

GEOBULLETIN
JANUARY 30, 2009

Geobulletin is distributed weekly, on Friday 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 Wednesdays.

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.

Jan. 30 - Chunmiao Zheng, Birdsall Dreiss Lecturer (SPONSOR: MARY)

WEEKS LECTURE
BY 2009 GSA BIRDSALL/DREISS LECTURER
FRIDAY, JAN. 30TH, 3:30 PM
AB20 WEEKS HALL

PROFESSOR CHUNMAIO ZHENG,
UNIVERSITY OF ALABAMA AND PEKING UNIVERSITY, CHINA

Will China Run Out of Water?

The American agricultural expert and environmentalist Lester Brown published in 1995 a provocative book called "Who Will Feed China: Wake-Up Call for a Small Planet." Today, however, of a greater concern may be the question of whether the unprecedented economic growth in China over the past two decades can be sustained as the environmental pollution and water shortage continue to worsen. Some people have asked, "Will China run out of water?" This question is not merely academic: China has to nourish a fifth of the global population with about seven percent of the planet's water resources. In fact, China's State Council, or Cabinet, warned in a drought-fighting directive issued in December 2007 that even after taking into full account water-saving measures, China's water use will reach or approach the total volume of exploitable water resources by 2030. Ample evidence suggests that China faces a daunting water resource crisis. The country has been battling water shortages in its northern and western provinces for more than a decade. But burgeoning economic growth and widespread environmental pollution have aggravated the water storage problem. Is China really running out of water? What does all this mean? What can be done? This presentation will take a close look at the current water situation in China and discuss the options available to deal with the worsening water shortage problem. The presentation draws on the presenter's recent research work in the North China Plain and the Ordos Basin in western China.

Feb. 6 - Jennifer Eigenbrode (SPONSOR: ERIC)
"Molecular Fossils for Cyanobacteria and Eukaryotes in the Neoproterozoic"

Feb. 13 - David Bish, Indiana (SPONSOR: HUIFANG)
"Water on Mars: How can it exist today?"

Feb. 20 - Reserved for sed interview talk

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Feb. 27 - Reserved for sed interview talk

Mar. 6 - Reserved for sed interview talk

Mar. 13 - Reserved for sed interview talk

Mar. 20 - Spring break

Mar. 27 - Leigh Royden (MIT) (SPONSOR: DEMETS)
"Uplift, Evolution and Geodynamics of the Tibetan Plateau"

Apr. 3 - Stephanie Prejean (USGS Anchorage) (SPONSOR: THURBER)

Apr. 10 - Joe Stoner Oregon State, Quaternary (SPONSOR: ANDERS)
"Climatic implications of abrupt geomagnetic change"

Apr. 17 - Board of visitor's meeting (OPEN)

Apr. 24 - Susanne Janecke (Univ. Utah) (SPONSOR: DEMETS)
"Reorganizing plate boundaries, evolving basins, pseudotachylyte, detachment faults, and crossing strike-slip faults: Southern California"

May 1 - Laurent Charlet, Univ. Grenoble (SPONSOR: NITA)

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

Ron Harder Scholarship for students majoring in geology. The applicant criteria is fairly narrow: Students who have completed 2 years of college coursework, achieved a minimum 2.5 cum GPA, and who graduated from a high school in the Fox Valley area of WI. Please advertise this scholarship with potential applicants. Applications are due to the Community Foundation office by July 1, 2009.

Wisconsin Ecology will be hosting the 2nd Annual Summer Job Fair for Undergraduates on February 26th, from 11-5PM in Memorial Union, and we need YOU to send a representative to the job fair.

We encourage you to consider sending a grad student representative to this event. The event will be structured like a typical college or job fair, with tables for various lab groups advertising the research opportunities available (field, lab, summer, academic year, etc.). Many undergraduates are unaware of the research opportunities available to them, and our goal is to foster an environment that makes it easy for students to find out about available positions, talk to prospective employers, make contacts, and set up interviews.

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What you need to do now! Tell us you want a table by Friday, February 6.

Send the name and email for you or your group to:

Jake Griffin, Wisconsin Ecology Grad Student rep, jgriffin2@wisc.edu

We need to know how many tables and chairs to reserve. So figure out the exact details later, but reserve a table now.

POSITION OPENINGS:

- [Geohydrology Summer Research Assistantship -Kansas Geological Survey -The University Of Kansas](#)
- [University of Minnesota, Morris – Research experience for Undergraduates\(REU\)](#)
- [Internship with EARTH Magazine, Geoscience Communications Opportunity at the American Geological Institute, AGI would like to bring to the attention of all geosciences students the US State Department's Laura W. Bush Traveling Fellowship in support of the UNESCO mandate.](#)
- [Candidate for the Bill Bell Chair in Petroleum Geology](#)
- [Principal Technical Officer-Department Of Geology –Rhodes University](#)
- [Associate Professional Specialist - Laboratory Manager, Isotope Biogeochemistry](#)
- [Cosmochemistry – Astrobiology Postdoctoral Fellow –Institute for Astronomy, University of Hawai'i Manoa](#)

POSITION OPENINGS:

APPLIED GEOHYDROLOGY SUMMER RESEARCH ASSISTANTSHIP
KANSAS GEOLOGICAL SURVEY

THE UNIVERSITY OF KANSAS
LAWRENCE, KANSAS

The Geohydrology Section of the Kansas Geological Survey (KGS) invites applications for up to THREE KGS Applied Geohydrology Summer Research Assistantship positions for the summer of 2009. The positions are available for graduate students and upper-level undergraduates with an interest in learning more about recent developments in hydrogeological field methods. Positions are open to students at any university. This will be the tenth year for the program. Positions in previous summers have been held by students from Appalachian State, Colorado School of Mines, Free University of Brussels, Montana Tech, Northern Iowa University, Oberlin College, Southern Illinois University, University of Colorado, University of Göttingen, University of Illinois, University of Kansas, University of Minnesota at Duluth, University of Mississippi, University of Pittsburg, University of Rhode Island, University of Tübingen, and University of Wisconsin-Madison. Most past participants have co-authored articles or presentations based on the summer work.

POSITION: KGS Applied Geohydrology Summer Research Assistantships

STARTING DATE: May 26, 2009.

APPLICATION DEADLINE: First consideration given to application material received by **February 23, 2009**.

SALARY: Salary \$6,250 for each 12-week assistantship. Expenses of travel to and from Lawrence are not provided. All work-related travel expenses will be provided by the Kansas Geological Survey.

DUTIES: This assistantship is a 12-week summer position during which the individual will work with KGS and Kansas State University (KSU) hydrologists on a variety of field activities in support of KGS research programs. There are expected to be three primary themes for the 2009 activities. Four weeks of the summer will be spent on fieldwork in support of a cooperative KGS/KSU study of groundwater consumption by phreatophytes in riparian corridors (Butler et al., 2007, Water Resour. Res., 43, W02404; Loheide et al., 2005, Water Resour. Res., 41, W07030; www.kgs.ku.edu/Hydro/Phreato/index.html). Four weeks of the summer will be spent investigating new direct-push methods for estimating spatial variations in hydraulic conductivity (Liu et al., 2008, Water Resour. Res, v. 44, W02432, doi:10.1029/ 2007WR006078; Dietrich et al., 2008, Ground Water, 46, no. 2; Butler et al., 2007, Ground Water, 45, no. 4; www.kgs.ku.edu/Hydro/DirectPush/index.html). Two weeks will be spent on new slug test methods (Butler et al., 2003, Ground Water, 41, no. 5). The remainder of the summer will be spent on preparing the results of the

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research for publication.

REQUIRED QUALIFICATIONS: Relevant coursework in earth sciences or engineering. Interest in hydrogeology. Ability and willingness to participate in moderate physical activity in mid-summer temperatures in Kansas. Clear communication skills.

PREFERRED QUALIFICATIONS: Coursework in hydrogeology. Experience with Windows-based computers and Excel.

APPLICATION PROCEDURE: Apply online at <http://jobs.ku.edu>; search by Research Assistant title. Complete online application, provide contact information for three professional references, attach resume, and mail official college transcripts to: Annette Delaney, Kansas Geological Survey, The University of Kansas, 1930 Constant Avenue, Lawrence, KS 66047; PH: (785) 864-2152, FAX: (785) 864-5317, hr@kgs.ku.edu. For further technical information contact Jim Butler at jbutler@kgs.ku.edu or Ed Reboulet at reboulet@kgs.ku.edu. Additional information about the type of work to be done can be found at www.kgs.ku.edu/General/Personnel/abc/butler.html

University of Minnesota, Morris – Research experience for Undergraduates(REU) –
Field and Laboratory Research on
Glacial Sedimentology in Brazil and Surficial Geology of West Central, Minnesota

The program will run from Tuesday, June 16 through Monday, August 10, 2009. This is a 7-week residential program with a 16-day field research trip to Brazil.

Application Procedure

To Apply to the UMM REU program send: a one to two page explanation of your background, qualifications and why you are interested in REU; a copy of your college transcript; and two letters of support from faculty no later than February 27 2009 to

Professor James Cotter
Geology Discipline, REU
University of Minnesota, Morris
Morris, MN 56267

For more info, contact:

Phone: 320-589-6312

E-mail: cotterjf@morris.umn.edu

Web Page: <http://www.morris.umn.edu/grants/REUhome.htm>

Internship with EARTH Magazine

Do you like science and love to write?

Try out science writing with an EARTH magazine internship this summer.

We are currently accepting applications for a summer 2009 internship. The intern will work as a full member of the EARTH staff. Tasks include writing news articles for EARTH online, writing and editing news and trends articles for print, helping to edit and produce the magazine, and attending press briefings and science seminars in Washington, D.C., as needed. Based at the American Geological Institute in Alexandria, Va., the internship is 12 weeks long and includes a \$3,500 stipend. Starting time is flexible. All applications should be received by March 31, 2009.

A background in the geosciences, writing and design work is a plus. Send a resume, letter describing what you hope to gain from the internship and how your previous experience makes you most suitable for this position, and writing samples (no more than three) via e-mail, fax or mail to:

Attention: EARTH Summer Internship
American Geological Institute
4220 King Street Alexandria, VA 22302
Fax: (703) 379-7563
E-mail: earth@earthmagazine.org

Writing samples can include essays, newspaper or magazine articles, or samples from classroom work.

We want to see that you have a flair for writing and that you can describe science well.

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Geoscience Communications Opportunity at the American Geological Institute

The American Geological Institute currently has an opening for a Communications Specialist to work in the Communications Department. This program is focused on building exposure of the geosciences to the general public and to facilitate communications within the geosciences community. This position will work with other AGI staff to plan and execute conferences, build new communications approaches to facilitate information exchange between geoscientists and AGI's 45 Member Societies, work on initiatives to enhance the visual and popular accessibility of geosciences information, and to help broaden exposure of AGI's activities and mission. This is a full-time position based in Alexandria, Virginia, and ideal for an individual looking to build their network in the geosciences profession. Excellent communications skills required. A bachelor's degree in the geosciences is strongly preferred. Please email cover letter and resume to: asm@agiweb.org, and include the word Communications in the subject line.

AGI would like to bring to the attention of all geosciences students the US State Department's Laura W. Bush Traveling Fellowship in support of the UNESCO mandate.

This program provides funds to a student to work in a foreign country on a project that aligns with the UNESCO mandate, which includes the natural sciences. We encourage any student doing field research which connects geosciences with improving human development to consider applying for this program. More information is available at: <http://www.state.gov/p/io/unesco/c25426.htm>

The Bill Bell Chair in Petroleum Geology at The University of Western Ontario The Department of Earth Sciences is pleased to announce a search for a candidate for the Bill Bell Chair in Petroleum Geology. The starting date for the appointment will be July 1st, 2009, or thereafter and the appointment will be made at the rank of associate professor (probationary or tenure) or full professor (with tenure), commensurate with qualifications and experience.

The Department of Earth Sciences at The University of Western Ontario seeks a candidate with significant experience relevant to Petroleum Geology for The Bill Bell Chair in Petroleum Geology, made possible through a donation by Mr. Bill Bell. The Chair holder will have an established record in Petroleum Geology, and a history of interaction and/or employment with the petroleum industry. Research in the Department of Earth Sciences is organized into the broad themes of Earth and Planetary Systems; Resource GeoScience; Tectonic Processes and Natural Hazards; and Earth and Climate Evolution. The successful applicant will be expected to establish and maintain a vigorous, independently funded research program in Petroleum Geology, and to collaborate with other faculty members in one or more of our broad research themes. Preference will be given to qualified applicants whose research supports the Faculty of Science Initiative to Enhance Economic and Energy Resource Geology (see www.uwo.ca). Applicants must be prepared to supervise graduate students at the MSc and PhD levels and to teach broadly-based as well as specialized courses in Petroleum Geology and related fields, both at the undergraduate and graduate levels. The Department of Earth Sciences is a vibrant community of twenty-two full-time faculty members, nine support staff, 66 graduate students, and 10 post-doctoral fellows, research associates and instructors. The Department offers undergraduate and graduate programs in geology, geophysics, and environmental earth science, and is currently implementing a Professional Geoscience undergraduate degree program leading to registration, under guidelines published by the Canadian Council of Professional Geoscientists. The successful candidate will have access to a high calibre array of modern research facilities available within the newly renovated Biology and Geology Building, and research facilities in the Department of Physics and Astronomy and Surface Science Western, and the Nanofab Laboratory. More information about the Department is available at: www.uwo.ca/earth/ Review of applications will commence on March 1, 2009. A complete application includes a covering letter, a full curriculum vitae, the names, mail, email addresses, and phone/fax numbers of at least three referees, and a statement, not to exceed 500 words, explaining how background, experience and research accomplishments qualify you for this position, sent to: Dr. R. Gerhard Pratt, Chair, Department of Earth Sciences, eschair@uwo.ca The University of Western Ontario, London, Ontario CANADA N6A 5B7

Positions are subject to budget approval. Applicants should have fluent written and oral communication skills in English. All qualified candidates are encouraged to apply; however, Canadians and permanent residents will be given priority. The University of Western Ontario is committed to employment equity and welcomes applications from all qualified women and men, including visible minorities, aboriginal people and persons with disabilities.

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Rhodes University invites applications from suitably qualified candidates for the following position, from as early a date as possible. Recognizing that diversity is important in achieving excellence, we especially encourage South African members of designated groups to apply.

PRINCIPAL TECHNICAL OFFICER-DEPARTMENT OF GEOLOGY

The successful candidate will be responsible for day-to-day operation of the electron microprobe facility in the Department. Candidates must meet the following minimum requirements:

M.Sc. Degree in a relevant Science field plus 2 years relevant experience which may be obtained concurrently with studying

OR

Honours Degree in a relevant Science field plus 4 years relevant experience

OR

B.Sc. Degree or equivalent (3 years) plus 5 years relevant experience

OR

Matric plus 8 years relevant experience

Two years electron microprobe experience **AND/OR** analytical and/or laboratory experience **AND/OR** previous experience in designing, fabricating and repairing electronic equipment

THE FULL MINIMUM JOB REQUIREMENTS, AGAINST WHICH PROSPECTIVE CANDIDATES WILL BE MEASURED, ARE DETAILED IN THE JOB PROFILE

To be considered for this post, applicants must access the application requirements at <http://www.ru.ac.za/jobs> or contact 046 603 8004 for further information. The completed application, together with a curriculum vitae and the official addendum, should be received by Recruitment & Selection, Rhodes University, P O Box 94, Grahamstown, 6140, by 12 noon on Monday, 2 February '09.

SALARY NEGOTIABLE - COMMENSURATE WITH EXPERIENCE AND EDUCATION

Associate Professional Specialist - Laboratory Manager, Isotope Biogeochemistry

The Princeton University Department of Geosciences seeks to hire a full time associate professional specialist for the isotope biogeochemistry laboratory of Professor Daniel Sigman. Responsibilities include performing isotopic analyses and developing new analytical methods, overseeing laboratory operations, assisting graduate students and postdocs, and maintaining equipment, with the opportunity for participation in field work and in the interpretation and publication of results. Master's degree in science is required, as is experience in geochemistry, analytical chemistry, microbiology, or mass spectrometry. Salary commensurate with experience. Interested individuals should send a CV, a description of their training, experience, and career goals, and the names of at least 3 references to Ms. Deborah Fahey, Department Manager, Department of Geosciences, Princeton University, 114 Guyot Hall, Princeton, NJ 08544-1003. Princeton University is an equal opportunity/affirmative action employer and complies with applicable EEO and affirmative action regulations. For information about applying to Princeton and how to self-identify please link to http://www.princeton.edu/dof/about_us/dof_job_openings/

For more information about the research conducted in the Sigman laboratory, please see http://geoweb.princeton.edu/people/faculty/sigman/current_research.html and <http://geoweb.princeton.edu/people/faculty/sigman/pubs.html>

Questions regarding the position may be addressed to Prof. Daniel Sigman, who can be reached by email at sigman@princeton.edu

Cosmochemistry – Astrobiology Postdoctoral Fellow –Institute for Astronomy, University of Hawai'i Manoa

The Institute for Astronomy (IfA) in collaboration with the Hawai'i Institute for Geophysics and Planetology (HIGP) invites applications for two Post-doctoral Fellows with interests in cosmochemistry and isotopic studies of extra-terrestrial samples to join an exciting interdisciplinary group, the University of Hawai'i's NASA Astrobiology Institute (<http://www.ifa.hawaii.edu/UHNAI/>). The Fellowship will be available in early 2009 upon availability of funds. The Fellowship is for three years assuming satisfactory progress and continued availability of funds. Fellows will receive a stipend of

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approximately \$4,800 per month, a small relocation allowance and basic research costs. The UH lead team maintains an innovative and multi-disciplinary research environment linking astronomical, biological microbiological, chemical and geological sciences to investigate the origin, history and distribution of water and its relation to life in the Universe. The program centers around interactions with an interdisciplinary group of postdoctoral fellows. We are seeking individuals to participate in one or more of the following areas: 1) Origin of the Earth's water: this project involves measuring D/H ratios in samples from the Hawaiian and Icelandic hot spots by ion microprobe; 2) Experimental studies of hydrogen concentrations in nominally anhydrous minerals; 3) Studies of the timing of aqueous alteration in primitive chondritic meteorites using ²⁶Al, ⁵³Mn, and ⁶⁰Fe radiochronometers; and 4) Using oxygen isotopes to understand the processes involved in aqueous activity on meteorite parent bodies. Minimum qualifications include a Ph.D. in geology, isotope geochemistry, physics, or chemistry, a record of research in the field of expertise as demonstrated by publications, previous experience with microanalysis or mass spectrometry of natural samples. Experience with extraterrestrial samples microbeam techniques such as scanning electron microscopy, electron microprobe microanalysis, and/or secondary ion mass spectrometry (SIMS) is desirable. Education and public outreach is an integral part of the Astrobiology program and experience with or interest in E/PO will be considered positively in an application. Further details about the cosmochemistry research projects being carried out within the UH Astrobiology effort can be obtained from Dr. Gary R. Huss (ghuss@higp.hawaii.edu) or Dr. Alexander Krot (sasha@higp.hawaii.edu). Questions about the UH Astrobiology lead team's program may be directed to Dr. K. J. Meech (meech@ifa.hawaii.edu).

To Apply, please submit the following:

- Contact information - name, email, phone(s), fax, address.
- Current position and location
- Date of Ph.D and where and what field
- Date available if selected for Fellowship.
- If non-US citizen, visa status (note: funding only allows support for fellows on coming in on J1-visas)
- Current CV and Bibliography
- Letters of recommendation – Please arrange to have 3 letters of recommendation sent separately.

Application information can be sent (preferably by email) to:

Via snail mail to: Karen Ehrhorn, Institute for Astronomy, 2680 Woodlawn Drive, Honolulu, HI 96822.

Via email to: ehrhorn@ifa.hawaii.edu

Via fax to: NAI Postdoc application, Fax no. (808) 956-4644

Applications will be reviewed beginning February 1, 2009 and will remain open until the Fellowship is filled. The University of Hawai'i is an EEO/AA employer and encourages applications from women and minorities.

~ ~ ~ ~ ~ ~ ~ ~ **HAVE A GREAT WEEKEND!** ~ ~ ~ ~ ~ ~ ~ ~