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Rochester Academy of Science
BULLETIN

“An organization of people in the Natural Sciences”

December, 2008 - Vol. 62, #10

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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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FALL SCIENTIFIC PAPER SESSION REPORT

Every year I’ve attended the Paper Session, I’m impressed with how much research is conducted at the local colleges and universities that participate, and I’m disappointed at how few familiar faces I see. This event is what the Academy is all about – promoting science. Here’s what you missed.

Registration was slow, but there were lots of goodies at the Continental Breakfast and many of the researchers hung their posters as soon as they arrived. The first attraction was the short talks, 3 rooms each dedicated to a different scientific discipline:
- Ecology, Anthropology, and Education
- Chemistry, Cell Biology
- Astronomy, Paleontology, and Medical

The last was the closest match to my interests, so I spent the entire session in the same room as others filtered in and out. The first speaker was J. Secosky from FLCC speaking on *Amateur Observations of Layers in the Arabia Region of Mars*. His research is personal, using public-domain data from Malin Space Science Systems to search for interesting geologic features on the surface of Mars. His talk combined large area, low

resolution images of the Arabia region with tight, high resolution images of suspect layered areas. The layers, we assume, indicate a sedimentary deposits as they do on Earth, supporting the hypothesis that Mars once had liquid surface water.

The second talk was by a personal favorite, Dr. Ingo Leubner, who has built an interesting interpretation of modern physics over the past few years. This year’s talk was *Derivation of the Hubble Constant*, a continuation of ideas presented in prior years that show much of what we ascribe to the existence of “dark stuff” can be adequately described by the conversion of mass to energy. Since matter remains in one place, its gravity is directed toward it. Energy, in contrast, is constantly moving and so does not provide the gravitational vector with a specific direction. The rate of transfer of matter to energy, matter’s “decay rate,” was shown to be the Hubble Constant!

Then it got down and dirty. Bill Parsons and his wife, Kristen, are researching the raptor dinosaurs at a site in the Rockies, and they’ve happened upon something interesting. The initial results are in their talk, *Gut Contents Of A Lower Cretaceous Dromaeosaurid Dinosaur: New Data On The Feeding Behavior*

Of Deinonychus Antirrhopus (Saurischia, Theropoda). The key finding is that *Dromaeosauridae* ate like owls, not alligators.

They have fossil evidence of “dino-pellets” that were regurgitated by these raptors after eating. In the absence of gastroliths (stomach stones found near larger dinosaur remains), they concluded that the pellets were analogous to owl pellets, and investigation of their contents showed many similarities, down to the degree of bone digestion. The biggest find, to me at least, is

HELP WANTED

The RAS is in need of a volunteer Website content coordinator. This volunteer would decide what should be published on the site, collect the information from the relevant parties and submit it to the Webmaster for publication. This information includes the Section calendar events and Academy announcements. Other ideas for content are articles from Section newsletters, articles submitted by RAS members, RAS photographs (e.g., depicting section activities or a photograph of the month taken of a scientific subject by an RAS member) or any other content the coordinator feels will help increase visits and usefulness of the Website. If interested, contact Stan Spector at <president@rasny.org>

2009

Rochester Academy of Science, Inc.

Membership Form

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For your convenience, please pay your dues to the R.A.S. and its sections with a single check. **Make check payable to: Rochester Academy of Science, Inc.**

CIRCLE the amount you are paying for an R.A.S. category and for the section(s) in which you wish membership.

Membership Categories	Rochester Academy of Science	Anthropology Section	Astronomy Section	Life Sciences Section	Fossil Section	Mineral Section	Total
<i>R.A.S. dues are a prerequisite for section membership</i>							
Member (Individual over age 18)	\$10.00	\$2.00	\$17.00	\$2.00	\$5.00	\$5.00	
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Student (K to full-time undergrad.)	\$5.00	\$1.00	\$5.00	\$1.00	\$2.00	\$2.00	
Supporting (Individual or family)	\$20.00		\$30.00				
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Life (Individual only)	\$200.00		\$300.00	\$40.00			
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Community Outreach Fund							

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is what they ate. Parsons found many small bones, some resembling bird bones, and could attribute them to a juvenile. He hypothesized that the young *Dromaeosauridae* were arboreal, possibly for the same reasons young Komodo lizards take to the trees – avoid their cannibalistic elders. The gut contents he is investigating describe the available prey to be found in the trees, mostly primitive bird-like creatures. I hope to hear more on their research as the bird fossils he described were nothing like Archaeopteryx, or more recent finds of feathered fossils.

The next speaker told us why

OTC medications are slow to work. In *A Pharmaceutical Analysis Of Ibuprofen Drug Release Using Dissolution Testing*, by R. Best, Dr. I. Kimaru, and Dr. F. Zhao, we found that, regardless of capsule or coating, pills are not dissolved in the acidic environment of the stomach, but rather in the relatively neutral pH of the small intestine. Once you see the data, you’ll understand why you’re supposed to drink a full glass of water when taking pills – it helps them get through the stomach faster and into your bloodstream sooner!

The final talk was given by our own John Handley, titled: *Coordinated Stasis: Current State and Future Directions*. John examined the analysis methods used to define periods of relative evolutionary calm (stasis) separate by periods of intense change. Rather than steal this message, perhaps this will invite him to report personally.

The short talks were followed by the poster session, split over two floors and demonstrating a wealth of new knowledge on both esoteric and concrete topics. I can’t claim to understand the complexity of much modern

research, but I found it interesting that several Canisius College researchers studied whale behavior ... at Marineland! One studied social behavior of Beluga whales while another looked at the adaptation of a recent, west coast transplant to the vocalization patterns of whales already living at Marineland.

Another series of posters, both from Nazareth and RIT, looked at ecological effects in local waterways. It was interesting to see what kind of research could be done literally in our own back yards (I live on Irondequoit Creek) and glimpse what kind of changes are seen from one town to another. The real value here, of course, is not the individual results, but rather the long term trends observed over decades of this type of investigation.

As always, the Larry King Memorial Lecture is the culmination of the Session. This year’s speaker was Dr. William Middleton, of RIT speaking on: *Using Satellite Imagery from NASA to Study the Ancient Mexican Past (Zapotec Culture)*. Dr. Middleton’s work is using spectroscopic imagery to investigate how the Zapotec culture interacted with the environment near Oaxaca, Mexico. He was able to identify major metropolitan sites and distinguish between agricultural and defensive earthen works.

If you had attended, you would have learned more than this. Maybe next year, you’ll come and learn for yourself!

Frank Bov
Editor, *RAS Bulletin*

EVENTS for DECEMBER 2008

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

Tue 02 FOSSIL MEETING

7:30 PM, Community Meeting Room, Brighton Town Hall, 2300 Elmwood Ave. Thomas Whitely, collaborator on the book "Trilobites of New York", and lifetime collector, will give a talk titled "Trilobite Evolution." Visitors welcome. Please contact Anne-Roth Blizzard at <annethefossil@aol.com> or John Handley at (585) 802-8567 for more information.

Fri 05 ASTRONOMY GENERAL MEETING

7:00 PM at the Strasenburgh Planetarium of the RMSC. We're moving our holiday time monthly meeting to the planetarium, where we'll have many snacks and beverages prior to the meeting in the dome. Bring a light dish to pass if you're able but come without one anyways! Visitors are always welcome. For information, contact Carol Latta at 230-9548, or <cosmos@rochester.rr.com>

Sat 06 LIFE SCIENCES AND ANTHROPOLOGY OPEN HOUSE DINNER MEETING

also Sat Dec 13

2:30 PM to 9:30 PM Karen Wolf’s home, 1397 Five Mile Line Road. Please bring a dish to pass for dinner at 5:00 and your ideas and thoughts. We will have several 10 minute presentations by members as updates on the past year’s projects (Herbarium, Auburn trail, AIA Lectures, etc).

Meat and drinks provided, for more information, call Karen Wolf at 670-9709 to RSVP.

Sat 06 MINERAL HOLIDAY DINNER MEETING

6:00 PM. at the St. Louis Church, 64 South Main Street, Pittsford. Bring a dish to pass. Meat and table settings will be provided. For more information, see the Mineral Section web page.

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Deadline for event notices and articles for the January issue.

Wed 17 LIFE SCIENCES HERBARIUM WORKSHOP

10:00 AM to 2:00 PM, in the basement of the Rochester Museum and Science Center (RMSC). This is a great way to get a look at very interesting plants from around the world! No experience needed! If you plan to attend, please send an RSVP to Elizabeth Pixley. Then, at RMSC, go to the front desk and ask a person there to call ext. 368, the phone in the Herbarium. You can either bring a lunch or purchase food at the RMSC café. For more information, contact Elizabeth Pixley, herbarium curator at <epixley@rochester.rr.com> or 334-0977.

Wed 17 RAS BOARD MEETING

No meeting in December; the next Board meeting is January 21st.