GeoBulletin is distributed weekly, by E-mail. Contributions are requested! If you have a news item, a request, an announcement etc. email it to geodept@geology.wisc.edu or leave it at the office, Room 225 by Noon on Monday.

**Weeks Lecture**

*Speaker list - Fall 2011*

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**Weeks Lecture**

**DR. HUIFANG XU**

University of Wisconsin, Dept. of Geoscience

**Friday, Oct 28th, 2011, 3:30 PM, Weeks Hall – Room AB20**

**Sweet Spots for the Formation of Sedimentary Dolomites**

The roles of organic matters in dolomitization were considered important, although their precise functions remain unclear. There are four proposed mechanisms for explaining the roles of organics and microbes in dolomitization: (1) Organic bounded Mg was released during decay of the organics; (2) extracellular polymeric substance may serve as nucleation sites; (3) Removal of sulfate (believed to be an inhibitor) through sulfate-reducing bacteria promotes dolomite crystallization, and (4) Oxidation of organics and proteins increases pH and alkalinity. However, laboratory experiments based on the proposed mechanisms failed to synthesize dolomite inorganically at room temperature. Mg\(^{2+}\) ions, which form one of the strongest bonds with water molecules among the divalent ions.
may only be partially dehydrated when incorporated into a growing nucleus of calcite or dolomite. The residual hydration sphere of the incorporated Mg$^{2+}$ ions would then inhibit the further growth of the crystal. Our experiments indicate polysaccharides in extracellular polymeric substance (EPS) of certain anaerobic bacteria can promote dolomite nucleation and growth. The polysaccharides adsorbed on the surfaces of calcite or dolomite through hydrogen bonding with surface carbonate anions will lower the kinetic energy barrier for dehydration of metal complexes between H$_2$O and surface Mg$^{2+}$.

Friday, Nov 4, 2011:

Steve Wesnousky, U.Nevada-Reno Tectonics Institute (Host: DeMets)

“The Walker Lane and Basin and Range Fault Systems of Western North America: Styles and Rates of Deformation, Fault Mechanics, and Insights to the Structural Evolution of a Major Transform Plate Boundary”

Friday, Nov 11, 2011:

Greg Hirth, Brown University (Host: Bonamici)

Friday, Nov 18, 2011:

Sumit Chakraborty, MSA (Host: Valley)

Friday, Dec 2, 2011:

Jessica Blois, UW-Madison (Host: Peters)

Friday, Jan 27, 2011:

Department Welcome Back

Friday, Feb 03, 2011:

Peter Wilf, Penn State (Host: Geary/Peters)

Friday, Feb 10, 2011:

Greg Waite, Michigan Tech (Host: DeMets)
Friday, Feb 17, 2011:
Margaret Fraiser, UW-Milwaukee (Host: Peters)

Friday, Feb 24, 2011:
Emile Okal, Northwestern University (Host: Tobin)

Friday, Mar 9, 2011:
Aradhna Tripati, UCLA (Host: Carlson)

Friday, Mar 16, 2011:
Matt Hurtgen, Northwestern (Host: Peters)

Friday, Mar 25, 2011:
Marin Clark, Univ of Michigan (Host: Goodwin)

Friday, Apr 13, 2011:

BOV

Friday, Apr 20, 2011:
Steve Holbrook, Univ of Wyoming (Host: Tobin)

Friday, Apr 27, 2011:
Tim Masterlark, U. Alabama (Host: Feigl)

Friday, May 4, 2011:
Carl Jacobson, IOWA State (Host: Goodwin)

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American Museum of Natural History has developed a new opportunity for individuals with undergraduate degrees in Earth Science and related fields who may be interested in pursuing a teaching career in secondary schools. The program is a Masters of Art in Teaching with a specialization in Earth Science.
Designed as an urban residency program in partnership with six schools in the New York City area, the program will be offered by a faculty that draws from the Museum’s Division of Physical Sciences (curators and post docs in the Earth and Planetary and Astrophysics Departments) and the Education Division (educators with experience in teacher training and mentoring).

In a 15 month, full time, rigorous program, students will be in residence for two summers at the Museum both teaching in our youth programs and participating in Earth and Space science research activities with our curators, and, during the school year, in residence at two different NYC area schools, four days per week from September through January and February through June. At the same time they will be completing 36 credits of graduate level courses in both science and pedagogy at the Museum and online.

While not for the faint of heart, for the right students it will be an excellent opportunity - all candidates accepted into the program will receive a tuition waiver and will be paid a stipend to cover living expenses during the 15 month program ($30,000), along with medical benefits.

In exchange, they need to commit to seeking employment in a high need school in NY State for a minimum of 4 years following graduation. During the pilot phase we will be looking to accept two cohorts of 25 students each (first cohort starting in June 2012 and the second cohort starting in June 2013).

So, we are actively recruiting now for candidates for the first cohort. New and recent graduates from your colleges could be an excellent candidates. Would you be willing to share this opportunity with undergrads or recent grads who majored in Earth Science or related fields? One critical caveat is that applicants must be U.S. Citizens or Legal Residents. You can point interested folks to the web site (amnh.org/education/mat) and, in addition, I have posted a flyer on my website (http://research.amnh.org/eps/f/AMNH%20MAT%20Flyer%20V6b.pdf) that perhaps you could post in an area where potential candidates might see it? The online application will be available starting 10/31/11 and applications for cohort 1 close 1/31/12.

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JOB OPENINGS:

- Position Available: Researcher and Lab Manager, X-ray Computed Tomography Facility, University of Minnesota
- The Lamont-Doherty Earth Observatory of Columbia University invites applications for three full-time post-doctoral research scientist positions in the field of paleoclimatology and paleoceanography
- Assistant Professor in Planetary Sciences - Purdue University
- The Department of Geosciences at the University of Wisconsin-Milwaukee welcomes applications for a tenure-track faculty position in geophysics at the rank of Assistant Professor
- University of California, Riverside -Department of Earth Sciences -FACULTY POSITION IN SEISMOLOGY
- GeoNet Earthquake Analysis System Specialist-GNS Science - Lower Hutt, New Zealand
- IRIS is seeking to hire an Instrumentation Services Project Assistant
- Tenure-Track Assistant Professor of Geoscience-The Department of Natural & Applied Sciences at the University of Wisconsin - Green Bay

- 4 -
- High-temperature fluid geochemist, GS-12 or GS-13. The U.S. Geological Survey seeks a field-oriented high-temperature fluid geochemist to participate in the USGS Volcano Hazards and Geothermal Programs.

- The Department of Environmental Studies at the University of North Carolina Asheville invites applications for a full-time, tenure track position in field-based structural geology with an environmental focus.

- USGS seeks candidates for a full-time permanent research position.

- The Institute of Geophysics and Tectonics of the University of Leeds - Research Fellow in Seismology.

- WASHINGTON UNIVERSITY IN SAINT LOUIS - STEVE FOSSETT POSTDOCTORAL FELLOWSHIP IN EARTH AND PLANETARY SCIENCE.

- Position in stable isotope geochemistry is opened at the Earth and Atmospheric sciences department of the Universite du Quebec a Montreal.

- Postdoctoral Research Associate in Neutron Scattering: Structure and Dynamics of Fluids at Nanoscale Interfaces - The Ohio State University.

- The Department of Geoscience at the University of Iowa invites applications for a full-time tenure-track position in Sedimentary Geology at the Assistant Professor level.

- Visiting Assistant Professor of Geology - Department of Earth Sciences Montana State University.

- Post-doctoral research opportunity - Stable isotope ecology - The Stable Isotopes in Nature Laboratory (SINLAB) at the Canadian Rivers Institute (CRI) and University of New Brunswick (UNB) in Fredericton, New Brunswick, Canada.

**JOB OPENINGS:**

**Position Available: Researcher and Lab Manager, X-ray Computed Tomography Facility, University of Minnesota**

We are seeking a research scientist to oversee a new high-resolution X-Ray Computed Tomography (XRCT) facility at the University of Minnesota. The lab is housed in the Department of Earth Sciences, but is intended for use by researchers in earth sciences, anthropology, engineering, materials sciences, medical devices, soil sciences, and other fields. The preferred qualification for the position is a Ph.D. at the time of appointment (in any field relevant to the operation of the XRCT) and either XRCT experience or other relevant technical expertise. The position is annually renewable, with longer contracts possible after the first year. The preferred start date is March 2012.

The XRCT research scientist must have an interest in participating in XRCT-related research, and ideally will conduct their own externally funded research program. In addition, the research scientist will be responsible for routine maintenance, organizing lab scheduling, billing and other accounting, as well as advertising the facility to maintain and expand the user base. Some training will be available, including on-site and off-site advanced user training sessions and workshops.

To apply, go to https://employment.umn.edu and use the following codes: Postdoctoral Associate--Ph.D. with no previous post-PhD research experience (requisition #172658), or Research Associate--Ph.D. with 3 years of post-PhD research experience (requisition #172656). Please attach your resume (CV), statement of research interests, and names and contact information for three references.

Applications will be considered until the position is filled. For more information about the position, contact Professor Martin Saar at saar@umn.edu.

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- 5 -
Three Post-Doctoral Research Scientists in Paleoclimatology and Paleoceanography:
The Lamont-Doherty Earth Observatory of Columbia University invites applications for three full-time post-doctoral research scientist positions in the field of paleoclimatology and paleoceanography. The successful candidates will join a dynamic and interdisciplinary group of scientists working on a wide range of interrelated problems examining Earth's past climate history, ocean chemistry and circulation, ice sheet stability, sea level, and the interactions of the solid Earth, ocean, and cryosphere. The positions are full-time 1-year appointments, with the opportunity for continuation and growth depending on progress and availability of funding. We seek qualified, highly motivated candidates for the following research activities:

Past sea level changes. The successful candidate will undertake field work and related analyses leading to a better understanding of Plio-Pleistocene sea level history. This work will be part of the larger collaborative PLIOMAX project, and target locations in the circum-Indian and Atlantic Ocean regions; field experience and dating expertise in carbonate sedimentary environments and coral reef ecology and structure is essential. Contact: Maureen Raymo (raymo@ldeo.columbia.edu)

Sediment geochemistry. The successful candidate will investigate the history of the Laurentide ice sheet over the Plio-Pleistocene through analysis of Gulf of Mexico sediment cores; investigation of multiple proxies and innovative application of new proxies to core material is anticipated; expertise in foram geochemistry, clay mineralogy and/or XRF techniques desirable. Contact: Maureen Raymo (raymo@ldeo.columbia.edu)

Foraminifer shell geochemistry/paleoceanographer. The successful candidate will work on one of several potential research areas including coretop calibrations of planktonic foraminifera and pteropods with oceanic carbon chemistry and physical parameters, Pliocene changes in the composition and ventilation of upper ocean waters, and high-resolution records of Holocene SST variability. The candidate will have experience with species identification, stable isotope geochemistry and analysis, and trace element analyses using ICP-MS (mid-2012 delivery). Contact Peter deMenocal (peter@ldeo.columbia.edu)

Requirements: A recent Ph.D. in Earth Sciences or a related discipline is required. Experience directly relevant to the research activities described above desirable.

To apply: Applicants should submit a personal statement describing research experience and interests, including specific reference to the projects listed here, a curriculum vitae, and the names and addresses of three references, to: https://academicjobs.columbia.edu/applicants/Central?quickFind=55431

Only online applications will be accepted. Columbia University is an Equal opportunity and affirmative action employer.

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Assistant Professor in Planetary Sciences - Purdue University is building a strong new effort in Planetary Sciences. Jay Melosh has joined the Purdue Faculty and, together with Andy Freed, Marc Caffee, and David Minton, has a mandate to expand Planetary Sciences by adding an additional faculty member this year. We seek a broadly based individual for a tenure-track position at the Assistant professor level. The successful candidate will be an outstanding researcher with potential for excellence in teaching at both the graduate and undergraduate levels. We seek someone who will complement our existing strengths in modeling, geodynamics, atmospheric science and isotopic cosmochemistry. In harmony with Purdue's traditional emphasis on science, mathematics and engineering, we seek a quantitatively focused researcher with an interest in planetary surface processes. The Department of Earth and Atmospheric Sciences presently has outstanding programs in geodynamics, isotope geochemistry, terrestrial climate and extreme weather systems. Applicants must have a Ph.D. in a field related to Planetary Science. Salary and benefits are highly competitive. The appointment will begin in August 2012. Candidates are expected to develop a vigorous research program, obtain external funding, supervise graduate students, and teach undergraduate and graduate courses. Interested candidates should submit their curriculum vitae, publication list, and brief descriptions of their planned research program and teaching philosophy to planetarysearch@purdue.edu. Names and contact
information for at least three referees must be included in the application. Information on the EAS department can be found at http://www.purdue.edu/eas/. Applications completed by January 15, 2012 will be given full consideration, although the search will continue until the position is filled. A background check will be required for employment in this position.

Purdue University is an Equal Opportunity/Equal Access/Affirmative Action employer fully committed to achieving a diverse workforce.

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The Department of Geosciences at the University of Wisconsin-Milwaukee welcomes applications for a tenure-track faculty position in geophysics at the rank of Assistant Professor with a start date of August 2012. Applicants must hold a Ph.D. in geology/geophysics or related field at the time of appointment, and have demonstrated research experience in geophysics. Post-doctoral and teaching (TA and/or lecture) experience are desirable. Scientific publications, conference publications, and funding experience are preferred but not necessary. The successful candidate is expected to conduct an active, internationally recognized, externally funded research program. The successful candidate will teach a required introductory survey course in geophysics to undergraduate majors, upper level undergraduate and graduate level courses in their field of expertise, an introductory service course, and advise graduate student thesis projects. A standard teaching load is three 3-credit courses per academic year. This job posting is available online along with information regarding the Department of Geosciences and the College of Letters and Sciences at http://www4.uwm.edu/letsci/geosciences/dept_life/job_ad.cfm.

Review of applications will begin January 23, 2012. Priority will be given to applications received by that date, but the position will remain open until filled. To apply, please go to http://jobs.uwm.edu/postings/7222. Candidates should upload a cover letter, curriculum vitae, statement of teaching philosophy, research interests, and examples of published works with the online application. Published works may be uploaded with the application as 'Other Document'. In addition, three letters of recommendation are required and should be mailed to: Lisa Alzalde, Search & Screen Support, Department of Geosciences, University of Wisconsin-Milwaukee, P.O. Box 413, Milwaukee, WI 53201 or emailed to: lalzalde@uwm.edu. The University of Wisconsin-Milwaukee is a large, research-oriented institution located on the northeast side of Milwaukee, five blocks from Lake Michigan. The Department of Geosciences offers B.S./B.A., M.S., and Ph.D. degree programs and is staffed by 12 full-time faculty. UWM is an AA/EEO employer.

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University of California, Riverside -Department of Earth Sciences -FACULTY POSITION IN SEISMOLOGY

The Department of Earth Sciences at the University of California, Riverside, invites applications for a faculty position in Seismology at the Assistant Professor level, available July 1, 2012.

Research
We seek a candidate who uses seismological data to investigate earthquake and fault processes. The successful candidate will be expected to develop a research program complementary to our strengths in theoretical/numerical modeling of earthquakes and earthquake processes, space geodetic studies of crustal deformation, faulting and earthquakes, and experimental and theoretical investigations of rheological properties as they pertain to shallow and deep earthquakes.

Teaching
A successful candidate must have a strong commitment to excellence in both research and teaching. Teaching responsibilities will include undergraduate and graduate courses in the area of specialty.

Application
A Ph.D. in a relevant field and a proven ability to conduct innovative research are required. Applications, including a vita, statement of research and teaching interests, and full contact information of three referees should be sent to: Dr. David Oglesby, Chair – Seismology Search Committee, Department of Earth Sciences, University of California, Riverside, CA 92521. E-mail contact: david.oglesby@ucr.edu. Review of applications will begin January 4, 2012 and will continue until the position is filled. Salary will be commensurate with education and experience.

Information about Earth Sciences at UCR is available at http://earthsciences.ucr.edu; information about our Earthquake Processes and Geophysics program can be found at http://ep.ucr.edu/EP/. UCR is a core member of the Southern California Earthquake Center.

The University of California is an Affirmative Action/Equal Opportunity employer and supports dual career couples.

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GeoNet Earthquake Analysis System Specialist-GNS Science - Lower Hutt, New Zealand


GeoNet is the destination on the web New Zealanders go to get the latest on the country's natural hazards such as earthquakes and volcanic activity. This is backed by more than 500 sensor network sites throughout New Zealand, and real-time data processing.

This position is in a small team working to implement faster earthquake processing for the rapid identification and notification of earthquake impacts to end users.

We are seeking an experienced professional with a seismological background to support the implementation, configuration and operation of GeoNet's new earthquake analysis system.

You will have:

- Proven experience with modern real-time earthquake analysis systems.
- In depth knowledge of geophysics preferably to PhD level in seismology.
- Experience with a wide range of tools used in real-time and research seismology.

As well as having the technical skills we need, you also need to be able to work effectively as a team player across GNS Science and our collaborators, showing individual initiative and motivation.

For more information or to apply for this position, please visit our website https://vacancies.gns.cri.nz

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IRIS is seeking to hire an Instrumentation Services Project Assistant. This position will primarily be responsible for assisting the management team and staff across the multiple IRIS Instrumentation Services efforts, including USArray, the Global Seismographic Network, PASSCAL, as well as other projects. The Project Assistant will work closely with IRIS managers in assembling technical reports and presentations, as well as working on schedule, procurement and other project-related tasks. The individual will work with
seismological data and software tools on special tasks and will prepare and/or edit specialized content for IRIS web pages. This position will provide a unique opportunity to utilize scientific skills while participating in major scientific infrastructure projects. The Project Assistant will work at the IRIS Headquarters Office located in downtown Washington, DC.

The ideal candidate will have a combination of education and/or experience in: Earth science (or related physical science disciplines), basic web authoring, and scientific/technical writing. Familiarity with command line (e.g. Unix) computing or familiarity with scientific software/tools is a plus. A bachelor’s degree in geophysics, geology, or a related discipline, and excellent verbal, written, and interpersonal skills are required. The candidate must be able to work effectively and collegially in a team environment.

The Incorporated Research Institutions for Seismology (IRIS) is a university research consortium dedicated to exploring the Earth's interior through the collection and distribution of seismographic data. IRIS programs, funded by the National Science Foundation, contribute to scholarly research, education, earthquake hazard mitigation and the verification of a Comprehensive Test Ban Treaty. Within the Instrumentation Services component of IRIS a variety of seismographic instrumentation are operated, maintained and deployed.

To apply, e-mail a letter of interest and resume to April Jones (april@iris.edu) by November 30th. IRIS is an equal opportunity employer.

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Tenure-Track Assistant Professor of Geoscience-The Department of Natural & Applied Sciences at the University of Wisconsin - Green Bay (UWGB) invites applications for a tenure-track position in mineralogy/petrology/structural geology beginning August of 2012. The successful candidate will have a Ph.D. in geology by August 27, 2012, but ABD candidates will be considered.

Teaching responsibilities include introductory and upper-level courses in geoscience and environmental science, including mineralogy/petrology, structural geology, and introductory geology. Other teaching assignments could include, but are not limited to, economic geology, field methods, natural hazards, and geospatial techniques. A strong commitment to undergraduate teaching and research and participation in the graduate program is expected.

Send letter of application addressing teaching and research interests, course evaluations (if available), curriculum vitae, unofficial transcripts, and 3 letters of recommendation to Geoscience Search Committee Chair, Dept. of Natural & Applied Sciences, University of Wisconsin - Green Bay, 2420 Nicolet Drive, Green Bay, WI 54311. Review of complete applications will begin December 5, 2011, but completed applications received after this date may be considered. See http://www.uwgb.edu/hr/jobs/ for a complete position description.

The University of Wisconsin-Green Bay is an AA/EEO employer committed to achieving a diverse workforce and to maintaining a community, which welcomes and values a climate supporting equal opportunity and difference among its members.

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High-temperature fluid geochemist, GS-12 or GS-13. The U.S. Geological Survey seeks a field-oriented high-temperature fluid geochemist to participate in the USGS Volcano Hazards and Geothermal Programs. This permanent full-time position is located in the Menlo Park, California, Office and is administered by the National Research Program. The research group is largely funded by the Volcano Hazards and the Geothermal Programs and is responsible for conducting basic and applied research investigations on: 1)
the geologic, hydrologic, and geochemical manifestations of volcanic unrest and 2) the potential for development of geothermal energy and the actual and predicted impacts of that development. Project personnel make field measurements and collect samples for later laboratory analysis. The primary purpose of this position is to improve techniques for field and laboratory geochemical measurements, evaluate and refine statistical methods of data reduction, establish monitoring networks, collect and analyze samples of gas and water, and relate the findings to assessment of volcanic unrest and/or geothermal energy potential. At the GS-12 level, the level of knowledge required would be reached through successful completion of a relevant PhD program or equivalent doctoral degree in the field of Earth Sciences, or through equivalent experience and knowledge. At the GS-13 level, the level of knowledge required would be reached through successful completion of a PhD program in the field of Earth Sciences and at least one year of specialized work sufficient to demonstrate expertise and leadership in: fluid geochemistry and its application to natural systems, field hydrologic studies of moderate scope, and advanced field and laboratory techniques for chemical and isotopic analysis of gases, waters and rocks. The capability to envision and carry studies through to completion and successfully synthesize the results must be demonstrated by publication of technical reports and published articles in respected scientific journals. Volcanoes threaten population centers throughout the western United States; thus the incumbent must be able to conduct and track several ongoing investigations that may be geographically dispersed over a wide area while still being able to focus major effort on any area that presents an immediate concern. Salary $81,460-$96,867. For details on the vacancy announcement, including specific qualification requirements and application procedures, go to http://www.usajobs.gov and refer to Vacancy Announcements ATL-2012-0025 (for current status employees or reinstatement eligible) or ATL-2012-0026 (for candidates who have never worked for the Federal Government). Address other inquiries to William C. Evans (wcevans@usgs.gov). Applicants must be U.S. citizens. The deadline for applications is November 30, 2011.

The U.S. Geological Survey is an Equal Opportunity Employer.

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The Department of Environmental Studies at the University of North Carolina Asheville (www.unca.edu/envr_studies) invites applications for a full-time, tenure track position in field-based structural geology with an environmental focus. The position begins at the assistant professor level in August 2012. Responsibilities include teaching structural geology, environmental geology, physical geology, and other courses complementary to the program, such as Introduction to Environmental Science. This faculty member will also contribute to the university-wide Integrative Liberal Studies program (our interdisciplinary liberal arts curriculum required of all undergraduates, including introductory (freshman) colloquia, writing and quantitative intensives, and other interdisciplinary courses), will advise undergraduates, and will develop an active research program that includes opportunities for undergraduate research. The successful applicant will have a strong commitment to excellence in undergraduate teaching and an interest in infusing the undergraduate experience with the skills, aptitudes, and values of the interdisciplinary liberal arts and sciences.

As UNC Asheville is committed to promotion of diversity, the candidate should facilitate a work environment that encourages knowledge of, respect for, and ability to engage with those of other cultures or backgrounds. The candidate should also possess knowledge and understanding of multicultural and diversity issues, and their potential applications to pedagogy, programming, and service activity. Applicants are expected to have a doctoral degree at the time of appointment. Interested candidates should submit a cover letter, curriculum vitae, statement of teaching philosophy/teaching interests, statement of research interests, three letters of reference, and teaching evaluations, if available, to: Dr. William Miller, Department of Environmental Studies, CPO 2330, University of North Carolina Asheville, Asheville, North Carolina 28804-8511. The search committee will begin review of applications on 15 November, 2011. The position is open until filled.

UNC Asheville is an Equal Opportunity/Affirmative Action Employer. E-mail inquiries may be directed to Debra Robbins, Department Administrator, drobbins@unca.edu.
USGS seeks candidates for a full-time permanent research position.

U.S. citizenship is required.

The U.S. Geological Survey (http://water.usgs.gov/nrp/) seeks candidates for a full-time permanent research position in microbial ecology at the GS-11, GS-12 or GS-13 grades in Reston, Virginia. This is an interdisciplinary position and may be filled under any of several job series: Geologist / Microbiologist / Microbial Ecologist / Soil Scientist. Grade and salary (in the range of $60,000 to $100,000) will be based on education and experience. Prior to starting employment with the USGS, a successful applicant will have demonstrated educational and research accomplishments, through the obtainment of a Ph.D or equivalent doctoral degree, or through equivalent experience and knowledge, in a field related to microbial ecology or environmental microbiology. Environments of interest include surface water, ground water and soils, in disturbed and pristine terrains. The selected individual will formulate and execute laboratory and field studies in order to determine the identity and characteristics of microorganisms involved in microbial transformations, and to measure reaction rates and pathways of microbial processes in these environments. By characterizing the microbial diversity and functional capability of microbial communities, the ultimate goal of the research is to establish an understanding of microbial processes that impact water quality, ecological habitats, and other natural resources. A full range of observational and experimental techniques in both the laboratory and the field is applied to the research problems. Tools and techniques used include molecular methods, such as qPCR and DNA fingerprinting, microarray technology, and stable isotope probing techniques.

The on-line vacancy announcement contains additional information regarding these and other qualifications requirements. The opening date of this vacancy announcement is October 16, 2011. Applications (resumes and questionnaire responses) must be received online BEFORE midnight Eastern Time on the closing date of the announcement (December 1, 2011). It is important that candidates view the Vacancy Announcement in its entirety to be sure that all required documents are submitted. Incomplete application packages cannot be considered.

For further information, please contact: Edward Landa, 703-648-5898, erlanda@usgs.gov, Harry Jenter, 703-648-5916, hjenter@usgs.gov, or Pierre Glynn, 703-648-5823, pglynn@usgs.gov in the Branch of Regional Research, or Aleecia Leyba, 303-236-9573, aleyba@usgs.gov, Human Resources Specialist.

After the opening of the vacancy on or about Oct. 16, 2011, the vacancy announcements should be found on the Office of Personnel Management's USAJOBS website at www.usajobs.opm.gov. {Please note: The website will be down during the period October 1-12, 2011}.

The Vacancy Announcement numbers are: ATL-2011-0745 - DEU (Open to all US Citizens), and ATL-2011-0744 - Merit Promotion (for current or former Federal employees with competitive status or who are eligible under a special appointing authority such as VRA, Severely Physically Disabled, Returning Peace Corp Volunteers and VEOA eligibles.)

The USGS is an Equal Opportunity Employer.

The Institute of Geophysics and Tectonics of the University of Leeds - Research Fellow in Seismology - Fixed term for 2.5 years
The Institute of Geophysics and Tectonics of the University of Leeds has a strong international research profile in the geophysical sciences, with particular strengths in Seismology and Tectonophysics. We are seeking a Research Fellow who will work on a multi-disciplinary project (“Deep crustal structure of the North Anatolian Fault Zone and the earthquake cycle”) funded by the UK Natural Environment Research Council, aimed at determining the crustal structure of the North Anatolian Fault Zone in Turkey and its influence on the earthquake cycle of this region.

You will have a PhD in seismology or a closely related area, excellent communication skills, ability to work as part of a team, and familiarity with computerised techniques used in processing broad-band seismological data. You will participate in all stages of a major seismic experiment in Turkey and the management of a large seismic database. You will be expected to publish research papers and to present your research at national and international meetings.

You should be able to commence 1 Feb 2012 or as soon as practicable thereafter.

For more information please see: http://homepages.see.leeds.ac.uk/~earsro/NAFZ.html or contact Sebastian Rost (s.rost@leeds.ac.uk)

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WASHINGTON UNIVERSITY IN SAINT LOUIS - STEVE FOSSETT POSTDOCTORAL FELLOWSHIP IN EARTH AND PLANETARY SCIENCE

The Department of Earth and Planetary Sciences at Washington University in Saint Louis invites applications for their new Steve Fossett Postdoctoral Fellowship. The Department seeks outstanding candidates who will strengthen and complement existing areas of study, including both terrestrial and planetary geology, geochemistry, and geophysics. Candidates will be encouraged to collaborate directly with Faculty and students within the Department, and will be invited to lead a seminar in their area of expertise. Ideal candidates will have trans-disciplinary interests, and will interact scientifically with a broad spectrum of the Department's members. This competitive postdoc is awarded for a one-year period, which may be extended to a second year. The annual salary is $55,000 with additional research funds of $5,000 per year. Applicants should contact a potential Faculty sponsor to discuss additional arrangements.

Please send resume, statement of research interests, and names and contact information for at least three references to:

Fossett Fellowship Committee
Department of Earth and Planetary Sciences Washington University
Campus Box 1169 One Brookings Drive St. Louis, MO 63130 or via e-mail: Fossett_Fellowship@levee.wustl.edu

Applications will be considered until the position is filled, but priority will be given to those received before January 15, 2012. Washington University is an equal opportunity/affirmative action employer.

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Postdoctoral Research Associate in Neutron Scattering: Structure and Dynamics of Fluids at Nanoscale Interfaces - The Ohio State University - School of Earth Sciences
Project Description:
The Subsurface Energy Materials Characterization and Analysis Laboratory - SEMCAL (Dr. David Cole, co-director; http://www.geology.ohio-state.edu/faculty_bios.php?id=171), in the School of Earth Sciences invites applications for a Postdoctoral Research Associate position in neutron scattering for a 2 year appointment with the possibility of extension to interrogate the interaction of fluids with mineral substrates (as planar surfaces or nanoporous media). This position will be part of OSU's Sloan Foundation funded Deep Carbon Observatory project targeting "Reduced Carbon in Earth's Crust and Mantle". Studies will focus on fundamental and applied aspects of the interaction of C-O-H fluids (aqueous; non-aqueous) with solids (natural; engineered) across a wide range of length and time scales with the goal to reach a predictive level of understanding of fluid-mediated processes in complex earth and technological systems. Researchers will be able to take advantage of the collaborative interaction established between OSU and neutron scattering researchers in the Geochemistry and Interfacial Sciences Group of the Chemistry Division at Oak Ridge National Laboratory. Emphasis is placed on static and dynamic neutron scattering from ambient conditions to elevated temperatures and pressures to understand the nano-scale properties of free and confined fluid-solid interfaces.

Qualifications:
Candidate must have a Ph.D. in Chemistry, Physics, Materials Sciences, Geochemistry or closely related field. The candidate must have demonstrated experimental skills and experience in one or preferably several neutron scattering techniques (SANS, NR, QENS, NSE, diffraction). Programming skills are desirable. The candidate should be able to work independently and participate creatively in refining project directions. The candidate must have good oral and written communication skills, and be able to interact effectively with a broad range of colleagues. Applicants cannot have received their Ph.D. more than six years prior to the date of application appointment or must complete all degree requirements before starting their appointment.

Contact:
Applicants should send a CV, description of current research activities and interests, and contact information for at least two references to: Prof. David R. Cole, School of Earth Sciences, The Ohio State University, Columbus, OH 432210-1398 (cole.618@osu.edu). A formal job posting will soon appear in the HR section of the Ohio State University web site. For more information about the School of Earth Sciences, visit our web site at http://www.geology.ohio-state.edu/.

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The Department of Geoscience at the University of Iowa invites applications for a full-time tenure-track position in Sedimentary Geology at the Assistant Professor level. The appointment will begin in August 2012. We seek an outstanding researcher and teacher whose approach is quantitative, integrative, and preferably field-based. Areas of interest might include but are not limited to: sequence stratigraphy, basin analysis, quantitative stratigraphy, clastic or carbonate sedimentology, petroleum geology, and depositional environments. The successful candidate is expected to establish an active, externally funded research program that complements existing strengths within the Department as well as interdisciplinary initiatives across the University. In addition to attracting and mentoring graduate students, the successful candidate will be expected to teach at the undergraduate and graduate levels, including our required undergraduate majors course: “Sedimentary Geology”. A Ph.D. in geoscience or a related field is required by the time of appointment. Candidates must submit applications online at http://jobs.uiowa.edu/ (requisition 60159). Attachments to the application should include a letter of interest, curriculum vitae, a statement of teaching interests, and a statement that describes current and future research activities. Three letters of recommendation should be sent to: Dr. William McClelland, Search Committee Chair, Department of Geoscience, University of Iowa, Iowa City, IA 52242 (Phone: 1-319-335-1827; e-mail: bill-mcclelland@uiowa.edu). Screening of applications begins December 7, 2011 and will continue until the position is filled. Questions regarding this position can be directed to Dr. McClelland or Dr. Mark Reagan (Geoscience Department Chair; 319-335-1820;
mark-reagan@uiowa.edu). The Department and the College of Liberal Arts and Sciences are strongly committed to gender and ethnic diversity. Women and minorities are encouraged to apply. The University of Iowa is an affirmative action/equal opportunity employer.

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Visiting Assistant Professor of Geology -Department of Earth Sciences Montana State University

Salary will depend on education and experience. The position is an academic-year appointment available starting January 1, 2012 with renewals annually for up to three years possible.

Benefits Eligible

Housing On-campus housing may be available during the first year.

Departmental Information
The Department of Earth Sciences is in the College of Letters and Science and strives to understand the Earth System from its core to the top of the atmosphere including the relationship between humans and the planet. It includes faculty working in human geography and a broad range of geological sub-disciplines. Additional information on faculty research interests and courses may be found on the departmental website at http://www.montana.edu/wwwes/. Laboratory facilities are listed at this site under facilities. The successful candidate will work with 11 tenure-track faculty, a Regents Professor, a GIS instructor, three research scientists, two administrative assistants, 14 Ph.D. students, 40 MSc. students, and 230 undergraduate majors. Founded in 1893 in the scenic Gallatin Valley just north of Yellowstone National Park, Montana State University is a land-grant university with total enrollment of 13,000 students, including about 1,200 graduate students. MSU is recognized as one of 94 U.S. research universities representing the top tier of the Carnegie Foundation rankings. Research funding currently exceeds $100 million annually and has been growing steadily.

Named an All-American City, Bozeman is an attractive, culturally alive city located in the northern Rocky Mountain region. The 70,000 residents of Bozeman and nearby communities enjoy excellent schools, diversified medical facilities, a vibrant cultural and arts scene, and one of the most superb year-round recreational areas in the nation, including world-class ski areas, blue-ribbon trout-fishing streams, and hiking, biking and camping in the Gallatin National Forest. Bozeman is just 90 miles from Yellowstone National Park.

Duties and Responsibilities
The Department of Earth Sciences at Montana State University seeks a geologist to teach mineralogy, metamorphic petrology, Earth system science, a course to be discussed with the successful candidate and one credit current topics in Earth Science. Additional course possibilities include and environmental geology or other courses agreed to by the department and the successful candidate. Some undergraduate student advising is expected. Grant writing and research collaborations are encouraged, but this position is not a tenure-track position with a research expectation. The position is a temporary 9-month Academic Year appointment starting 1 January, 2012.

Required Qualifications Ph.D. or ABD in geology.

Preferred Qualifications
Demonstrated ability to teach large introductory classes in introductory Earth system science, mineralogy and metamorphic petrology courses. Experienced with advising undergraduate students.

The Successful Candidate Will
Teach introductory students as well as geology majors and advise undergraduate students in the geology, paleontology, and geohydrology options in the Earth Sciences Department. Grant writing and research collaboration are encouraged.

**Application Procedure Screening** of applications will begin 1 November 2011 and will continue until a suitable candidate is selected. To apply, submit: (1) a brief letter of application that addresses how your training, expertise and experience fulfill the required and preferred qualifications stated above. 2) postal and email address, and telephone number(s) (3) the names and contact information (not letters) of exactly two references; and (4) curriculum vitae. Electronic applications are preferred. Electronic submittals should be sent to earth@montana.edu. Copies of transcripts may be requested for finalist. We encourage applications from members of underrepresented groups. Montana State University is an institution committed to cultural diversity.

Submit materials to: Search Committee Chair,
c/o Melanie Baldwin
Department of Earth Sciences
Montana State University
P O Box 173480
Bozeman, MT 59717-3480
406-994-3331
earth@montana.edu

For information, contact: Steve Custer, Head, Earth Sciences: scuster@montana.edu; 406 994 6909

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**Post-doctoral research opportunity - Stable isotope ecology**-The Stable Isotopes in Nature Laboratory (SINLAB) at the Canadian Rivers Institute (CRI) and University of New Brunswick (UNB) in Fredericton, New Brunswick, Canada, seeks an innovative and highly motivated individual to conduct multi-disciplinary research beginning in February 2012. The successful candidate will be expected to conduct independent field and lab-oriented research involving the analysis of stable isotopes of carbon, nitrogen, hydrogen, and sulphur to address ecological issues.

Principal fields of research by CRI scientists and students include determination of food sources and pathways in river ecosystems, study of animal migration and foraging ecology, tracing contaminant pathways, assessing impacts of exotic species on native biota and biodiversity, examining nutrient flux and transfer in streams, and investigating the fate of marine-derived nutrients in freshwater food webs. The individual will be expected to closely collaborate with other CRI scientists and graduate students at UNB. Preference will be given to individuals whose chief fields of research are freshwater science, particularly fish biology and/or river ecology, but individuals with backgrounds in other sciences that employ stable isotope analysis will also be considered. The successful candidate will be expected to actively publish his or her research in high quality scientific journals. Although the primary focus is on research, the individual will also assist SINLAB staff by providing advice and guidance to clients and graduate students on collection and project design as well as interpretation of stable isotope data for their research programs. The candidate will ensure the analysis of carbon, nitrogen, hydrogen, and sulphur stable isotopes continues to expand with new developments in the field of stable isotope ecology. The individual will bridge the science and technical work required to stay at the leading edge of the field of stable isotope ecology.

Applicants must hold a PhD, preferably in the biological sciences or geochemistry. A solid background in population/community ecology and proven experience with stable isotope (SI) ratio mass spectrometers and other SI data analyses will be considered strong assets. International candidates are encouraged to apply.

Salary: $42,000 CAD per annum. Funding for the postdoctoral position is secured for two years, with a strong possibility for a third year of funding.
The CRI is an internationally-recognized, interdisciplinary research institute with over 60 graduate students and scientists from diverse academic and government departments interacting to resolve complex issues in aquatic science.

The SINLAB was established in 1999 with its primary focus to address academic and applied questions in ecology involving stable isotope analysis as the investigative tool. The current focus of the SINLAB is bulk stable isotope analysis of C, N, H and S via continuous flow IRMS. To accomplish these goals the lab is equipped with Thermo Finnigan Delta XP and Delta Plus mass spectrometers that can be interfaced to either the Carlo Erba NC2500 and Costech 4010 elemental analyzers, or to the Thermo Finnigan TC/EA.

Deadline for receipt of application: November 18, 2011.

Interested individuals should send a letter of interest, names of three references, and a full CV to:
Dr. Rick Cunjak (http://www.unb.ca/research/institutes/cri/people/sciencedirectors/cunjak/index.html),
Professor, and Canada Research Chair in River Ecosystem Science
Director, Stable Isotopes in Nature Laboratory ((http://www.unb.ca/cri/sinlab/)
Canadian Rivers Institute (www.unb.ca/cri/)
Department of Biology, and Faculty of Forestry and Environmental Management
University of New Brunswick
Fredericton, New Brunswick, CANADA. E3B 5A3.
Email: cunjak@unb.ca
Tel: 506-452-6204

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********* HAVE A GREAT WEEKEND**********