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.

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"The Graduate Geoclub would like to express its gratitude to Aaron E. Masters, 2010 MS alumnus, for donating $2500 to club funds. This donation will benefit current social events, as well as support the organization of new events, activities, and field trips. Many thanks!"

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ANNUAL DEPARTMENT PICNIC

"Come on, come all to the annual department picnic, hosted by the Graduate Geoclub! Join us at Vilas park on Friday, September 23rd. Please note the time change from 6:30 pm to 5:30 pm due to the early setting sun. $7 for adults, free for kids. Payment is due in advance by Tuesday, September 20th. Hope to see you there!"

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Weeks Lecture

Speaker list - Fall 2011

<table>
<thead>
<tr>
<th>Date</th>
<th>Speaker</th>
<th>Faculty Sponsor</th>
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<tr>
<td>Friday, Sept 16, 2011:</td>
<td>Gary Weissmann, Univ. of New Mexico (Host: Chris Gellasch)</td>
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- 1 -
Use of Outcrop Analogs to Improve our Understanding of Subsurface Physical Heterogeneity

Physical heterogeneity is commonly invoked as a dominant control on contaminant dispersion in aquifers; however our ability to reasonably model and understand the geometry and distribution of heterogeneities in the subsurface is limited. Typically, we observe vertical variability at high resolution (e.g., centimeter scale) in core and geophysical well logs, but lateral heterogeneity is often poorly constrained in all but the most geologically simple aquifers. Few sedimentologists have quantified the lateral variability in lithofacies geometries and distributions. As a result, there is a great deal of uncertainty associated with development of realistic, geologically-based models used to represent heterogeneity. The sedimentologic character between wells typically consists of discontinuous beds with complex curvilinear geometries. Geostatistical models typically cannot accurately capture these geometries, and length scales used for these models are relatively poorly constrained. Indirect measurement via geophysical tools, such as GPR, also leaves uncertainty as to the geometry of beds. Given the inferred importance of interconnectivity between high and low conductivity units on the shape of contaminant plumes and breakthrough times recorded at remediation wells, additional methods are clearly required to quantify lateral heterogeneity. To better understand the lithofacies geometries that may be present in an aquifer, we have turned to outcrop analog analysis. We combine use of terrestrial lidar and high-resolution digital imagery with lithofacies analysis and groundwater modeling to evaluate the geometric form and impact of physical heterogeneities. Terrestrial lidar uses a near-infrared laser to scan an outcrop, producing a high density (<5mm spacing) x, y, z reflection point cloud. The addition of digital photography and field mapped lithofacies distributions to this dataset produces a rich three-dimensional outcrop model. Assigning hydraulic conductivity values to lithofacies types allows us to produce 2D and 3D heterogeneous groundwater models that capture realistic geometries and facies distributions. Field work has been conducted in 1) braided river deposits near Albuquerque, New Mexico, 2) braided river deposits of the upper Ringold Formation near the Hanford Site, Washington, and 3) on glacial fluvial-lacustrine exposures at a sand quarry in aquifer sediments of the Borden site. Resulting models in all locations capture both realistic facies and hydraulic conductivity heterogeneity geometries and show the significance of flow focusing in relatively higher-conductivity cross-bed laminae. Using these models, we can replicate non-Fickian breakthrough patterns that are commonly observed in contaminant breakthrough studies.

The Distributary Fluvial System (DFS) Paradigm: Observations of Fluvial Form in Modern Continental Sedimentary Basins

When we think of fluvial systems and associated soils and their preservation in the rock record, we typically draw upon our experiences with tributary rivers which are the most common in the world. Indeed, most facies models that we use to interpret the rock record have been developed on tributary rivers that exist outside active sedimentary basins or, if the river system studied lies within a sedimentary basin, the models developed typically do not place the studied reach into the context of the basin. A review of over 700 modern continental sedimentary basins around the world showed that rivers in active sedimentary basins are generally deposited either (1) as distributive fluvial systems (DFS), variously called megafans, fluvial fans, and even alluvial fans in the literature, or (2) as tributary systems in an axial position that parallel the basin trend or in an interfan area between the large megafans, with the vast majority of sedimentation in the basin occurring on the DFS. In these continental sedimentary basins, we have identified over 400 fluvial megafans (>30km in length), with countless smaller DFS filling the basins. These observations have implications for the interpretation of ancient fluvial deposits and the soils that form on these deposits. Rivers on DFS differ from rivers in degradational settings in...
many, potentially significant ways, including (1) a radial pattern of channels away from an apex (or intersection point) exists on DFS, (2) channel systems commonly decrease in width and discharge and thus cross-sectional area distally, (3) rivers on DFS do not lie within valleys unless the system is in an incised phase, (4) meanderbelts tend to be more laterally mobile on the open DFS, forming “simple” meanderbelts rather than “amalgamated” meanderbelts during aggradational phases on the DFS, (5) floodplain deposits on DFS are often dominated by avulsion deposits, especially in distal portions of the DFS, (6) greater preservation of floodplain deposits appears to occur on DFS dominated by braided streams than found in braided streams of tributary systems, and (7) axial streams in a basin, if confined laterally, and rivers that are incised into the DFS appear to be similar in character to tributary systems. We also expect soil morphology to vary with position on DFS, with different soil types found in proximal, medial, and distal locations as well as laterally away from the active channel belt. Additionally, cycles of incision and aggradation should develop characteristic soil distributions. We believe that this alternative view to fluvial facies distributions can lead to advances in facies distribution prediction based on paleosol character and channel belt geometries on DFS.

Friday, Sept 23, 2011:

Jessica Tierney, Lamont Doherty Earth Observatory (Host: Anders Carlson)

“Biomarker perspectives on African climate”

Friday, Sept 30, 2011:

Dave DesMarais, NASA Ames (Host: Clark Johnson)

BOV

Thursday, Oct 6, 2011: Noon

Steve Silliman, Notre Dame Darcy Lecture (Host: Bahr)

Friday, Oct 14, 2011:

Terry Plank, Columbia University/LDEO (Host: Singer)

Friday, Oct 21, 2011:

Local Speaker

Friday, Nov 11, 2011:

Greg Hirth, Brown University (Host: Bonamici)
Friday, Nov 18, 2011:
Sumit Chakraborty, MSA (Host: Valley)

Friday, Feb 10, 2011:
Greg Waite, Michigan Tech (Host: DeMets)

Friday, Feb 17, 2011:
Margaret Fraiser, UW-Milwaukee (Host: Peters)

Friday, Oct 28, 2011:
Chongxuan Liu, Pacific Northwest National Lab (Host: Huifang Xu)

Friday, Nov 4, 2011:
Steve Wesnousky, U.Nevada-Reno Tectonics Institute (Host: DeMets)

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

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

Friday, Apr 13, 2011:
BOV
NATIONAL SCIENCE FOUNDATION EAST ASIA AND PACIFIC SUMMER INSTITUTES FOR U.S. GRADUATE STUDENTS - 2012 APPLICATION NOW OPEN

(suggest www.nsfsi.org)

The National Science Foundation (NSF) East Asia and Pacific Summer Institutes for U.S. Graduate Students (EAPSI) is a flagship international fellowship program for developing the next generation of globally engaged U.S. scientists and engineers knowledgeable about the Asian and Pacific regions. The Summer Institutes are hosted by foreign counterparts committed to increasing opportunities for young U.S. researchers to work in research facilities and with host mentors abroad. Fellows are supported to participate in eight-week research experiences at host laboratories in Australia, China, Japan (10 weeks), Korea, New Zealand, Singapore and Taiwan from June to August. The program provides a $5,000 summer stipend, round-trip airfare to the host location, living expenses abroad, and an introduction to the society, culture, language, and research environment of the host location.

The 2012 application is now open and will close at 5:00 pm proposer’s local time on November 9, 2011. Application instructions are available online at www.nsfsi.org. For further information concerning benefits, eligibility, and tips on applying, applicants are encouraged to visit www.nsf.gov/eapsi or www.nsfsi.org.

NSF recognizes the importance of enabling U.S. researchers and educators to advance their work through international collaborations and the value of ensuring that future generations of U.S. scientists and engineers gain professional experience beyond this nation's borders early in their careers. The program is intended for U.S. graduate students pursuing studies in fields supported by the National Science Foundation. Women, minorities, and persons with disabilities are strongly encouraged to apply for the EAPSI. Applicants must be enrolled in a research-oriented master's or PhD program and be U.S. citizens or U.S. permanent residents by the application deadline date. Students in combined bachelor/master degree programs must have matriculated from the undergraduate degree program by the application deadline date.

The first Summer Institutes began in Japan in 1990, and to date over 2,400 U.S. graduate students have participated in the program.

Should you have any questions, please contact the EAPSI Help Desk by email at eapsi@nsfsi.org or by phone at 1-866-501-2922.

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JOB OPENINGS:
Natural Resource Technology, Inc. (NRT) is seeking an entry-level candidate (0 to 2 years) with a BS/MS degree in environmental engineering, hydrogeology, or environmental science.

The Institute of Environmental Science and Technology (ICTA) at the Universitat Autònoma de Barcelona (UAB) invites applications for a Fellowship in Marine Palaeoclimatology of 16 Months for an Experienced Researcher (ER) at the Post-Doctoral Level.

The Faculty of Science at the University of Helsinki is announcing an open tenure-track position in GEODYNAMIC MODELLING at the Institute of Seismology under the Department of Geosciences and Geography.

The Geology Department at Southern Illinois University Carbondale invites applications for a postdoctoral fellowship in petrology.

Position Opening: Museum Specialist (Geology) - The Department of Mineral Sciences at the Museum of Natural History in Washington, D.C.

Position title: (Post Doc) Research Associate - North Carolina State University.

The Department of Geology at the University of Cincinnati is currently soliciting applications for a Laboratory Manager position.

The U.S. Geological Survey Alaska Science Center (ASC) has an opening for a permanent, full-time Research Geologist in Anchorage, Alaska.

Postdoctoral Research Associate in Geochemistry or Environmental Science at Oak Ridge National Laboratory.

Postgraduate Research Associate in Geochemistry or Environmental Science at Oak Ridge National Laboratory.

Natural Science Research Curator III, NC.

JOB OPENINGS:

Natural Resource Technology, Inc. (NRT) is seeking an entry-level candidate (0 to 2 years) with a BS/MS degree in environmental engineering, hydrogeology, or environmental science. Our projects include investigation, remediation, and construction oversight at soil, groundwater, and sediment contamination sites; compliance and due diligence assessments; and environmental monitoring for clients such as power companies, industrial corporations, law firms, government, and industry research associations throughout the U.S. The successful candidate for this position will initially engage in collection and analysis of field data, construction/remediation oversight, and documentation. With experience, this candidate will assume responsibilities for proposals, project planning, and preparation of reports communicating NRT’s observations, evaluations, and conclusions. We routinely work in project teams, comprised of internal and external members, because our projects often transcend multiple engineering and scientific disciplines. This teaming structure requires strong oral and written communication skills as well as the agility to transition from extended field assignments to the office environment. An ideal candidate works well independently and within a team environment. Position: Environmental Engineer, Hydrogeologist, or Environmental Scientist.

Position Location: Pewaukee, Wisconsin

Position Start: Fall 2011 or Winter 2012

Position Classification: Full-time Salary

Essential Position Abilities

• Appropriately apply scientific and engineering principles and concepts to area of specialization; able to draw solutions from education and formal training. Experience an asset, but not required.

• Ability to conduct and direct measurements and sample collection including documentation of field tasks, data tabulation, and report preparation.
Knowledge of federal, state and local environmental regulations and programs is an asset.
Ability to participate in field assignments requiring travel through the US, primarily in the Midwest.

Basic Qualifications
- BS/MS environmental engineering, hydrogeology, or environmental science related fields.
- 0 to 2 years environmental consulting experience. Wisconsin and/or Illinois regulatory experience a plus.
- OSHA HAZWOPER 40-hour certification and current 8-hour refresher training an asset, not required.

The Institute of Environmental Science and Technology (ICTA) at the Universitat Autònoma de Barcelona (UAB) invites applications for 1 Fellowship in Marine Palaeoclimatology of 16 Months for an Experienced Researcher (ER) at the Post-Doctoral Level.

The fellowship is sponsored by the 7th Framework Programme of the European Community as part of the Marie Curie Initial Training Network “GATEWAYS”.

The ER fellowship is directed towards reconstructing the Late Pleistocene ocean circulation of the Agulhas Current regime off southern Africa and its relation to the climate variability in the Southwest Indian Ocean and beyond. We seek a candidate with expertise in either of the fields of stable isotopes (δ18O, δ13C) and trace element geochemistry (Mg/Ca, Cd/Ca) or radiogenic isotopes. For further information about the GATEWAYS project visit [www.gateways-itn.eu](http://www.gateways-itn.eu)

Eligibility. EC Marie Curie ITN recruitment and mobility regulations apply. Eligible for the ER fellowship at the ICTA/UAB are:
- Spanish nationals who have legally resided and had their main activity outside Spain and the EU (i.e., in a non-associated third country) for at least three of the last four years immediately prior to the appointment;
- Non-Spanish nationals who have not resided or carried out their main activity in Spain for more than 12 months in the 3 years immediately prior to the appointment (short stays such as holidays are not taken into account);
- Fellows who at the time of their appointment are within the first 5 years (full time equivalent) of their career, starting from the date when the degree was obtained that was required to embark on their doctoral programme.

Application documents. Applicants who fulfil the above criteria submit by email a letter of intent stating their interest in the GATEWAYS project; their Curriculum Vitae showing, amongst others, their University education background; the names, addresses, email and telephone numbers of two referees who the search committee can contact for letters of reference.

Contact. GATEWAYS Project Office, Universitat Autònoma de Barcelona, Institut de Ciencia i Tecnologia Ambientals, Cerdanyola del Vallès, Spain
Email: pr.gateways.itn@uab.cat

Deadline for applications is the 25th of October 2011

The Faculty of Science at the University of Helsinki is announcing one open tenure-track position in GEODYNAMIC MODELLING at the Institute of Seismology under the Department of Geosciences and Geography. The Department of Geosciences and Geography is the leading Finnish institute for research and teaching in the field. In addition to carrying out research and teaching in geology and geography, the Department conducts seismological research and performs public duties related to seismology. The Department has an overall budget of over seven million euros and employs a staff of more than 100, including 14 professors. The research conducted at the Department is based on active participation in national and international research and observation networks. The strengths of the Department of Geosciences and Geography and the Institute of Seismology include multidisciplinarity, modern laboratories and sounding materials as well as outstanding scientific research.
The appointee is expected to conduct internationally outstanding research. In addition, he or she is expected to take advantage of national and international research funding opportunities, participate in teaching and doctoral education provided at the Department and actively promote interaction between academia and society at large. The appointee should preferably be focused on the modelling of physical processes that shape the Earth, particularly numerical modelling of the geodynamic processes of the crust. He or she should preferably assemble a research team to conduct the said modelling, and utilise the existing high quality geoscientific observation data of the Department in his or her work. A good international partnership network is a prerequisite for the successful completion of this task.

The appointee will be part of the ECO Research Community operating at the Department. The ECO research group consisting of researchers and postgraduate students in geology and geophysics studies the formation and development of continents, tectonic movement and related magmatic activity, earthquakes and the formation of mountains, which are key factors in the formation of mineral resources and guide the processes that shape the climate and biosphere. The teaching duties of the assistant professor will be related to the teaching of dynamic processes and their modelling at the Division of Geology.

The starting salary will be EUR 4,000-4,900 a month depending on the applicant's qualifications and work experience.

Applications must be accompanied by the following English-language enclosures: a CV, a list of publications, a report on experience and merits relevant to the assessment of the applicant's teaching skills as well as other documents that may be relevant to the selection; or, alternatively, an English-language academic portfolio containing the above-mentioned documents and information (for instructions, see http://www.helsinki.fi/facultyofscience/vacancies/portfolio.pdf). In addition, applicants are expected to enclose with their application an English-language report (max. two pages) on how they intend to develop research in the field, if appointed.

Upon request from the Faculty, applicants should prepare to submit ten publications of their own choice to be sent to assessors after the application period. The publications must be submitted by email as PDF attachments.

Applications must be addressed to the Faculty of Science. The Faculty requests that the applications, together with the required enclosures, be sent to the Registry of the University of Helsinki by email: hy-kirjaamo@helsinki.fi. Applications can also be sent by post to the following address: Registry of the University of Helsinki, P.O. Box 33 (Yliopistonkatu 4), 00014 University of Helsinki, Finland. The closing date for applications is 12 October 2011 at 15.45 local Helsinki time.

Further information about the position may be obtained from Professor Tapani Rämö, tapani.ramo@helsinki.fi, +358 9 191 50810, +358 40 526 0636.

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The Geology Department at Southern Illinois University Carbondale invites applications for a postdoctoral fellowship in petrology. The successful candidate will work with Dr. Justin Filiberto in NASA-funded efforts, focusing on analytical and experimental studies of martian basalt degassing as the source of 'acid fog' and of halogens in the soil. These efforts focus on volatile elements (specifically halogens) in planetary magmas, Martian meteorites, terrestrial analogs, and experimental studies, starting with analyses by optical microscopy and electron microprobe. The candidate will be encouraged to design and conduct their own research in petrology. Applicants must hold a Ph.D. in geology or a related field or show that they will complete all degree requirements by the time of appointment. The applicant must specialize in petrology or geochemistry; experience with planetary materials and/or experimental equipment is recommended. The position would be for one year, with possible extension up to four years depending on performance and funding.

Southern Illinois University Carbondale is a large, research-oriented institution situated in a pleasant small-town setting southeast of St. Louis. The Geology Department has a full-time faculty of 11 with about 70 undergraduate and 30 M.S. and Ph.D. students. For further information, please visit http://www.geology.siu.edu/.

Effective Date of Appointment: November 1, 2011.

Application Deadline: Review of applications will begin immediately and continue until the position is filled.
Application Procedure: Applicants should submit curriculum vitae, a statement of research interests, and the names and contacts of at least three referees to (email is preferred):
Dr. Justin Filiberto
Southern Illinois University Carbondale
Department of Geology, Mailcode 4324
1259 Lincoln Drive
Carbondale, Il 62901  Fax: 618-453-7393
SIUC is an Affirmative Action/Equal Opportunity employer that strives to enhance its ability to develop a diverse faculty and staff and to increase its potential to serve a diverse student population. All applications are welcomed and encouraged and will receive consideration.

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Position Opening:  Museum Specialist (Geology)
The Department of Mineral Sciences at the Museum of Natural History in Washington, D.C. has a position opening in our analytical laboratories. We are seeking a person to assist a small group of full time researchers engaged in the study of meteorites, mineralogy, volcanology, igneous and metamorphic petrology, experimental petrology and biomineralogy.
The duties of this position include sample preparation, fabrication of custom-designed parts and sample holders and assistance in the Analytical Scanning Electron Microscope and Electron Microprobe Laboratories.
Preparation of thin sections and polished mounts of a wide variety of materials including Antarctic meteorites, rocks and experimental products is an essential part of this position. The position also includes basic machining and fabrication of parts from a variety of materials for use in the analytical and experimental laboratories. In addition, this person will serve in a backup role in our electron beam laboratories assisting users and troubleshooting hardware and software issues.

We are looking for self-motivated applicants with a background in geologic sciences and the ability to work well in an exciting workplace with many challenges. All applicants must apply online at the USAJOBS website. No other applications can be accepted.
To apply please go to (open to the public):
http://jobview.usajobs.gov/GetJob.aspx?JobID=102153641&JobTitle=Museum+Specialist+(Geology)&brd=3876&vw=b&FedEmp=N&FedPub=Y&x=78&y=15&jbf574=SM03&AVSDM=2011-09-02+00%3a03%3a00
Or for persons with status (current or former Federal employees):
http://jobview.usajobs.gov/GetJob.aspx?JobID=102153593&JobTitle=Museum+Specialist+(Geology)&brd=3876&vw=b&FedEmp=Y&FedPub=Y&x=78&y=15&jbf574=SM03&pg=2&re=3&AVSDM=2011-09-02+00%3a03%3a00
Visit our website for more information about us:  http://mineralsciences.si.edu/ or contact Tim Rose (roset@si.edu), Analytical Laboratories Manager

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Position title: (Post Doc) Research Associate - North Carolina State University

Essential responsibilities: Seeking an exceptional postdoctoral associate to conduct independent research in support of their core study areas of biomineralization and bioweathering. These topics include the interactions of microbial exudates (siderophores) with mineral surfaces and metals, and/or the microbially induced formation of minerals. Activities may include conducting traditional geochemical experiments, molecular modeling, electron and force microscopies, and/or cutting-edge spectroscopic techniques to better understand the fundamental mechanisms of biogeochemical processes. Opportunities exist to interact closely with a group of distinguished intramural and extramural collaborators. Related activities include laboratory work; supervising graduate students; data analysis; report, manuscript, and proposal preparation; and presentation of research at
local, regional, and national meetings. More information about the soil biogeochemistry laboratory group can be found at the webpage: http://www4.ncsu.edu/~owduckwo/

**Qualifications:** A Ph.D. in chemistry, geochemistry, environmental engineering, geology, soil science, or a related discipline is required. The successful candidate should have the demonstrated ability to design experiments and conduct independent chemical research. Excellent written and verbal communication skills are essential. A strong publication record is highly desirable.

**For more information and informal consideration:** Please send a CV and cover letter to Owen Duckworth (owen_duckworth@ncsu.edu). Application materials will be accepted until October 15, 2011 or until a suitable candidate is found. The formal application procedure will be posted on the North Carolina State University website soon.

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**The Department of Geology at the University of Cincinnati is currently soliciting applications for a Laboratory Manager position.** This is a full-time position with support from the university. Please distribute to anyone who might be interested.

**Job Description:** Under general supervision from a designated administrator, this person will be responsible for technical management of research facilities and laboratories in a university academic/research department. Assumes primary responsibility for building operations. Manage research/instructional support for the Quaternary geochronology, geochemical and paleoecology laboratories. Responsible for procurement activities in laboratories. Design, maintain, and engineer geochronologic and geochemical systems for research.

**Qualifications:** Bachelor's degree with three (3) years experience; -OR- Associate's degree with (5) years experience; -OR- seven (7) years experience. Degree must be in a related field. Experience must be in a laboratory environment or based on college/department requirements. Experience must also include at least three (3) years supervision.

**To apply:** Only online applications will be considered. Applicants should apply online at https://www.jobsatuc.com (search for Position #: 211PV1255). The position will be open until filled.

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**Position Announcement - Research Geologist in Igneous Petrology & Tectonics**

The U.S. Geological Survey Alaska Science Center (ASC) has an opening for a permanent, full-time Research Geologist in Anchorage, Alaska. The researcher will design, conduct, and lead field and laboratory studies to investigate processes of magma generation and crustal growth, as well as patterns of magmatism as they relate to tectonic setting, primarily in Alaska. Candidates with interest in all aspects of igneous petrology, but especially regarding the relationship between magmatism and tectonics, are encouraged to apply. The position is one of four new research positions at the ASC (others are neotectonics, basin sedimentology, and structural geology). The ASC geology office includes individuals with expertise in regional bedrock geology, metamorphic geology, sedimentology, carbonate sedimentology, aqueous geochemistry, ore deposits, structural geology, igneous geology, geochronology, and tectonics. It is co-located with the USGS part of the Alaska Volcano Observatory, which employs researchers with expertise in seismology, geodesy, geochemistry, petrology, and field geology. To learn more about the position, please visit http://www.usajobs.gov/ and search for PAC-2011-0510 for the MP/status announcement and PAC-2011-0511 for the DEU/non-status announcement. Applicants must COMPLETELY SUBMIT their applications via USAJOBS before Midnight EASTERN time on Friday, September 30, 2011. Please contact Michelle Coombs (mcoombs@usgs.gov) or Alison Till (atill@usgs.gov) with questions about this opportunity. For questions about the USAJOBS website, contact: Beverly Ledbetter, USGS Human Resources (916-278-9399 or pacpac2@usgs.gov).
Postdoctoral Research Associate in Geochemistry or Environmental Science at Oak Ridge National Laboratory

Project Description: The Environmental Sciences Division (ESD), http://www.esd.ornl.gov, at Oak Ridge National Laboratory (ORNL), http://www.ornl.gov, has between one and two post-doctoral positions available immediately. We see team oriented candidates with a broad interest and experience with the applying experimental and computational techniques to study low-temperature mineral/glass dissolution processes under near-equilibrium conditions. Candidates are being sorted to support a range of projects focused on developing an improved understanding of mineral and glass weathering across a range of time- and length-scales to predict contaminant release and migration from subsurface/geologic disposal environments. Within this broad context, the candidate is expected to contribute to existing projects related to mineral and natural glass weathering that relates mineral/glass structural properties, measured with various spectroscopic techniques, with processes occurring at the mineral-water interface. Primary responsibilities will include overseeing laboratory-scale experiments, data collection and analysis, active participation in scientific conferences, and timely publication of experimental and modeling research. Experience in the use and application of spectroscopic and computational methods used to characterize the structure of alumino-silicate minerals and glasses, particularly the use of neutron diffraction through the use of ORNL's new Spallation Neutron Source, is highly desired.

Technical Questions:
Questions regarding the position can be directed to Dr. Eric Pierce at pierceem@ornl.gov. Please include the requisition number and title when corresponding.

Qualifications:
Ph.D. required in Geochemistry, Environmental Science, Soil Chemistry, Chemistry, or related field. Applicants cannot have received the most recent degree more than five years prior to the date of application and must complete all degree requirements before starting their appointment.

Postgraduate Research Associate in Geochemistry or Environmental Science at Oak Ridge National Laboratory

Project Description: The Environmental Sciences Division (ESD), http://www.esd.ornl.gov, at Oak Ridge National Laboratory (ORNL), http://www.ornl.gov, has an immediate opening for one postgraduate fellowship in geochemistry, environmental science, soil chemistry, computational chemistry, or a related field. The candidate is expected to support projects focused on the study of geological processes involving fluid flow, including flow through porous materials. Within this broad context, the candidate is expected to contribute to existing projects related to mineral and natural glass weathering. Primary responsibilities will include conducting laboratory-scale experimentation and support the preparation of journal manuscripts.

Technical Questions:
Questions regarding the position can be directed to Dr. Eric Pierce at pierceem@ornl.gov. Please include the requisition number and title when corresponding.

Qualifications:
M.S. or B.S. required in Geochemistry, Environmental Science, Soil Chemistry, Chemistry, or related field. Applicants cannot have received the most recent degree more than five years (3 years for Bachelor's grads) prior to the date of application and must complete all degree requirements before starting their appointment.

Position: Natural Science Research Curator III
Working Title: Natural Science Research Curator III  
Vacancy Number: 60034979  
Salary Grade: FR  
Salary Range: $1.00 - $25,000.00 per hour  
Hiring Range: $46635 - $79473  
Department: Environment Natural Resources  
Division: ENR SO DS MNS DO RESEARCH /COLLECTION SO  
Type of Appointment: Perm Full-Time  
Location: Raleigh  
Posting Date: 09/02/2011  
Closing Date: 09/30/2011  
Number of Positions: 1

**Description of Work**

Supervises the Research and Collections Section of the Museum of Natural Sciences and conducts research in a field of natural sciences in line with the Museum’s mission to build, house, curate, and maintain research collections of natural history materials for the Museum and NC; study the specimens and data that make up these collections; disseminate this information through published scientific and popular articles and other means (exhibit copy, correspondence, etc) and to increase biological knowledge through independent research. Research and Collections Section include Paleontology, Geology, Aquatic Invertebrates, Crustaceans, Terrestrial Invertebrates, Fishes, Amphibians, Reptiles, Birds and Mammals. Position supervises 8 positions and oversees activities for a permanent staff of 17. The Director of R&C serves on the Museum’s Mgmt Team and has an active role in proposing and developing research and collection policies current with policy changes in the natural history museum community, in systematics collections institutions, and in governments. The Director of R&C must work closely with NRC Director to integrate research activities throughout the Museum.

**Knowledge, Skills and Abilities**

Thorough knowledge of the principles and practices of museums, universities, academia, and/or scientific research organizations; demonstrated ability to develop and implement policies and procedures relative to the administration of a diverse research program; ability to attract high quality staff and supervise a staff of professional, technical and clerical personnel; ability to establish and maintain effective working relationships with public and private partners and individuals; ability to fund-raise as demonstrated by an established record of fund-raising from federal, state and/or private resources; good communication skills to all audiences; ability to keep abreast of advancements in several fields of research, curatorial standards and museum ethics issues; Experience in managing employees with regard to work planning and performance reviews, counseling and disciplining employees, resolving grievances, preparing job descriptions, and interviewing and selecting new hires; demonstrated ability to develop long range plans, manage budgets and manage research scientists with special expertise in the needs of research collections.

**Training and Experience Requirements**

Doctorate Degree in biology, environmental sciences, science education or other science curriculum related to the area of expertise and 3 years of progressive, responsible experience in a related field; or an equivalent combination of training and experience. Preferred: PhD and experience in original research in a field of natural sciences related to collections Degrees must be from appropriately accredited institutions.

**How to Apply:**

An applicant must complete and submit a separate State Application for Employment form (PD-107), listing the position number and job title for the position applied for. DENR uses the Merit-Based Recruitment and Selection Plan to fill positions subject to the State Personnel Act with most qualified individuals. Resumes will not be accepted in lieu of a PD-107. Original application must be signed, dated and mailed to the contact person.
listed. Applicants seeking Veteran's Preference with State Government should submit a copy of Form DD-214. All relevant experience must be listed on the PD-107 application form to receive proper credit; any information omitted from the application form cannot be considered for qualifying credit. Applications must be received by 5:00 p.m. on the closing date. Applications received after 5:00 p.m. on the "closing date" will not be considered. When a salary range is posted the actual salary will be based on relevant competencies, knowledge, skills and ability, training, internal equity and budgetary considerations pertinent to the advertised position. All essential education and experience documentation must be indicated on the PD-107.

Contact Person: Laura Oakley

Contact Agency: Environment Natural Resource
Contact Address: 1626 Mail Service Center Raleigh, NC 27699-1626
Contact Phone: 919-733-7450
Contact Fax: 919-716-0094

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