A Post-Doc Profile

In Geoscience Newsletters throughout the year, we will profile one of our geoscience graduate students or post-doc’s, so that we can learn more about them!

If you have been in Beach Hall lately, you may have noticed a ‘new’ face on the 2nd floor emerging from office 238. This is the temporary work space for Dr. Magda Abou El-Safa—or Dr. Magda as her students call her—who is visiting us as a research scholar from Egypt this Spring semester.

Dr. Magda comes to us from Menoufiya University in Egypt, where she received her Bachelors, Masters, and PhD degrees. After receiving her degree from Menoufiya, she started as a professor, working for the ‘Desert Environment Research Institute’.

Specializing in sedimentology, Dr. Magda’s current research involves heavy minerals in the area of the northern coast of Egypt. She is also interested in continental and marine evaporite minerals in Wadi El Natrun and in Ouon Mousa (located in Sinai). This includes studying white sands in Sinai as a promising material for the glass manufacturing industry. She also focuses on the sedimentological factors that are controlling accretion and erosion on the Northern Coast of Egypt.

Her research during her stay here focuses on the Hammam Pharaoh hot springs area that lies at west Sinai, along the Gulf of Suez in Egypt. Her research is concerned with the sediment types and movements, mineral alterations and the neomorphic changes of minerals in this area. In order to do her research, Dr. Magda has been using UConn’s XRD machines. She presented her work in March during a Geoscience seminar, and she has been learning a lot from discussions with Pieter regarding geomicrobiology.

While working here in the United States, Dr. Magda has her family (husband and 4 sons) awaiting her return to Egypt!

Our First Academic Year as the ‘Center’

Looking back, at the end of our first academic year, we have many reasons to be proud: Our graduate program is off to a good start. While four students from the old guard defended successfully, four new graduate students have found exciting research interdisciplinary projects to work on. The first core course, taught by Drs. Epstein (Terrascope, MIT) and Zoe Cardon was a success, as demonstrated by the presentations at the end of the semester. In the undergraduate program, we welcomed the first new majors in Geosciences and Environmental Sciences with an area of concentration in Geosciences. The enrollment in the 100-level courses increased steadily by an average of 30% each semester, totaling nearly 800 in this academic year. The general education course, Earth and Life through Time, is taught at two campuses and is also offered as an honor’s course.

Other highlights, and there are too many to report, include the addition of a new faculty member, Paleobiologist Andy Bush, who is jointly appointed in EEB and the Center, the hiring of our Program Coordinator, Abi Howe, who quickly proved to be indispensable to keep the Center going, two post-docs who joined us from Egypt and Switzerland, the exciting symposium in October entitled “Dimensions in Continued pg. 2

In the News for Geosciences:
• The sometimes fuzzy view of microscopic fossils just gained more focus. Using existing digital technology, paleobiologists for the first time viewed intricate structures of tiny fossils in 3-D - a technique that they say could one day aid in the search for life on Mars. William Schopf, a paleobiologist at the University of California in Los Angeles, and colleagues say that 3-D images, captured with a device called confocal laser scanning microscopy (CLSM), offer a simple alternative to slicing and dicing samples. The device also obtains intricate images that can be viewed from any angle. “This is the first technique that permits that,” Schopf says.
Faculty Contributions on Publications:

As a reminder, copies of these pubs are located in the 207 office, in a blue binder on the front counter, for anyone who would like to take a look or make copies!


Meeting Presentations:


Ray Underwood, Jean Crespi and David Parmeele: Evidence of triclinic strain symmetry and strain partitioning in the Taconic slate belt, Middle Granville region, New York. NE GSA Harrisburg, PA. March 2006.


Posters and papers now being accepted!

New Bulletin Boards! The 2nd floor of Beach Hall has some new bulletin boards on it to be able to display more posters, announcements, and other items of use to geoscience students!

Congratulations to Carrie Zwang! She has completed her undergrad thesis titled Analysis of microfracture orientations in deformed graptolite periderm. Great Job!

IMPORTANT ANNOUNCEMENTS!

Friday, April 28 is the last day of classes for the Spring Semester 2006!

• Final Exams begin May 1, 2006.

• Final Exams end May 6, 2006.

• Graduate Commencement Ceremony, May 6, 2006.

• Undergraduate Commencement Ceremony, May 7, 2006.

The spring 2006 Final Exam schedule for the Storrs campus is available at http://adastraweb.uconn.edu:8080/astra

First Year, cont.

Geosciences”, which filled a large lecture room in Beach Hall to the limits, a regular weekly seminar series on Tuesday afternoons in our renovated A.J. Fruch reading room, the submission of an interdisciplinary NSF IGERT pre-proposal, all of which exemplify the gamut of fields represented in the Center. I would like to take this opportunity to thank the members of the Faculty Advisory Board for their help, as well as everybody else who contributed to planning and implementation of events, programs and curriculum.

Looking forward, we have a diverse cohort of six new graduate students joining us in August. We are hopeful to start the search for an additional new faculty member. We will hold our second annual symposium, with another six exciting speakers highlighting “Dimensions in Geosciences”. Tim Byrne, who received a Fulbright for his sabbatical, will visit Taiwan to rekindle research collaborations. Renovations for the class room #128 are planned, and we will continue to work with Departments and Centers to push the boundaries of transdisciplinary activities in which Earth sciences form the foundation. It promises to be an equally exciting year!

PTV
Geoscience Websites of Interest

For each newsletter that comes out, we will try to feature a few great sites related to geosciences that may be of interest to students and faculty associated with the Center. Please feel free to send any sites you find along to Abi, to be included in this section in future editions!

- **Virtual Quarry.** Quarry Products Association (QPA), using Shockwave on Explorer—users can steer through a virtual quarry and learn more about this extractive industry. [http://www.virtualquarry.co.uk/](http://www.virtualquarry.co.uk/)

- **The Dark Side of Natural Resources,** Global Policy Forum, many articles on the effects of available natural resources on politics might help students see the relevance of understanding earth science in today's world. Articles on water, diamonds, and other minerals such as cobalt, cassiterite, copper, and gold, describe the corruption, authoritarian repression, and civil war enabled by these and other natural resources [http://www.globalpolicy.org/security/docs/minindx.htm](http://www.globalpolicy.org/security/docs/minindx.htm)

- **USGS Coral Reefs Website** the Hawaiian Islands are the laboratory for a new USGS study that finds the rising sea might be one of coral reef's greatest foes. [http://coralreefs.wr.usgs.gov](http://coralreefs.wr.usgs.gov)

- **EurekAlert! Earth Science News,** EurekAlert! provides a central place through which universities, medical centers, journals, government agencies, corporations and other organizations engaged in research can bring their news to the media. EurekAlert! also offers its news and resources to the public. [http://www.eurekalert.org/bysubject/earthscience.php](http://www.eurekalert.org/bysubject/earthscience.php)

More to come in the next edition!

Upcoming Events

- **Friday, April 21st,** Marine Sciences Seminar. Paul Hansen of the University of Wisconsin, “Time Series Studies of Lake Ecosystems”. 3:00pm, Marine Sciences (Avery Point) Building, 103.

- **Friday, April 21st,** Environmental Engineering Program Seminar Series by Faculty Candidate, Dr. Ines Henriques, Virginia Tech “Bacteria, Stress and Pollutants: Activated Sludge as a Model System”. Noon—1pm, CAST 212.

- **Final Geoscience Seminar of the year! Tuesday, April 25th,** presents Anne Giblin from Marine Biological Laboratory in Woods Hole, MA. *Nitrogen cycling in a dammed estuary: The case of the Parker River* 3:30pm in Beach Hall 233 (Reading Room). Refreshments served!

- **Thursday, April 27th,** EEB Grad Student Hilary McManus, EEB will present a seminar -Title TBD. BP 130 4-5pm.

- **Friday, April 28th,** Marine Sciences Seminar, Bernardo Broitman of UCAL-Santa Barbara “Satellite OBS of Benthic/Pelagic Linkages” 3:00pm, Marine Sciences (Avery Point) Building, 103.

- **Friday May 5th,** Marine Sciences Seminar, Rainer Lohman, URI-GSO “Marine Chemistry of Organic Pollutants” 3:00pm, Marine Sciences (Avery Point) Building, 103.

- **Saturday May 7th.** Commencement Luncheon for Geosciences.

- **Beach Hall 233 (library), 12pm-2pm.** Please RSVP to geology@uconn.edu by April 28th if you can make it!

- **Friday May 12th,** Marine Sciences Seminar, David Smith, URI-GSO “Marine Microbes” 3:00pm, Marine Sciences (Avery Point) Building, 103.

Grad student Ray Underwood and his advisor, Dr. Jean Crespi, still smiling after 2 1/2 days of talks on Appalachian
EPOD from 4/17/2006—Flip over a rock or log in many locations around the world and you will no doubt see a few grey sow bugs, pill bugs, or “rolly-pollys” scurrying to safety. When disturbed, they curl into small balls as a means of defense. This defensive posture clearly evolved millions of years earlier as seen in the two trilobites pictured above. Both trilobites were found at Fossil Park in Sylvania OH. (See previous EPOD)

The trilobite (Phacops rana), takes its name from the three longitudinal lobes that run down the length of the body. An arthropod, (also insects, crabs, and spiders) the trilobite is among the most complex of the early marine life forms. This important index fossil is noted for an extensive nervous system, and particularly well developed eyes. The compound eye is thought to be the first complex eye in the evolutionary record.

Photo by Tim Martin, Greensboro Day School
Visit from President of Egyptian University

Recently, Dr. Abbas ElHefnawy, President of Menoufiya University in Egypt, visited the University of Connecticut. Here are some photos of his visit and meetings!

Undergraduate’s work gets published

Liana Boop’s OYO project for Robert Thorson’s GEOL103/105 class caught the eye of the editor for the Central Connecticut Grotto’s monthly publication, Underground Movement. In the latest edition, they published her work, titled ‘Journey into the Lithosphere: Appreciating the Geology of Cave Networks’. In it, Lee describes the formation surrounding Morris Cave in Vermont. Below is a brief excerpt from her work, and a link to the magazine:

“If the natural entrance was not there, we would not emerge from the cave thoroughly exhausted, having traveled close to three-quarters of a mile underground. We would not be so cold if we were not addicted to the geologic features displayed in the cave for only bats, geologists, and adventurers to see. We would not be so wet had water not been present to graciously carve out the passages and glorious caverns for us to observe in awe. We would not be covered in quartz sand had joints not carried the grains from above for us to wear proudly on our clothes and skin. We would not shake from the adrenaline if less soluble marble had not resisted being worn away, creating the pinches that we squeeze through.”


Entrance to Morris Cave in Vermont

Graduates Comment on Their First Year

This year group of graduates was the ‘first’ for the new Center, and for the ‘integrative’ approach to Geosciences. This included having all new grads take a ‘core course’. Here are some comments from the grads about their first year here:

Kristen Myshrall: “This first year in the Center has been a wonderful experience. I’ve been able to TA Intro Geology and Paleobiology, take part in a cruise to the Bahamas, attend several conferences including NEGSA and AbSciCon, and dive into my research on thrombolites. I’ve loved working with all my new colleagues and can honestly say I’ve learned more this year than ever before in my life!”

Januka Attanayake: “Sure I am a guinea pig at the new CIG, but a happy, fat one struggling with seismic waves and deep earth structure. Getting admission to CIG last fall, is the biggest academic break that I’ve got so far in life!”

Denise Burchsted: “Most of my work this past year has been focused on two cores Melinda Daniels & I collected in the Housatonic River floodplain. This is a pilot study of the stratigraphy and dates of the sediments there.”
**Dr. Tim Byrne: Fellowship to Taiwan**

While Tim Byrne is on sabbatical next semester, he will be on a Fulbright Fellowship continuing much of his tectonics research in Taiwan.

Recently, Dr. Byrne was quoted in a NY Times article about tectonics and mountain building in Taiwan: “In fact, the classic theory of how mountains evolve came from research on Taiwan, said Timothy Byrne, a geoscientist at the University of Connecticut and a consultant for the Taiger study. In the early 1980’s, John Suppe, a Princeton geologist, and his colleagues calculated that mountains form in subduction zones just as a bulldozer pushes into a pile of sand, creating a wedge-shaped mound in front of its shovel blade. For Taiwan, the bulldozer blade is the Philippine plate, scraping the top of the Eurasian plate. "That’s a pretty good analogy for the top 10 or 15 kilometers of Taiwan," Dr. Byrne said. "It's not grains of sand but small blocks of the earth's crust that are breaking apart.” But questions remain over how much the bulldozer model applies at greater depths, Dr. Byrne said, particularly under the midsection of Taiwan."

(Full article can be seen here: [http://www.geosciences.uconn.edu/documents/Taiwan.pdf](http://www.geosciences.uconn.edu/documents/Taiwan.pdf))

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**Summer Opportunities for Grads and Undergrads**

**FIELD ASSISTANT Position in North Dakota and Montana—For Undergrads**

Duration: June 20-August 20, 2006
Project Title: Floral transitions in the North American Paleocene: from mass extinction to thermal maximum (PhD project)
Job Description: Field assistants will help with all aspects of summer fieldwork in paleobotany, stratigraphy, and paleomagnetism. Fieldwork involves surveying for vertebrate and leaf fossils, collecting fossil leaves and geologic rock samples, digging stratigraphic trenches, and hiking through badlands terrain. An ideal candidate should have some background in geology and/or paleontology and be interested in contributing to an ongoing field based projects.

Housing and Transportation: Room and board provided. Housing involves camping approximately 50% of the time, and assistants must supply his/her own camping gear. Field assistants who live in the Connecticut, Massachusetts, and New York area may have the opportunity to ride with me to the field site. Assistants from other areas need to provide their own transportation to North Dakota. Deadline to apply for this position is May 15, 2006. If interested, please submit a CV, a cover letter and a list of two references to Daniel Peppe via email at daniel.peppe@yale.edu.

**SUMMER POSITION at Soil Nutrient Analysis Lab**

Full-time summer position as coordinator of the Presidedress soil nitrate test available 5/25-8/18/06. Responsibilities include sampling nitrate preparation, nitrate analysis, data management and results reporting. Ideal candidate would have previous laboratory experience and the ability to work independently, be detail-oriented, reliable and enjoy contact with clients. This is an excellent opportunity to increase your analytical skills and enhance your resume. Call Dawn or Liz at 486-4274.

**NSF RESEARCH EXPERIENCE for Undergraduates (REU) – Stream Ecology Position**

A NSF REU research position in stream community ecology is available for the summer of 2006. Research is carried out in northeast Connecticut. The research project uses manipulations of stream flow to explore the effects of lowered stream flow on stream community composition (aquatic insects and fish) and species interactions. A $4500 stipend plus housing is provided. Applicants must be a U.S. citizen or permanent resident and be a current undergraduate student (no graduating seniors). If interested please contact annika.walters@yale.edu and include a CV and contact information for references.

**NATURAL HISTORY Field Seminars on the Coast of Maine—Specialized natural history field seminars are offered each summer at the Humboldt Field Research Institute on the eastern coast of Maine. Many are on topics not regularly taught at colleges and universities. Pick from any of the seminars at [http://www.eaglehill.us/mscalend.html](http://www.eaglehill.us/mscalend.html). Sign up for credits through your own institution by taking this Agreement form to your faculty advisor (http://www.eaglehill.us/mcredagr.pdf). There is a web and a printable application form at [http://www.eaglehill.us/mapweb.html](http://www.eaglehill.us/mapweb.html) and [http://www.eaglehill.us/mapprn.html](http://www.eaglehill.us/mapprn.html). Information on meal plan and room options can be found at [http://www.eaglehill.us/mapinfo.html](http://www.eaglehill.us/mapinfo.html).

**CAREER OPPORTUNITIES—Leggette, Brashears & Graham, Inc. are hiring for entry level positions at 2 locations: Farmington CT is hiring an entry level Hydrogeologist, and Shelton, CT is hiring an entry level Environmental Engineer. Job postings like this and others are all posted on the bulletin boards on 2nd floor Beach Hall!**

**CT DEPARTMENT OF ENVIRONMENTAL PROTECTION IS LOOKING FOR CONSERVATION OFFICERS**

Please see the website link below. On this site, in the very near future, DEP will announce an exam for Conservation Officers. The link will also explain who conservation officers are, what they do and what it takes to become one.

[http://www.dep.state.ct.us/rec/law_enf/index.htm](http://www.dep.state.ct.us/rec/law_enf/index.htm)

**CT THE NATURE CONSERVANCY SUMMER POSITION - NATURALIST/WARDEN**

Closing date: April 30, 2006 or when filled. Job Duties: Provide stewardship and protection for piping plovers and least terns at two shoreline preserves in Old Lyme, CT. This position will begin in mid-May. End time will depend on nesting success and could potentially run through the end of August. Time commitment is 35 hours/week, and includes all weekends and holidays. Compensation: $12.00/hour. Housing is not provided.
JOB ANNOUNCEMENT

University of Connecticut—Center for Academic Programs

UPWARD BOUND/ConnCAP PROGRAM

SUMMER INSTRUCTORS NEEDED—(BIOLOGY & CHEMISTRY)

The Upward Bound/ConnCAP Program is looking for qualified instructors interested in improving educational opportunities for Connecticut high school students. The Upward Bound/ConnCAP Program works with high school students who are seeking a challenging and exciting academic program and who have the potential to continue their education beyond high school. An integral part of the program is the intensive six-week residential component, which provides academic instruction designed to give rising 10th, 11th, and 12th grade students the opportunity to experience a college atmosphere while obtaining supplemental high school level academic preparation. Students attend daily classes in English (Literature and Composition), Mathematics (Geometry, Algebra I, Algebra II, Trigonometry or Calculus) and Science (Biology, Chemistry, and Physics) that are held in the morning. Also, students attend afternoon classes in Foreign Languages (Spanish or French), and additional electives such as drama, psychology, American government, and history.

Some of the teaching responsibilities include:

- Prepare and present materials for assigned subject area.
- For morning classes, teach three (50 min.) class sessions Monday through Friday. For afternoon classes teach Monday, Tuesday, and Thursday, three class sessions (50 min.) each day.
- Keep attendance, monitor class behavior, complete students conduct reports as needed.
- Administer homework and in-class examinations.
- Work closely with an assigned class tutor.
- Provide mid-program and final student evaluations.
- Attend pre-program orientation and bi-weekly staff meetings, family picnic, and graduation ceremony.
- Additional responsibilities vary according to the class and time commitment.

Teaching and tutoring experience is required to qualify for positions. Experience working with adolescents in a multi-cultural educational setting is a plus. A personal interview is required of all candidates. Interviews will be held during the months of March and April. The stipend for morning teaching is $3,100.00 and $2,600.00 for afternoon teaching.

Please send a letter of interest and your resume to:

Susana Ulloa-Beal, Director Upward Bound/ConnCAP Program
368 Fairfield Road U-2170 Storrs, CT 06269-2170
860-486-4040 Susana.Ulloa-Beal@UConn.edu

The University of Connecticut has a strong commitment to the principle of diversity and, in that spirit, seeks a broad spectrum of candidates including minorities, women and people with disabilities.
**Anniversary of the ‘Big One’**

This week, April 18, 2006 marked the 100th anniversary of the San Francisco earthquake and fire, a seminal event in the scientific study of earthquakes as well as in the cultural and social history of California.

The earthquake has been estimated at approximately 7.8 on the Richter Scale. Foreshocks and the main quake occurred at about 5:12am along the San Andreas Fault, with an epicenter close to the city. Tremors were felt from Oregon to LA, and inland as far as central Nevada. The earthquake and subsequent fire would go down as one of the worst natural disasters to hit a major city in the history of the United States.

At the time only 478 deaths were reported, this was a figure concocted by government officials who felt that reporting the true death toll would hurt real estate prices and efforts to rebuild the city. Furthermore, hundreds of casualties in Chinatown went ignored and unrecorded due to racism at the time. This figure has been revised to today’s conservative estimate of 3000+. Some have put it as high as 6000. Most of the deaths occurred in San Francisco itself, but 189 were reported elsewhere across the San Francisco Bay Area. Other places in the Bay Area, such as Santa Rosa, San Jose, and Stanford University also suffered severe damage.

Between 225,000 and 300,000 people were left homeless, out of a population of about 400,000. Half of the refugees fled across the bay to Oakland. Newspapers at the time described Golden Gate Park, the Panhandle, and the beaches between Ingleside and North Beach being covered with makeshift tents. The earthquake and fire would leave a long-standing and significant impression on the development of California. At the time of the disaster, San Francisco had been the ninth-largest city in the United States and the largest on the West Coast, with a population of about 410,000. Over a period of 60 years, the city had become the financial, trade and cultural center of the Western United States; operated the busiest port on the West Coast; and was the "gateway to the Pacific", through which growing US economic and military power was projected into the Pacific and Asia. Over 80% of the city was destroyed by the earthquake and fire. Though San Francisco would rebuild quickly, the disaster would divert trade, industry and population growth south, to Los Angeles, which during the 20th century would become the largest and most important urban area in the Western United States. However, the 1908 Lawson Report, a study of the 1906 quake, showed that the very same San Andreas Fault which had caused the disaster in San Francisco ran close to Los Angeles as well.

The earthquake was the first natural disaster of its magnitude to be documented by photography and motion picture footage. Furthermore, it occurred at a time when the science of seismology was blossoming. The overall cost of the damage from the earthquake was estimated at the time to be around $400,000,000.