

Rochester Academy of Science
P.O. Box 92642
Rochester, NY 14692-0642
Return Service Requested

NON-PROFIT ORG.
U.S. POSTAGE
PAID
ROCHESTER, N.Y.
PERMIT NO. 220

Rochester Academy of Science
BULLETIN

“An organization of people in the Natural Sciences”

June/July, 2011 - Vol. 65, #6

June/July, 2011 - Vol. 65, #6, Page 4

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 Jutta Dudley, 140 Railroad Mills Road, Pittsford, NY 14534; by telephone 385-2368; or by e-mail <JuttaSD@aol.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 Bob Crumrine, 3 Timway Court, Fairport, NY 14450 Phone (585) 265-5292 (days) and (585) 425-7448 (evenings), e-mail <editor@rasny.org>

ROCHESTER ACADEMY OF SCIENCE OFFICERS

		Phone	
		(585)	home work
Jutta Dudley	President	385-2368	
John Handley	Vice President	802-8567	265-8900
Eric Drum	Secretary (appointed)	671-5954	
William Hallahan	Treasurer	624-1628	389-2552
Open	Membership	350-8526	
Stan Spector	Past President	461-1272	
Karen Wolf	Anthropology	670-9709	273-4500
Lori Englund	Astronomy	334-5744	242-3226
Karen Wolf	Life Sciences	670-9709	273-4500
John Handley	Fossil	802-8567	265-8900
Nancy McCann	Mineral	395-1713	
Elizabeth Pixley	Herbarium	334-0977	
Jutta Dudley	Publications	385-2368	
Bob Crumrine	Bulletin	425-7448	265-5292
William Hallahan	Student Grants	624-1628	389-2552
Paul Dudley	Web Site Coordinator	385-2368	
Reginald Smith	Director '13		
Jeff Gutterman	Director '13	392-8299	789-1364
Frank Bov	Director '12	385-1518	422-9910
Douglas Kostyk	Director (appointed)	943-3419	
Open	Director '11		
Helen D. Haller	Director '11	387-9570	

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

PRESIDENT’S MESSAGE

The Academy exhibits were a highlight at the 40th anniversary of the CWS-STANYS Science Exploration Days May 11 and 12, held at St John Fisher College. The member volunteers were kept very busy with the non-stop flow of students and families visiting the hands-on displays. Thanks to all of you who participated!

Another term in the Academy begins June 1 and we welcome Dr. Lee Tutt to the Board of Directors where he will serve a three-year term. Lee has been active in several of the RAS sections since 1997 and is a research chemist at Eastman Kodak. The work of outgoing Vice President John Handley is greatly appreciated. He was recently inaugurated as Fellow of the Academy and you can read about his accomplishments in this issue of the Bulletin.

The BOD is planning the Fall Paper Session to be held at Monroe Community College on October 29th. Mark your calendars for this fine, educational event. The Publications Committee is preparing the next *RAS Proceedings* for publication and we hope to have this issue available before the year ends.

We are looking forward to the upcoming field season and hope you will be enticed by the Section

activities planned for the next few months. You will have many opportunities to collect fossils and minerals, observe the night sky, process plant archives, or help reach out to the community at public events. Check the Bulletin and rasny.org for fun and interesting things to do with friends and family!

Jutta Dudley, President RAS.

* * *

**JOHN C. HANDLEY
ACADEMY FELLOW**

When John Handley joined the Fossil Section of the Rochester Academy of Science in 1998, he came with a professional background in math and a Ph.D. in imaging science. He had written numerous journal articles and held a number of patents in his field of study. John brought these professional strengths, along with an enthusiasm for paleontology, to the Fossil Section. He soon became Vice President of that section in 2003, and since then has led the section in that capacity or as President. He built an excellent speaker program, as well as giving presentations himself. The Fossil Section has flourished under his tutelage.

Elected as Vice President to the Rochester Academy of Science in 2010, John contributed to the



success of the Larry King Memorial Lecture and the Spring Lecture by obtaining noteworthy speakers, and helping to organize and advertise these events.

John has participated in numerous community outreach activities that educate children and adults about paleontology while promoting the Fossil Section. These activities include presenting at a student bioscience camp, setting up educational library exhibits, and talking to the public over fossil displays.

Contributing his expertise in statistics and knowledge to the field of paleontology, John has co-authored a number of professional abstracts and journal articles in *Paleobiology* and *Palaaios*, and he has presented at

professional geology conferences. John currently serves on the Paleontological Research Institute Board of Trustees where he promotes paleontology through that institution and at the Museum of the Earth in Ithaca, NY.

In recognition of these contributions, we welcome Dr. John C. Handley as a Fellow of the Rochester Academy of Science.

Nancy McCann, RAS Board of Directors Member

* * *



COSMIC RECOUNT

News flash: The Census Bureau has found a way to save time and money. Just count the biggest people. For every NBA star like Shaquille O'Neal or Yao Ming, there are about a million ordinary citizens far below the rim. So count the Shaqs, multiply by a million, and the census is done.

Could the Bureau really get away with a scheme like that? Not likely. Yet this is just what astronomers have been doing for decades.

Astronomers are census-takers, too. They often have to estimate the number and type of stars in a distant galaxy. The problem is, when you look into the distant reaches of the cosmos, the only stars you can see are the biggest and brightest. There's no alternative. To figure out the total population, you count the supermassive Shaqs and multiply by some correction factor to estimate the number of little guys.

The correction factor astronomers use comes from a function called the "IMF"—short for "initial mass function." The initial mass function tells us the relative number of stars of different masses. For example, for every 20- solar-mass giant born in an interstellar cloud, there ought to be about 100 ordinary sun-like stars. This kind of ratio allows astronomers to conduct a census of all stars even when they can see only the behemoths.

Now for the *real* news flash: The initial mass function astronomers have been using for years might be wrong.

NASA's Galaxy Evolution Explorer, an ultraviolet space telescope dedicated to the study of galaxies, has found proof that small stars are more numerous than previously believed.

"Some of the standard assumptions that we've had—that the brightest stars tell you about the whole population— don't seem to work, at least not in a constant way," says Gerhard R. Meurer who led the study as a research scientist at Johns Hopkins University, Baltimore, Md. (Meurer is now at the University of Western Australia.)

Meurer says that the discrepancy could be as high as a factor of four. In other words, the total mass of small stars in some galaxies could be four times greater than astronomers thought. Take that, Shaq!

The study relied on data from Galaxy Evolution Explorer to sense UV radiation from the smaller stars in distant galaxies, and data from telescopes at the Cerro Tololo Inter-American

Observatory to sense the "H-alpha" (red light) signature of larger stars. Results apply mainly to galaxies where stars are newly forming, cautions Meurer.

"I think this is one of the more important results to come out of the Galaxy Evolution Explorer mission," he says. Indeed, astronomers might never count stars the same way again.

Find out about some of the other important discoveries of the Galaxy Evolution Explorer at <http://www.galex.caltech.edu/>. For an easy-to-understand answer for kids to "How many solar systems are in our galaxy?" go to The Space Place at: <http://tiny.cc/I2KMa>.

Dr. Tony Phillips, NASA

This article was provided by the Jet Propulsion Laboratory, California Institute of Technology, under a contract with the National Aeronautics and Space Administration.

* * *

PLANETARIUM TELESCOPE AND MEMBER OBSERVING

The telescope on the roof of the Planetarium is open to the public for viewing each clear Saturday night and RAS members are encouraged to join us. For more information contact Jim Seidewand at 723-6225. Also, RAS members are encouraged to join the Astronomy Section members for observing nights at Ionia. Current dates are June 4, 25, July 2, 30. For more information contact Lori Englund at 334-5744.

EVENTS for June/July, 2011

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

JUNE EVENTS

Fri 06 ASTRONOMY GENERAL MEETING

7:00 PM at IONIA (not RIT!). Marty Pepe will speak about "Radio Astronomy & the History of the NRAO". For more information, contact Lori Englund at 334-5744.

Sat 11 ADK OUTDOOR EXPO

9:00 AM-4:00 PM Mendon Ponds Park Beach Area. Free and open to the public. Come to enjoy and help out! For more information visit <http://www.gvc-adk.org/expo>.

Wed 15 RAS BOARD MEETING

7:00 PM Brighton Town Hall, Stage Conference Meeting Room.

Sat 18 FOSSIL FIELD TRIP

Deep Run on the east shore of Canandaigua Lake. For more information, contact Dan Krisher at dlkfossil@gmail.com.

Fri 24 ASTRONOMY STAR PARTY

10:00-11:00 PM at Mendon Ponds near the youth camping area. No need to bring equipment or a deep understanding; just come and enjoy the views. Dress very warm as evenings may be very chilly! For information, contact Jim Seidewand at 723-6225.

Tues 21 LIFE SCIENCE FIELD TRIP

6:00 PM We will join the Burroughs Audubon Nature Club at the BANC Sanctuary for a Potluck Supper and Photo Retrospective by Marilyn Schindler. Meet at 301 Railroad Mills Road, contact, Karen Wolf, 670-9709.

Sat25 HERBARIUM

10:00 AM-1:00 PM Life Sciences section will hold a teaching workshop on herbarium techniques. Participants will learn proper methods for pressing and mounting plant specimens, also techniques for repairing damaged specimens. The workshop will be held at the RAS Herbarium, located in the basement of the Rochester Museum and Science Center, East Avenue. If you plan to attend the workshop, RSVP to Elizabeth Pixley, herbarium curator (334-0977 or epixley@rochester.rr.com), as space is limited. At RMSC, go to the front desk and ask staff person to call ext. 368, the phone in the Herbarium.

JULY EVENTS

Fri 08 ASTRONOMY GENERAL MEETING

7:30 PM at IONIA (not RIT!) 'Barefoot Bob' will give a presentation on testing and collimating telescopes indoors. We are having a July general meeting because RocheSTAR Fest is August 5-7 this year. For more information, contact Lori Englund at 334-5744.

Sun 10 RAS BULLETIN DEADLINE

Deadline for August/September, 2011 issue. Please e-mail input to editor@rasny.org.

Sat 16 LIFE SCIENCE/ ANTHROPOLOGY FIELD TRIP

9:30 AM BANC invites us to join them in an exploration of the Fort Hill area of Ganondagan. The trail is gentle except for 50 yards of steep incline to reach the meadow. Meet in the parking lot on Boughton Hill Rd. (Ontario County Rd. 41) opposite Murray Rd. about 1.1 miles west of Ganondagan Visitor Center. Bring lunch if you wish and stay for the tour.

1:30 PM. The Anthropology Section will tour the Ganondagan State Historic Site. Meet at the Visitor Center. Contact Karen Wolf for carpool availability at 670-9709.

Sat 16 FOSSIL FIELD TRIP

Jaycox Run between Geneseo and Avon. For more information, contact Dan Krisher at dlkfossil@gmail.com.

Fri 22 ASTRONOMY STAR PARTY

9:45-11:00 PM at Northampton Park at the Ski Lodge on Hubbell Road. No need to bring equipment or a deep understanding; just come and enjoy the views. Dress very warm as evenings may be very chilly! For information, contact Jim Seidewand at 723-6225.