GEOBULLETIN
MAY 8TH, 2009

Geobulletin is distributed weekly, on Wednesday by E-mail. Contributions are requested! Anything and everything (well almost) that you want to see in print. If you have a news item, a request, an announcement etc. email it to geodept@geology.wisc.edu. or leave it at the reception desk, Room 236 by noon on Mondays.

LECTURE SCHEDULE ---- All lectures (unless otherwise noted) are held on Fridays at 3:30 PM in AB20 (Laudon Lecture Hall). Coffee & cookies are served in the lobby starting at 3:15 PM.

May 8 - Peter Visscher (SPONSOR: RODEN)
"Microbial mechanisms forming modern marine stromatolites - Using the present to predict the past"

PROF. PIETER VISSCHER
UNIVERSITY OF CONNECTICUT

Friday, May 8th, 3:30 PM, Room 140, Weeks Hall

Microbial mechanisms forming modern marine stromatolites - Using the present to predict the past?

Microbial mats are biofilm communities that arguably greatly affected the physico- and geochemical conditions on Earth through geological time. These laminated organosedimentary ecosystems, which date back to possibly 3.5 Ga bp, are characterized by high metabolic rates, and coupled to this, rapid cycling of major elements on very small (um-mm) scales. The activity of the mat communities has changed the geochemical conditions on micro- and macro-scales: On a sub-mm scale within the mat ecosystem, this has resulted in the formation of resilient biofilms, at the scale of Earth as a planet this has led to a major shift in redox conditions, the consequences of which are well-documented.

The interpretation of fossil microbial mats and their potential role in the alteration of the geochemical environment is challenging because of the poor preservation of these organic-rich systems. However, the preservation of microbial mats in the fossil record can be enhanced through lithification. Carbonate precipitation mediated by microbial processes is one of the most important mechanisms, which increases the conservation potential. Key components of the microbially-mediated mineralization process are the "alkalinity" engine (microbial metabolism and environmental conditions impacting the calcium carbonate saturation index) and the organic matrix comprised of exopolymeric substances (EPS).

In this presentation, a brief history of microbial mat research will be followed by a detailed description of microbial processes involved in ltihification of (i.e., carbonate mineral formation in) contemporary microbial. The potential role of chemical communication within the microbial community will be discussed.

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2009 GRADUATE SYMPOSIUM MAY 7-8, 2009

We are happy to announce that David Mickelson will be the keynote speaker for the Grad Symposium!

Glacial landscapes of Wisconsin, David Mickelson, Emeritus Professor

About 25,000 years ago glaciers covered about two thirds of the state. Our soils, landscape owes its existence to this former ice sheet. It is fitting that over 40 years ago Congress established the Ice Age National Scientific Reserve and the Ice Age National Scenic Trail, both of which highlight and protect glacial features. I am now working with 2 co-authors to write a book on the geology of the Trail and Reserve. In addition to describing the formation of various glacial processes and features, I will highlight opportunities for Ice Age Trail hikes and other activities.

2009 Graduate Symposium Program

Thursday May 7

1:00-2:15	Keynote speaker David Mickelson Professor Emeritus
2:20-2:40	Lisa Colville
2:40-3:00	Andy Trzaskus
3:00-3:20	Joe Kington
3:20-3:40	Kuang-Sheng Hong
3:40-4:00	Andrew Fraass
4:00-4:20	Jie Xu
4:20-4:40	Gabriela Farfan
4:40-5:00	Tina Hill

Friday May 8

9:00-9:20	Fangfu Zhang
9:20-9:40	Jason Huberty
9:40-10:00	Anthony Pollington
10:00-10:20	Eva Szilvagyi
10:20-10:40	Jim Ludois
10:40-11:00	Chloë Bonamici
11:00-11:20	Katie Horst
11:20-11:40	Andrew Leaf
11:40-12:00	Evan Earnest-Heckler
12:00-12:20	Tao Wu
12:20-12:40	George X. Rothdrake

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ANNOUNCEMENTS:

Have a funded 1 year RAship available for a grad student to look at buried soil carbon in paleosols. This would be a great opportunity for a student to receive training in isotopic and analytical techniques to measure soil organic matter chemistry and residence time, skills which are transferable to many different ecosystems and environments. I would like to request your help in identifying a student interested in climate change and with some background in chemistry and/or soils who might be interested in this project.

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Can one career power the world?

Join us and discover how much impact your career can have.

BP is one of the world's leading energy producers. We operate in over 100 countries around the globe, from Canada to Argentina, from New Zealand to Russia, and just about everywhere in between. If you are looking to make an impact and a difference, at BP you will be in good company.

We are currently accepting applications for **2010 internships, co-ops and full time positions**.

If you are interested in learning more about a career with BP or would like to complete an application, please visit www.bp.com/uscollegecareers. In early Fall 2009, opportunities will be posted through Career Services or your academic department for campus interviews. To be considered, please submit your resume accordingly, in addition to completing the online application.

If you previously completed an application during the 2008/2009 recruiting season, you can use your log-in details (user name and password) to access your account at www.bp.com/uscollegecareers. From your account, you can view a copy of your submitted application form or update any of your personal details. ***Starting 7/1/09, you will be able to update/edit your full application, without having to complete a new application.***

Thanks again for your interest in BP. We look forward to hearing from you.

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SUMMARY OF JOB DESCRIPTION
Office Associate-Lte - Wisconsin Geological And Natural History Survey: 50% Dane County

This position is located at 3817 Mineral Point Road in Madison. Primary duties are to respond to and assist customers in finding and selecting information that will fit their needs. Other duties include general office tasks such as data entry, quality control verification of data, answering telephone, preparation of publications, mail processing, scanning, and word processing.

INFORMATION ON UW-EXTENSION JOBS WEBSITE
Office Associate-LTE - 50

* Cooperative Extension
* Wisconsin Geological and Natural History Survey
* Dane county
* Expires: 05/15/2009

Transfer status:

Open
Salary:
Between $10-12, depending on qualifications
Hours:
12:30 p.m. - 4:30 p.m., M-F.
Pay range/schedule:
02-09
Job length:
LTE

Description

This position is located at 3817 Mineral Point Road in Madison. Primary duties are to respond to and assist customers in finding and selecting information that will fit their needs. Other duties include general office tasks such as data entry, quality control verification of data, answering telephone, preparation of publications, mail processing, scanning, and word processing.

Qualifications

General computer skills (data entry and word processing) with care and attention to detail; ability to operate office machines such as a copier, scanner, etc; knowledge of customer care in retail sales is required.
Recruitment Information

Please send a cover letter outlining your qualifications for this position and a current resume to: Joann.Johnson@uwex.edu or at 432 N. Lake Street, Room 201, Madison WI 53706.

POSITION OPENINGS:

- Research Assistant/Research Associate vacancy - SUERC, University of Glasgow
- Astrobiology Ion Microprobe Research Associate, UW-Madison
- Postdoctoral Research Fellowship - Purdue University
- Crystal2Plate, a Initial Training Network financed by the European Union, is seeking (amongst others) a Postdoc ("Experienced Researcher", ER) to image upper mantle seismic heterogeneity and depth-dependent anisotropy in the western/central Mediterranean and the Gulf of California using surface wave modeling techniques and receiver functions.
- Seeking a student with strong quantitative skills to undertake hydrogeological/thermal data analysis and modeling of the central Alpine fault under the supervision of researchers at Victoria University of Wellington and GNS Science
- The Department of Geosciences at the University of Wisconsin - Parkside invites applications for an anticipated one-year lecturer position starting August 2009 with a possibility of renewal.
- National Museum of Natural History, Smithsonian Institution,Washington D.C. anticipates hiring a distinguished scientist to become the Director of the Global Volcanism Program and to conduct a research program in volcanology in the Department of Mineral Sciences**.**
- Full-time Term Stable Isotope Laboratory Position. The U.S. Geological Survey, Water Resources Discipline is now offering a full-time 13 months (extendable up to 4 years) technical position in the Isotope Tracers project in Menlo Park, California.
- UNIVERSITY OF OXFORD-Department of Earth Sciences- Postdoctoral Research Assistant: Experimental Petrology

Research Assistant/Research Associate vacancy - SUERC, University of Glasgow

The Scottish Universities Environmental Research Center (SUERC) has a vacancy for a full-time Research Assistant/Research Associate. This 2-year NERC funded position, starting on 1st August 2009, or as soon as possible thereafter, is available for an early-career scientist to join a team as part of a NERC-funded project, "Establishing hydropyrolysis as an effective technique for the determination and isolation of pyrogenic carbon in samples from the natural environment".
You will be based in SUERC, and will play a central role within a collaborative research program also involving investigators at the University of Nottingham. You will, under direction from the investigators, be involved in preparation of a suite of artificial charcoals, and analysis of a suite of artificial and natural charcoals using a range of techniques including wet chemical oxidations, radiocarbon measurement, elemental and stable isotope analysis, and scanning electron microscopy. The outcome of the research program will be establishment of the efficacy of hydropyrolysis in analysis of natural pyrogenic carbon samples, and a deeper understanding of the role of pyrogenic carbon (e.g. charcoal, Black Carbon) within global biogeochemical cycles.
Previous direct experience with one or more of the above techniques is highly desirable, as is previous experience working with charcoal/black carbon in the context of archaeology, radiocarbon dating or carbon cycle research.
You will hold a PhD in Environmental Sciences, Environmental Chemistry, Physical Geography, Scientific Archaeology or a related discipline. Previous experience involving analysis of environmental sample materials would be a distinct advantage, as would knowledge of background literature in pyrogenic carbon research, and publication experience.
An aptitude for analytical work will be required. Good interpersonal skills and the ability to communicate and develop ideas are essential.
The position offers a competitive salary, and applications will be accepted from now until the closing date of 19th June 2009.
For further particulars or to apply, please visit the University of Glasgow vacancies website at http://www.gla.ac.uk/jobs/ under current vacancies, (web address http://www22.i-grasp.com/fe/tpl_glasgow01.asp) where the position is ref 00002-1.

Please feel free to direct any informal inquiries about this post to myself at p.ascough@suerc.gla.ac.uk

Dr. Philippa Ascough

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Astrobiology Ion Microprobe Research Associate, UW-Madison

The University of Wisconsin is seeking a creative and productive scientist to pursue novel applications of our new CAMECA ims1280 ion microprobe to Astrobiology.

Applicants are encouraged to propose projects of their own design in collaboration with the Wisconsin Astrobiology Research consortium. They will also conduct studies of sulfur four isotopes in Archean sediments and/or carbon isotopes in kerogen. One goal of these investigations is to establish stable isotope signatures of life

The WiscSIMS ims1280 is optimized for in situ analysis of stable isotope ratios (O, C, Mg, Si, S, Li, H, B, N, Ca, Fe). For oxygen isotopes, precision of ±0.1‰ can be obtained from 10 μm spots.

Experience with astrobiology, stable isotope geochemistry, SIMS, electron beam instruments, or mass-spectrometry is desirable.

Duties will include a mix of independent published research, assistance and collaboration with users of the lab, and assistance with the 1280.

For further information see: http://www.geology.wisc.edu/astrobiology/
http://www.geology.wisc.edu/facilities/wiscsims/

Please send letter of interest, cv, and names and contact information for 3-5 references to Prof. John Valley, valley@geology.wisc.edu.

Evaluation of applications will begin immediately and continue until position is filled.

UW is an equal opportunity employer.

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Postdoctoral Research Fellowship - Purdue University

The Isotope Ratio Ecology and Hydrology (IREH, www.purdue.edu/eas/ireh) group in the Earth and Atmospheric Sciences Department is soliciting applications for a full-time Postdoctoral Research Associate to conduct research on water resource assessment using light stable isotopes. The project will involve the development of sampling networks in the western USA and Mexico and GIS-based data analysis and modeling. A strong background in stable isotope (bio)geochemistry and/or hydrology and experience with GIS and geospatial data are requirements of the position. The Postdoctoral Associate must hold a Ph.D. at the time of appointment and must be a U.S. citizen.

The position offers competitive salary and benefits and is available Aug. 15, 2009 with an initial 1-year appointment and possibility for renewal up to 3 years. Applications will be reviewed beginning immediately and until the position is filled. To apply, please send a current CV and brief description of your research experience and interests to Gabe Bowen (gabe@purdue.edu).

All members of the IREH group have access to state-of-the-art IRMS instrumentation through the Purdue Stable Isotope lab (www.purdue.edu/eas/psi) and opportunities to interact and collaborate with a wide range of scholars through the Atmosphere-Surface Interactions EAS focus group (www.purdue.edu/eas/asi/) and the campus-wide Purdue Climate Change Research Center (www.purdue.edu/climate/).

Purdue University is an Equal Access/Equal Opportunity/Affirmative Action employer.

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Crystal2Plate, a Initial Training Network financed by the European Union, is seeking (amongst others) a Postdoc ("Experienced Researcher", ER) to image upper mantle seismic heterogeneity and depth-dependent anisotropy in the western/central Mediterranean and the Gulf of California using surface wave modelling techniques and receiver functions. The research will be embedded in the larger Crystal2Plate context: How does mantle convection produce, and is modified by, plate tectonics.

The Postdoc will be based at Utrecht University. Supervisors are Hanneke Paulssen (Utrecht University) and Goetz Bokelmann (Universite Montpellier 2), Collaborators are Claudio Faccenna (Universita Roma TRE), Taras Gerya (ETH Zurich) and Neil Reibe (CNRS-FAST, Paris). The postdoc position is for 2 years.

Following the conditions for EC Marie Curie programs, suitable candidates must (i) at the time of recruitment be in the first five years of their research careers, calculated from the start(!) of their PhD position, (ii) at the time of recruitment be in possession of a PhD degree or have at least 3 years of full-time equivalent research experience, (iii) have a non-Dutch nationality, and (iv) not have resided or worked in the Netherlands for more than 12 months in the 3 years prior to their recruitment.

For additional information on Crystal2Plate and application for this position, as well as 11 other PhD and Postdoc positions, see the CRYSTAL2PLATE website: http://www.gm.univ-montp2.fr/CRYSTAL2PLATE/home.html

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We seek a student with strong quantitative skills to undertake hydrogeological/thermal data analysis and modeling of the central Alpine fault under the supervision of researchers at Victoria University of Wellington and GNS Science (see http://tinyurl.com/c87ze7 for project outline).

Details of the application process can be obtained from http://tinyurl.com/br6qdf/ or by emailing John Townend [john.townend@vuw.ac.nz]. Applications close 15 May 2009

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The Department of Geosciences at the University of Wisconsin - Parkside invites applications for an anticipated one-year lecturer position starting August 2009 with a possibility of renewal. Applications received by May 19th are ensured full consideration; the position is open until filled.

Detailed information can be found:
<http://newweb.uwp.edu/departments/human.resources/unclassified.positions/>http://newweb.uwp.edu/departments/human.resources/unclassified.positions/
To apply please send cover letter, vitae, and three letters of recommendation to:
Dr. Zhaohui Li, Chair of the Search Committee,

Geosciences Department
University of Wisconsin-Parkside -- Kenosha, WI 53141-2000

Email: <mailto:li@uwp.edu>li@uwp.edu
The University of Wisconsin-Parkside is an AA/EEO employer D/M/V/W

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UNIVERSITY OF OXFORD-Department of Earth Sciences- Postdoctoral Research Assistant: Experimental Petrology

Salary Range Grade 7: £28839- £35469 (fixed term contract up to 36 months)

To work on a project entitled "Core formation, Hadean mattes and the timescale of Earth accretion" in the laboratory of Bernie Wood. The project will involve determining the partitioning of a wide range of elements between liquid metal and liquid silicate at high pressures and temperatures with the aim of constraining the processes and timescale of Earth accretion and core segregation. The successful applicant should have a Ph.D. in experimental petrology/geochemistry or in a related field such as materials science or analytical geochemistry. Experience in the use of high pressure methods such as the piston-cylinder and multianvil apparatuses is desirable as is familiarity with the electron microprobe and/or laser ICP-MS techniques.
The position is available immediately.

Further particulars can be found at: http://www.earth.ox.ac.uk/department/Exp-Petr.pdf
or from Mrs Sue Ling at (Sue.Ling@earth.ox.ac.uk), Department of Earth Sciences, Parks Road, Oxford OX1 3PR, UK. Informal enquiries may be addressed to Prof B.J. Wood (berniew@earth.ox.ac.uk) The closing date for applications is 8th May 2009.

The University of Oxford is an equal opportunities employer

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~ ~ ~ ~ ~ ~ ~ ~ HAVE A GREAT WEEK! ~ ~ ~ ~ ~ ~ ~ ~