process - even though that impact may be

considerable. In this talk, then, we will discuss the impact of radiation on life in the universe. We will begin with a short primer on radiation's effects on life and with the radiological characteristics of the space radiation environment. From there, we will discuss the impact of high-energy cosmic events on life at the Earth's surface (and how to confirm or reject such events as causing mass extinctions), as well as the implications for life in deeper space.

Biography: P. Andrew Karam, Ph.D., CHP

Andrew Karam is a scientist and radiation safety professional, who began his career in 1981 as an enlisted man in the Navy's nuclear power program. Since then, he has worked professionally in many capacities, including radioactive waste management, uranium enrichment, and environmental restoration. Andrew earned his undergraduate and MS in Geological Sciences, and his doctorate in Environmental Sciences, all at the Ohio State University, and he is board-certified in health physics by the American Board of Health Physics. As a scientist, Andrew has worked extensively on topics related to natural radiation and radioactivity - on Earth and elsewhere in the Universe - and has presented papers to meetings of astronomers, geologists, and health physicists. Outside of his research, Andrew works as a private practice consultant and teaches at RIT as adjunct faculty. Andrew lives in Brighton with his wife, children, and assorted pets.

EVENTS for JANURAY 2008

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

Fri 04 ASTRONOMY GENERAL MEETING

7:30 PM at RIT, Gosnell Hall, room A300. This month's meeting is an All Section meeting featuring Dr. Andrew Karam from RIT speaking on: *Supernovae, Gamma Ray Bursts, Extinctions, and Panspermia: Radiation and Life in the Universe*. Dr. Karam's talk will open the meeting, so normal meeting program and short talks will occur after the break. Visitors are always welcome. Come early and socialize. For information, contact Carol Latta at 230-9548, or <cosmos@rochester.rr.com

Tue 15 MINERAL MEETING

7:30 to 9:30 p.m. in the Community Meeting Room at the Brighton Town Hall, 2300 Elmwood Ave. The program will be a talk by Al Mura on "How Crystals Grow." Refreshments and door prizes. Visitors are welcome. For more information, call Al Mura at 227-9931 or check the Mineral Section page on the RAS Web site (<http://www.rasny.org>) for possible updates.

(This is a little TOO quiet!)