A Graduate Student Profile

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

If you have been around Beach Hall much this semester, chances are you have run into one of our new graduate students, Kristen Myshrall. Her laughter, outgoing attitude, and good nature are evident around the 2nd floor of Beach Hall throughout the week.

Kristen comes to the new Integrative Geosciences program as a PhD student who hails from the University of Kansas, where she received her Master’s in geology while studying Pennsylvanian brachiopods in the midcontinent of North America. Prior to Kansas, Kristen found herself at Eckerd College in Florida getting her bachelors degree in Marine Geoscience with a concentration in marine geology. Her research interests include astrobiology, paleoecology, microbialites (especially thrombolites), modern and ancient microbial communities, as well as the origins and evolution of early life. With these interests, Kristen looks forward to TA’ing for Andy Bush’s Paleobiology class next semester.

Kristen’s dedication to her studies shines through in the various awards and scholarships she has won over her years in school. From honors scholarships during her undergrad years—to an award in 2003 for Outstanding Scientists of the 21st Century and the Selig Summer Research Grant in 2002—Kristen’s hard work is certainly recognized. She also belongs to a number of professional organizations, including AAAS, GSA, SEPM, and the Paleontological Society.

Aside from geosciences and her studies here at UConn, Kristen is an avid soccer fan, particularly she enjoys watching the Revolution, Celtic Football Club, and Argentinean games. She also carefully monitors NASA and their projects—especially the Mars Rovers (a website she admits daily visits on!). On top of that, Kristen enjoys following politics - especially participating in protests down in Washington DC! She also loves to read, and mostly enjoys science books by Peter Ward.

Presentations at AGU

December 5-9th is the annual meeting of the American Geophysical Union (AGU) in San Francisco. This year, Dr. Tim Byrne and Jon Gourley (PhD student) headed out to participate.

Dr. Byrne is presenting two posters—First Poster: Double Indenters and Oblique Extrusion and Extension in Taiwan: the Colliding Seamount Analogy * Byrne, T; Gourley, J R; and Chan, Y

Second Poster: Emplacement of a Layered Mafic Intrusion in the Shimanto Accretionary Complex of Southwest Japan: Evidence From Paleomagnetic and Magnetic Fabric Analysis * Kodama, K; Koyano, T; Byrne, T; Lewis, J C; Hibbard, J

Jon Gourley will be presenting his poster as well: Oblique Northeastward Lateral Extrusion of a Crustal Block in North-Central Taiwan: a Mechanism for Syn-Tectonic Extension *Gourley, J; Byrne, T

more on AGU, next page!

In the News for Geosciences:
• Geologists have long thought that the Appalachian Mountains, which run 2,500 kilometers from Canada to Alabama, were formed by three separate mountain-building events over some 400 million years. New research is suggesting, however, that the Central Appalachian Mountains likely formed through only one prolonged event. Researchers have been analyzing rock samples primarily using argon age-spectrum dating. The isotopic studies have enabled them to differentiate rock formations within the Potomac terrane — a belt of folded and faulted rocks stretching from Pennsylvania to central Virginia — even ones that looked exactly the same. The results suggest that instead of three separate events that equally affected the mountain chain, this part of the Appalachians began growing in the Ordovician 480 million years ago, with periods of activity until at least 300 million years ago.
Announcements, Awards, Publications, etc.

Faculty Contributions on Publications:
In addition to informing us of all your publications and providing us with hard copies, we encourage all students and faculty that submit publications for peer review to include in CIG contribution number. This can typically be done in the acknowledgments: “This is contribution #XX of UConn’s Center for Integrative Geosciences”, or alternatively, do this in a footnote, depending on the journal guidelines. Once the publication is accepted, Abi can provide you with an actual number. Two of the reasons for doing this are: it gives us visibility and is “free” advertisement, and it helps us build a case for our (transdisciplinary) existence as the breadth and depth of these publications can help us demonstrate our viability.

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!

Faculty: If you need the LCD Projector that geosciences now owns for Spring classes, please be sure to reserve it through Abi in the main office! Send an email or stop by to make sure it’s available for the times you need.

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Graduating in Spring 2006?: Don’t forget to apply online for graduation!
Find out more here: http://vm.uconn.edu/%7Ewwwregis/graduat.html

Mt. Rainier, in Washington, is one of the chain of impressive stratovolcanoes along the pacific plate boundary.

New Graduate Level Civil Engineering Course

CE/ENVE 320-02: Advanced topics in Civil Engineering: Ecohydrology. Instructor: Dr. Guiling Wang. gwang@engr.uconn.edu.
Ecohydrology teaches the interactions between ecological processes and the water cycle. This course focuses on the terrestrial aspect of Ecohydrology, emphasizing the hydrological mechanisms underlying various terrestrial ecological patterns and the ecological quantities controlling the hydrologic and climatic regimes. It also includes introduction to numerical models and satellite observational datasets used for ecohydrological research. (Level: Graduate) Ecohydrology covers the following topics:
1. Introduction to Ecohydrology – an interdisciplinary framework
2. Hydrological Cycle over Vegetated Land – the conceptual understanding
4. Climatic Impact of Land Use/Land Cover Changes
5. Response of vegetation to environmental conditions
6. Vegetation-Climate Interactions at regional to global scales

For more information, contact Dr. Wang!
Upcoming Events

- **Friday Dec. 9th, TODAY!, 3:00pm**, Dr. Wade McGillis, Columbia University—*Oceanic CO2 Exchange Processes*, Room 103 of Marine Sciences Building, Avery Point Campus.

- **Monday Dec. 12th—17th**—**Final Examination Week**.

- **Wednesday Dec. 14th, 12:30pm**: Holiday Luncheon in Beach Hall room 233 (library). See flyer on next page for more details!

- **Sunday Dec. 18th, 2:00pm**, **Fall Commencement**, Gampel Pavilion

- **Monday, Dec. 12th, 11:00am**, graduate student presentations of their research proposals, which they wrote as part of the first Geosciences Core Course. This course was taught by Drs. Ari Epstein (MIT – Terrascope Program) and Zoe Cardon. The proposals targeted the coupling of land use in Connecticut and eutrophication in Long Island Sound. A panel of distinguished scientist with expertise on this topic will judge the proposals following presentations by the two groups of graduate students. The panel includes: Drs. Paul Stacey (CT DEP), Ralf Lewis (Long Island Sound Resource Center), Senjie Lin (UConn), and Byron Stone (USGS).

- The **Geoscience Seminar Series** is starting next semester! Every Tuesday at 3:30pm in our refurbished A.J. Frueh reading room, Beach Hall 233. **Graduate core students are requested to come to the reading room on January 17 at 3:30pm for an organizational meeting.** The Seminar Series will begin on Tuesday January 24th and will run weekly. Abi is the seminar coordinator. Please stay tuned for further details and the official schedule that will come in a later newsletter, be posted around Beach Hall, and be on the geosciences website as well.

- In January of next year, the Center anticipates the arrival of two post-doctoral fellows. Dr. Magda Mohamed Refat Abo El-Safa, from the Desert Research Institute, Menoufiya University, Egypt and Dr. Olivier Braissant, from the Geological Institute of the University of Neuchatel, Switzerland. Dr. El-Safa is a sedimentologist who worked on continental shelf sediments of the Mediterranean Sea and more recently on sabkhas of Wadi El Natrun and desert soils. Magda will be visiting from January through June. Dr. Braissant has recently earned his PhD for his work on mineralogy and geomicrobiology of calcite and vaterite precipitation around Iroko trees in Cameroon and Ivory Coast. Olivier will be here for at least one year, starting January 15. Profiles on both scientists will follow in next year’s newsletters. Please make these guests feel welcome - introduce yourselves, invite them for lunch, etc.

More to come in the next edition!

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!

- State Soils Photo Gallery— to find out about the horizons, color, texture, structure, reaction, consistence, mineral and chemical composition of any state soil go to this site, offered by USDA-NRCS National Soil Survey Center at Iowa State. [http://soils.usda.gov/gallery/state_soils/](http://soils.usda.gov/gallery/state_soils/)

- Planiglobe— gives you the ability to create a map of any world location with options to map rivers, plate boundaries, and grid marks, in five different map projections. You need to define map boundaries, entering negative numbers for west longitude and positive numbers for the northern hemisphere. [http://www.planiglobe.com/omc_set.html](http://www.planiglobe.com/omc_set.html)

- Virtual Oil Well— Interactive game to discover the process of finding and drilling for oil! Find commercial amounts of oil before you run out of money. [http://www.earthscienceworld.org/games/index.html](http://www.earthscienceworld.org/games/index.html)

- Earth as Art—actual pictures of the Earth, created by printing visible and infrared data in colors visible to the human eye. Band combinations and colors were chosen to optimize their dramatic appearance. Find beautifully dramatic images of whirlpools, faulted mountains, sand dunes, rivers, deltas, and more. Be sure to check the image of Bolivian deforestation. [http://earthasart.gsfc.nasa.gov/index.htm](http://earthasart.gsfc.nasa.gov/index.htm)

More to come in the next edition!
The San Andreas Fault marks the boundary between the North American and Pacific Plates in California. These two tectonic plates are sliding horizontally past each other along a transform fault. Rock on the Pacific Plate is being carried northwest and juxtaposed against different rock at the edge of the North American Plate. Normally, the interface is buried by Quaternary sediments or overgrown by vegetation. In Tejon Pass near the town of Gorman, however, the contact between the two plates is clearly evident. The fault runs up a hillside and separates rocks of different composition and color. To the southwest is grey, metamorphic quartz monzonite and to the northeast across the fault is rich brown sedimentary sandstone and siltstone. These two rocks could not have formed together and therefore must have been brought together by fault motion. Between the gray and tan is a black layer of fault gouge, rock that has been pulverized and cooked by frictional heating generated by earthquakes. The entire hillside is granulated and appears gouged due to the constant grinding of the plates. A diagonal color discontinuity defines the surface rupture of the 1857 earthquake, which moved the rocks on one side of the fault about 30 feet (9 m) relative to the other. This magnitude 8.0 temblor was the largest earthquake in California’s recorded history.

EPOD will be a new feature in the Geosciences Newsletter—for the current EPOD well as old archives, visit their website at http://epod.usra.edu/
Date: Wednesday, Dec. 14th

Time: 12:30pm

Geosciences
Holiday Party!

We will be having a holiday lunch for students, faculty, and staff from 12:30-1:30pm on Dec. 14th. Come by to say hello and grab some goodies!

Refreshments and light snacks available as a study break all day—from 10:30am to 3:30pm!

Where? Beach Hall 2nd Floor library, room 233.

You’re invited!

University of Connecticut
Center for Integrative Geosciences
The Center for Integrative Geosciences mission is to offer transdisciplinary programs of instruction and research that advance understanding of the interaction of biological, chemical, geological, and physical processes, including feedback mechanisms, at all spatial and temporal scales that have shaped Earth through geologic time, continue to shape the environment today, and which provide the basis for understanding the present and future impact of human activity on this planet.

We will be issuing these newsletters monthly throughout the academic year to keep associated students, staff, alumni, and faculty up-to-date on the Center’s activities!

Dr. Tim Byrne is a member of the Science Planning Committee (SPC) for the Integrated Ocean Drilling Program (See Website: [http://www.iodp.org/index.php](http://www.iodp.org/index.php)) and at their October meeting in Kyoto, Japan, they voted to start a multi-ship drilling program of the Nankai seismic zone in southwest Japan.

Drilling will start in the fall of 2007 and probably last 12 to 18 months, if not longer.

After the SPC meeting in Kyoto, Dr. Byrne attended a workshop and field trip in Taiwan associated with a multidisciplinary program: Taiwan Integrated Geodynamics Research program (or TAIGER). He spent several days working with one of UConn geology’s former graduate students, Yu-Chang Chan (PhD, 1998).

A couple of web sites about the TAIGER program:

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Entrance to Toroko Gorge, Taiwan, with participants of the “TAIGER” field trip.

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