



Welcome Back!

Welcome back!

We are starting the fourth year of the Center with new faces and exciting news.

Christine Witkowski, a UConn Geology alum and an employee at Dinosaur State Park in Rocky Hill, CT, is offering our very popular dinosaur course this fall.

Over the summer Dan Ferreira, Dave Hoover and Megan McCusker were the first students of the Center's graduate program to receive MS degrees. Congratulations are in place!

We have welcomed three new graduate students this year: Patrick Getty, Rory Henderson and Eric White. Please keep an eye out for

their profiles in upcoming newsletters.

Exciting news is that after a semester of hard work, Jean Crespi and her Undergraduate Committee members, Andy Bush and Robert Thorson, were able to receive approval from UConn's CLAS Courses and Curriculum Committee for our new undergraduate degree. Later this month, a name change to "Geoscience" will be on the agenda of the Board of Trustees meeting. The new degree will be available for students to declare starting fall 2009.

We have enjoyed a 30% increase in enrollment in undergraduate courses and with new offerings (Geomicrobiology, Glacial

Processes, and Active Tectonics), we expect to see a continuation of this trend in the years to come. We all wish Abi good luck with the imminent expansion of her family and will see her back here in Beach Hall in the spring. Meanwhile, starting September 30, Rose Karosi (you may recognize her from the Geography Department) will hold the administrative fort for us in Beach Hall, with the help of Dee Dumont, our current student worker.

I wish all of you a great Academic Year!

PV



UNIVERSITY OF CONNECTICUT

Geosciences Newsletter

UConn Alumni Reception at GSA

Please join us at GSA for a UConn Geology Alumni Reception!

This will be held at the Hilton Americas Houston in the Ballroom of the Americas ABC

When? Monday October 6th during the GSA meeting



Time: beginning at 7:00pm Through 9:30pm.

If you will be in Houston for GSA, or are an alumnus who lives in the area, come by to meet faculty and grads and learn more about geosciences at UConn!

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In the News for Geosciences:

- A longstanding puzzle in Earth's climate record has just been solved. Between 1940 and 1970 — right in the middle of a steady, post-Industrial warming trend — global mean temperatures mysteriously dropped, with the most precipitous drop in 1945. Experts have debated a handful of explanations, including an increase in anthropogenic sulfate emissions. But a new study suggests that the story is much simpler: An abrupt change in how scientists measured temperatures above the ocean, not the climate itself, explains the slump.

Announcements, Awards, Publications, etc.

****Please note—this will be our only Newsletter for the Fall semester! We will have one more newsletter next April to wrap up the year with news from the Center! Thank you! ****

Publications:

#11 Cardon, Z.G., Gray, D.W., and Lewis, L. A. (2008) *The green algal underground – evolutionary secrets of desert cells*. *Bioscience* 58(2): 114-122.

Bontognali, T.R., Vasconcelos, C., Warthmann, R.J., **Dupraz, C.**, Bernasconi, S.M., and McKenzie, J., Microbes produce nanobacteria-like structures avoiding cell entombment. *Geology*, 36, 663-666..

Riul, P., C.H. Targino, J. da Nobrega Farias, **P.T. Visscher**, and P.A. Horta. 2008. Decrease in *Lithothamnion* sp. (Rhodophyta) primary production due to the deposition of a thin sediment layer. *J. Marine Biol. Assoc. UK*, 88:17-19.

Buckley, D.H., L.K. Baumgartner, and **P.T. Visscher**. 2008. Vertical distribution of methane metabolism in microbial mats of the Great Sippewissett Salt Marsh.

Environmental Microbiology. *Environ. Microbiol.* 10:967-977.

Hammerschmidt, C.R., W.F. Fitzgerald, P.H. Balcom, **P.T. Visscher**. 2008. Organic matter and sulfide inhibit methylmercury production in sediments of New York/New Jersey harbor. *Marine Chemistry*, 109:165-182.

Paterson, D.M., R.J. Aspden, **P.T. Visscher**, M. Consalvey, M.S. Andres, A.W. Decho, J. Stolz, R.P. Reid. 2008. Light-dependant biostabilization of sediments by stromatolite assemblages. *PLoS Biology* 3:1-10.

Meeting Presentations: See page 6!

Dr. Tim Byrne has been elected as a GSA Fellow. Nomination and Announcement: *GSA Cordilleran Section and GSA Structural Geology and Tectonics Division*

I nominate Tim Byrne based on his more than 50 published papers and three decades of onland and off-shore research related to the structural evolution of convergent margins as well as his contributions to our understanding of the geology of southwest Alaska, the Nankai margin/Shimanto belt of Japan, and

Taiwan.

—Donald M. Fisher . Congrats Tim!

Grad Student Announcements:

PhD Student Seminars:
Creating a CV: Friday, September 26 12:00 - 1:00 pm, CUE Room 134

The Job Search: Friday, October 24 12:00 - 1:00 pm CUE Room 134

Interviewing: Friday, November 21 12:00 - 1:00 pm, CUE Room 134

-Contact Career Services for more information on these valuable seminars!

Dinosaurs Teacher Christine Witkowski has been using ‘clickers’ in GEOL 1010 this semester as a way of tracking student understanding of class material. If you are interested in this new technology, please feel free to contact her to learn more about it! You can also talk to the folks in the Learning Resource Center to find out more.

Geoscience Currents

The American Geological Institute (AGI) Workforce Program has initiated Geoscience Currents, a new series covering geosciences workforce and educational data snapshots, that are expected to be released on a near-weekly basis.

To subscribe to these free data snapshots, go to <http://www.agiweb.org/workforce/> and click “Register.”

From the latest edition #9: Gender in the Geosciences in Academia

This geosciences currents examines the state of women in the geosciences working within academia.

Strikingly, even as women continue to make up an increasing percentage of geoscience degree recipients, their representation within the faculty continues to remain the same, and well below other science and engineering fields.

Females make up 14.2% of all tenure – track faculty in geosciences while females make up 28% of the field in all science/engineering disciplines.

In contrast, the number of female students in geosciences has steadily increased over the past several decades with overall percentage of degrees granted to females at 45%.

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!



- **THE GLOBE PROGRAM**—The GLOBE (Global learning and Observations to Benefit the Environment) Program is a world-wide network of students, teachers and scientists engaged in a tele-collaboration project to do meaningful real-life science. In the GLOBE Program, students make environmental observations and report their data findings on the internet. Scientists use the students' data to formulate atmospheric models, then provide feedback to the students. The measurements conducted by the students include air temperature, cloud observations, precipitation, surface water temperature and pH, soil moisture, biometrics, land cover assessment and species identification.

<http://www.globe.gov/r>

- **MINERALOGY DATABASE**— Over 5,000 pages of mineral information, including over 4,000 pages devoted to individual minerals.

<http://webmineral.com/>

- **UNIVERSITY OF CALIFORNIA MUSEUM OF PALEONTOLOGY** - do research on life, learn about people, and hear about upcoming events. There are online exhibits of animals, plants, and time periods.

<http://www.ucmp.berkeley.edu/>

More to come in the next edition!



Upcoming Events

- **CEE Seminar Series** presents Dr. Jeffrey McCutcheon, Engineering and CESE, UConn. "*Engineering Osmosis for Sustainable Water and Power Production: Current Successes and the Search for a Better Membrane*" **Friday September 19, 12 noon, CAST 212.**
- **Geoscience Seminar Series together with NRME** presents Melinda Daniels, Kansas State University "*What to do about those dammed streams – the geomorphic context of headwater New England systems*" **Friday September 26, 2:00pm, WBY 101.**
- **Geoscience Seminar Series** presents Steven Petsch, UMass Amherst. "*The not-so-deep biosphere of active methanogenesis in ancient shales and coals*" **Tuesday October 14th, 3:30pm, Beach Hall 233.** Refreshments served!
- **Teale Lecture Series** presents J.B. Ruhl, Florida State University Col-

lege of Law "*Ecosystem Services Science & Policy - A New Old Idea Finally Comes of Age*" **Thursday October 16, 4:00pm Konover Auditorium (Dodd Center).**

- **Geoscience Seminar Series** presents Whitey Hagadorn, Amherst College "*Surfing the Cambrian Shorelines*" **Tuesday October 21, 3:30pm, Beach Hall 233.** Refreshments Served!
- **Geoscience Seminar Series** presents David Strayer, Inst. For Ecosystem Studies "*Title TBA*" **Tuesday November 4, 3:30pm, Beach Hall 233.** Refreshments served!
- **Geoscience Seminar Series** presents John Lane, US Geological Survey "*Title TBA*" **Tuesday November 18, 3:30pm, Beach Hall 233.** Refreshments served!
- **Geoscience Seminar Series** Core Course Graduate student presenta-

tions **Tuesday December 2, 3:30pm, Beach Hall 233.**

- **Teale Lecture Series** presents Don Scavia, Michigan Sea Grant Director, University of Michigan. "*Water: A continuous fluid in a fragmented policy framework*" **Thursday November 20, 4:00pm, Konover Auditorium (Dodd Center).**

For a list of NRME seminars: <http://www.nrme.uconn.edu/documents/Seminars-Fall%202008.pdf>

For a list of Chemistry seminars: <http://chemistry.uconn.edu/seminars.html>

For a list of Marine Science seminars: <http://www.marinesciences.uconn.edu/Seminar/seminars.php?type=seminars>

Earth Science Picture of the Day



EPOD from 8/8/2008— Isostatic uplift occurs when land that sagged under the weight of an ice sheet rebounds to its normal level many years after the ice has finally melted. This phenomenon can be seen on the Island of Iona, off Scotland's West coast. Note the large area of gently sloping land at the foot of what were once sea cliffs; now stranded many meters from the new shoreline. The Abbey and houses are built on a series of raised beaches, which have emerged as the land has gradually risen from the sea. Incidentally, Iona is renowned as the birthplace of Christianity in Scotland and the Abbey, at center is built on the site of Saint Columba's original monastery. In the background is Dun I, the highest point on the island at about 330 feet (100 m).

Photo by Jeannette Stafford

Earth Science Week 2008!

AGI is pleased to announce the theme of Earth Science Week 2008: "No Child Left Inside." Being held October 12-18, Earth Science Week 2008 will encourage young people to learn about the geosciences by getting away from the television, off the computer, and out of doors.

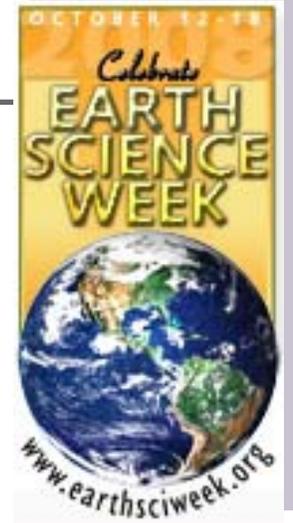
The objectives are simple:

- To engage students in discovering the Earth sciences.
- To remind people that Earth science is all around us.
- To encourage Earth stewardship through understanding.

- To motivate geoscientists to share their knowledge and enthusiasm about the Earth.

So get involved! We have an Earth Science Week Toolkit pack in the main office full of ideas for those who want to celebrate.

Also, visit the homepage for Earth Science Week and learn what you can do to inspire people to care about our planet, and to learn more about what it is we do as geoscientists!

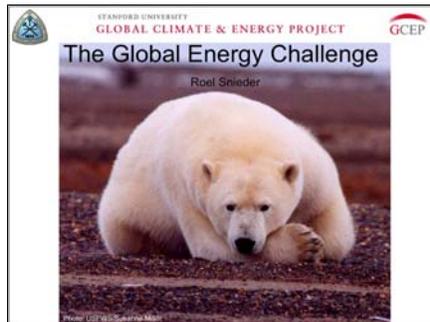


<http://www.earthsciweek.org>

IRIS "Global Energy Challenge"

This presentation was developed by Roel Snieder at the Colorado School of Mines and is freely available. It aims to be appealing and understandable for a broad audience. It can also be used in undergraduate classes or as a departmental seminar.

The presentation sketches the tension between increased energy demand, peak oil, the associated challenge in curbing climate change, and actions that we can take towards a sustainable



energy system. The presentation gives ideas for positive action that teachers, students, businessmen, consumers, and

citizens can take, and it conveys that the challenges related to our energy supply come with career opportunities, a point that is especially appealing to a young audience. The following URL provides information about the presentation:

http://www.mines.edu/~rsnieder/Global_Energy.html

GeoTrivia!

Fun with Geoscience Trivia

1. What term is used for a chain of islands that are arranged in a great curve?
2. What erosional force erodes away through ablation (hint—see photo!)?

3. What general term is given for igneous rocks that contain more than 66% SiO₂?

Check your answers:
http://www.geosociety.org/GSA_Connection/0807/trivia.htm





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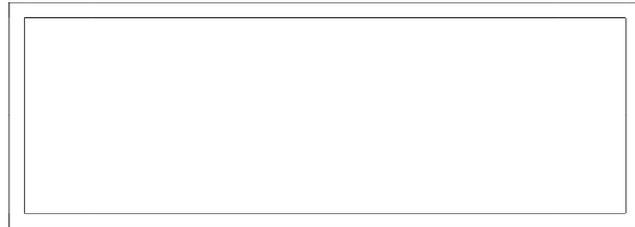
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The Center for Integrative Geosciences mission is to offer transdisciplinary programs of instruction and research that advance understanding of the interaction of biological, chemical, geological, and physical processes, including feedback mechanisms, 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!



Faculty and Grad Student Meeting Presentations

Bush, Andrew. Invited talk for **GSA** October 2008. Symposium titled, "From Evolution to Geobiology: Research Questions Driving Paleontology at the Start of a New Century." .Talk Title: "*Comparative Paleocology of Fossils and Fossil Assemblages,*"

Byrne, Tim "Reconstructing Taiwan: A New View of a Classic Orogen." GSA October 2008.

Visscher, P.T., and Dupraz, C. Invited overview: *Modern microbialites - A lesson for the 3.5-billion-year record of microbe-sediment interactions?* Geological Society of America annual meeting, session T133 "Microbialites: A 3.5-Billion-Year Record of Microbe-Sediment Interactions", Houston, TX, October 2008.

Dupraz, C., Braissant, O., Gallagher, K.L., Glunk, C., Decho, A.W., and Visscher, P. T. The Role of EPS Properties and Turnover in Carbonate Mineral Nucleation. Geological Society of America annual meeting, session T132 "Biofilms and Biominer-

alization: Evidence from Ancient and Modern Systems", Houston, TX, October 2008.

Myshrall, K.L., Norman, R.S., Thompson, J.B., Visscher, P.T. Microbial community composition in modern thrombolites: A comparison of open marine and freshwater systems using molecular techniques. Geological Society of America annual meeting, session T132 "Biofilms and Biomineralization: Evidence from Ancient and Modern Systems", October 2008.

Vasconcelos, C., **Visscher, P.T.,** Ditrach, M., Bontognali, T., McKenzie, J.A. Formation of lamination in modern stromatolites from Lagoa Vermelha and Salgada, Rio de Janeiro, Brazil: An example for Precambrian relics? . International Kalkowsky Symposium "Geobiology of Stromatolites", Goettingen, Germany, October 2008.

Braissant, O., Decho, A.W., Przekop, K.M., Gallagher, Christina Glunk, C. ,**Dupraz, C., Visscher,**

P.T. Turnover of natural exopolymeric substances: Interactions with calcium in lithifying microbial mats. International Kalkowsky Symposium "Geobiology of Stromatolites", Göttingen, Germany, October 2008.

Braissant, O., Gallagher, K.L., Decho, A.W., Przekop, K.M., Glunk, C., **Dupraz, C., and Visscher, P.T.,** Characteristics and turnover of exopolymeric substances (EPS) in a hypersaline microbial mat: implication for preservation of microbial signatures in the rock records. 8th European Workshop on Astrobiology EANA, Neuchâtel, Switzerland, September 2008.

Cantrell, S.A., **P.T. Visscher.** Molecular signatures of fungi from tropical hypersaline microbial mats. Internat. Symp. On Microbial Ecol ISME-12 2008, Cairns, Australia, August 2008.