

GEOBULLETIN
SEPTEMBER 19TH 2014

*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 Wednesday.

WEEKS LECTURE – FALL 2014

Date	Speaker	Institution	Host
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WEEKS LECTURE



Joanne Stubbs
University of Chicago

***Sep 19th, 2014, Friday, Noon,
Room A320 - Weeks Hall***

**Oxidative corrosion of uraninite (UO₂) by
non-classical solid-state diffusion**

Uraninite and synthetic UO₂ play central roles in nearly every stage of the nuclear fuel cycle, from mining through fuel fabrication and use, to environmental remediation. The solubility and dissolution kinetics of uraninite depend on the oxidation state of uranium, therefore understanding the mechanisms of UO₂ oxidative corrosion is essential to predicting its chemical stability. We present evidence from crystal truncation rod (CTR) x-ray diffraction of the incorporation of oxygen interstitial atoms below the UO₂ (111) surface at room temperature and atmospheric pressure. Oxygen enters discrete planes parallel to the surface with three-layer periodicity, resulting in a complex, oscillatory oxidation front. Using first principles computational methods we show this non-classical diffusion is driven by electron transfer from multiple uranium atoms to each interstitial

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oxygen. X-ray photoelectron spectroscopy shows U(IV) is oxidized to both U(V) and U(VI). Oxidation under liquid water results in dissolution and roughening of the surface, which is enhanced in the presence of dissolved CO₂. Similar oxygen surface penetration and layer contraction are observed upon oxidation of the (100) surface. The structures determined here contrast with previously published structures for bulk UO_{2+x} and U₄O₉, and highlight the importance of surface structures in controlling surface-mediated processes such as corrosion and dissolution.

Sep 19th, 2014, Friday, 3:30 PM Room AB20 - Weeks Hall
Synchrotron Tools for Geoscientists

GeoSoilEnviroCARS (GSECARS) is a national synchrotron x-ray user facility at the Advanced Photon Source (APS) dedicated to forefront research on earth materials and open to the entire scientific community. This presentation will focus primarily on synchrotron-based surface and interface science tools available at GSECARS. Examples of recent research in this field ranging from environmental fate and transport of contaminant metals to the chemistry of the early solar system will be discussed. Other capabilities will also be briefly reviewed, including high pressure research with the laser-heated diamond anvil cell and multi-anvil press, x-ray absorption fine structure spectroscopy, x-ray fluorescence microprobe, microtomography and *in-situ* powder diffraction.

26-Sep-14	Patricia Gregg	University of Illinois	Feigl (F)
3-Oct-14	Rusty Riese		Cardiff (F)
10-Oct-14	Patrick Fulton	UC Santa Cruz	Tobin (F)
17-Oct-14	NONE (GSA)		
24-Oct-14	Tomochika Tokunaga	University of Tokyo	Wang/Hart
31-Oct-14	Jay Zambito	WGNHS	Carroll (F)
7-Nov-14	Jessi Meyer		Cardiff (F)
14-Nov-14	Francis Macdonald	Harvard University	Peters (F)
21-Nov-14	Rusty Riese		
5-Dec-14	Larry Band	UNC-Chapel Hill (GSA Birdsell-Dreiss Distinguished Lecturer)	Wang/Bahr
12-Dec-14	NONE (AGU)		

JOB OPENINGS:

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- Assistant Professor of Earth and Planetary Sciences, Washington University In St. Louis
- Earthquake Associate Position -Swiss Re - US - NY – Armonk
- Postdoctoral Research Assistant required, Durham University, U.K.Seismic tomography
- Assistant Professor Structural Geology and Tectonics – University of Missouri
- Assistant Professorship in Geochemistry - New Mexico Institute of Mining and Technology
- Postdoctoral Scholar Positions in Geodynamics – Caltech
- Head of Department, Tectonophysics – GNS Science, Wellington, New Zealand
- Head of Department, Volcanology – GNS Science, Taupo, New Zealand

- Tenure-Track Faculty Position in Structural Geology/Tectonics - Department of Geological and Atmospheric Sciences, Iowa State University
- Tenure Track Assistant Professor: Geophysics California State University Northridge
- Sandia National Laboratories- Geosciences Engineer (Senior or Principal) - Carlsbad, New Mexico
- The Department of Earth, Planetary & Space Sciences seeks an assistant professor in geology- The University of California
- Assistant Professorship in Geochemistry - The New Mexico Institute of Mining and Technology
- Tenure-Track Faculty Position in Chemistry of Earth Materials-University of Southern California
- Postdoc opportunity at USGS

JOB OPENINGS:

Assistant Professor of Earth and Planetary Sciences, Washington University In St. Louis

The Department of Earth and Planetary Sciences at Washington University in St. Louis invites applications for a tenure-track Assistant Professor in high-T geochemistry, isotope geochemistry, or cosmochemistry. The ideal candidate will combine analytical and theoretical approaches to study the chemical and isotopic evolution of Earth, other terrestrial planets, and/or small bodies of the Solar System. The successful candidate will be responsible for developing a vigorous, externally funded research program, teaching a range of undergraduate and graduate courses, writing for publication, advising students, and university service.

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We seek individuals who will enhance existing strengths in geochemistry and cosmochemistry, petrology, and solid-earth geophysics. Candidates must have a Ph.D. with a focus in high-T geochemistry, isotope geochemistry, cosmochemistry, or a related field, at the time of appointment. A wide range of instrumentation is available in the EPS department including a Neptune Plus multicollector ICP-MS, Cameca 7f-geo SIMS, and many other related and supporting analytical facilities. The appointment includes membership in the McDonnell Center for the Space Sciences, a world-class intellectual cluster in the field of space sciences.

Interested individuals should send a letter of application, curriculum vitae, statement of teaching and research interests, and names and contact information of at least four references to Prof. Brad Jolliff, Geochemistry Search Committee Chair, Washington University, Campus Box 1169, 1 Brookings Drive, St. Louis, MO 63130, or via e-mail: geochem_search@levee.wustl.edu. Women and minority candidates are encouraged to apply. Washington University is an equal opportunity/affirmative action employer. Employment eligibility verification required upon employment. Applications will be considered until the position is filled, but priority will be given to those received by November 15, 2014.

Earthquake Associate Position -Swiss Re - US - NY - Armonk

Start date: Summer 2015

Swiss Re has a job opening for an earthquake specialist via our graduates@swissre program. The position is open for a recent (<2 years) masters or Ph.D. graduate in civil/structural engineering or geophysics, with broad knowledge and understanding of how to quantify earthquake hazard and risk. An ideal candidate will combine strong technical abilities and communication skills with an ability to work as part of a team. Further details about the company, job and graduates@swissre program are provided in the official link as follows:

https://entry.swissre.com/sap/bc/erecruiting/posting_apply?param=cG9zdF9pbnN0X2d1aWQ9M0M0QTkyRUQ4M0MwMUVENDhDRUVDNjIwRkJFRDhDODUmY2FuZF90eXBIPSZwb3N0aW5nX3RleHQ9eWVz&sap-client=100

Applicants are encouraged to apply as soon as possible, Please apply via the official channel, but I can try to answer specific questions via e-mail at Iain_Bailey@swissre.com.

Postdoctoral Research Assistant required, Durham University, U.K.Seismic tomography

Applicants are invited to apply for a Postdoctoral Research Assistant position, to work with Prof. Gillian R. Foulger and Dr. Bruce R. Julian as part of the EC funded Project [MED-SUV - MEDiterranean SUPersite Volcanoes](#) □. The Durham University contribution to MED-SUV will investigate the structure and time-varying structure of Mt. Etna. The project will use earthquake- and explosion data gathered in recent years to conduct seismic tomography and time-varying tomography, with the aim of creating a time-dependent structural model of Mt. Etna. "The MED-SUV project involves a consortium of scientific and industrial partners as well as public agencies with long experience covering the entire volcanic risk management cycle, from observations to public communication. The partners bring critical infrastructure, world-class monitoring networks, laboratories, computer facilities and diverse expertise. Full details of the project can be found on the website <http://www.med-suv.eu> □" In Durham the research focus will be assembling existing data, combining data of diverse kinds, reformatting, quality controlling, and rejecting outliers.

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Tomography inversions will be performed, using existing programs, and the results will be plotted and assessed. We will liaise closely with other members of the MED-SUV consortium, including close collaboration with scientists specialising on Mt. Etna. We will prepare joint papers for publication. The post requires a PDRA with prior experience in seismic tomography, familiarity with the UNIX or LINUX operating systems, and an ability to program in C, AWK and the Generic Mapping Tools (GMT) package. The appointment will be for up to 1 year.

Requirements

Candidates should have a Ph.D. in geophysics, preferably seismology, or a related subject, and research experience in seismic tomography. Familiarity with the UNIX or LINUX operating systems, and an ability to program in C is required. Knowledge of AWK and the Generic Mapping Tools (GMT) package are desirable.

Responsibilities

The successful candidate will work both independently and collaboratively under the supervision of Prof. G. R. Foulger and Prof. B. R. Julian, liaising with other PDRAs and students in the Department. The successful candidate will also work as part of the MED-SUV research team, producing original research within the project work packages. The appointee will i) establish a working structure of computer files; ii) gather and refine existing data, rendering them in suitable format for input into earthquake tomography inversion programs; iii) invert data using the seismic tomography programs provided; iv) display the results, v) participate in interpretation of the results; vi) liaise with MED-SUV collaborators to bring to fruition the results, and vii) prepare the results for publication. A successful candidate will also present the results at informal project meetings involving internal and external collaborators and present papers at national and international conferences.

Assistant Professor Structural Geology and Tectonics – University of Missouri

The Department of Geological Sciences at the University of Missouri invites applications for a tenure-track, Assistant Professor position beginning in August 2015 in the broadly defined area of Structural Geology and Tectonics. The successful candidate's research will ideally complement and expand upon one or more of the areas of departmental expertise in solid-earth processes including geodynamics, igneous and metamorphic petrology, neotectonics, and seismology. Completion of the PhD at the time of appointment is required. Applicants should be prepared to prove eligibility to work in the United States. The successful applicant will be expected to teach across the curriculum, i.e., introductory classes, advanced undergraduate courses, and graduate courses in his/her area of expertise. The applicant will also be expected to develop an active, externally funded research program and to direct graduate student research at the M.S. and Ph.D. levels.

Please apply on-line at: <http://hrs.missouri.edu/find-a-job/academic>

In addition to a curriculum vitae (CV), applicants should include a letter describing their geologic interests and qualifications for the position, a teaching portfolio, and a list of three references (including contact information). Items other than the CV should be uploaded in the Attachments section of the application system. Initial screening of applicants will begin October 1, 2014 and will continue until a suitable candidate is hired. Information about our department is available at: <http://geology.missouri.edu>. The University of Missouri is an EO/AA/ADA employer.

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Assistant Professorship in Geochemistry - New Mexico Institute of Mining and Technology

The New Mexico Institute of Mining and Technology (NMT) invites applications for a tenure-track assistant-professor position in Geochemistry. Applicants should have a Ph.D. in Earth Sciences, Environmental Engineering, or a related field at the time of appointment. We seek candidates with interests in igneous petrochemistry (especially volcanic rocks), metamorphic petrology, sedimentary geochemistry, geochemistry of ore deposits, or radiogenic isotope geochemistry. Potential for excellence in teaching and research are the most important qualifications.

Applicants should submit a letter of interest, resume, a statement of teaching and research interests, one representative publication, and the names of three references to Geochemistry Search, Human Resources, New Mexico Institute of Mining and Technology, 801 Leroy Pl., Socorro, New Mexico 87801. College transcripts will be required if selected to interview. Review of application material will begin on October 1, 2014. The search will remain open until the position is filled. Email applications are not accepted. New Mexico Tech is an equal opportunity/affirmative action employer.

For inquiries, contact the search committee chair, Fred Phillips (phillips@nmt.edu). Read more about these positions on the AGU Career Center, search "Assistant Professors of Hydrology and Geochemistry."

Postdoctoral Scholar Positions in Geodynamics - Caltech

The Division of Geological and Planetary Sciences at the California Institute of Technology (Caltech) invites applications for one or more postdoctoral positions in the Seismological Laboratory. For one position we seek an individual who would link computational models of surface processes with lithosphere and mantle dynamics with an emphasis on North America. The goal of the work is the use of stratigraphic and rock uplift observations to better constrain mantle dynamics and sedimentary basin evolution. An individual with a geology background well versed in the development and use of computational software is preferred. For the other position we seek an individual to work on the development and application of: (1) forward and inverse approaches to understand the dynamics of plate motions; (2) models of the initiation of subduction; or (3) geodynamic models of the deep mantle linked to seismic observations and mineral physics experiments. A recent Ph.D. in computational geodynamics or a related discipline is required. Experience in finite element analysis, inversion and/or optimization and use of GPlates & GMT are highly desired; good programming skills in C, C++ or Python are essential. Initial appointments are for one year. Starting dates for these positions are flexible, and applications will be considered until filled. For additional information, please contact Prof. Michael Gurnis, gurnis@gps.caltech.edu. Applicants should send a CV, a brief statement of research interests and experience, and arrange to have three letters of recommendation sent electronically to Marcia Hudson at: marcia@gps.caltech.edu.

Caltech is an equal employment opportunity and affirmative action employer and will, whenever possible, actively recruit and include for employment members of underrepresented minority groups, females, disabled veterans, other eligible veterans and otherwise qualified persons with disabilities. Caltech will hire, transfer, and promote based on the qualifications of the individual to ensure equal consideration and fair treatment of all. Caltech is a VEVRAA Federal Contractor.

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<http://www.gps.caltech.edu/content/postdoctoral-scholar-positions-geodynamics>

Head of Department, Tectonophysics – GNS Science, Wellington, New Zealand

Are you an experienced leader in geophysics?

GNS Science is seeking a person who has both people leadership and scientific experience.

You will be responsible for a team of 26 staff with expertise in seismology, geophysics, geodesy, crustal geodynamics, earthquake and volcano deformation modelling, hazard assessment, and tsunami modelling. Scientists in the department work closely with the GeoNet Project, and are funded from natural hazards and plate tectonics core-funded research programmes, by the Earthquake Commission biennial grants programme and through Marsden Fund research grants. Through this research and linked technology transfer activity across the Natural Hazards Division we are working towards reducing the impact of natural hazards and making New Zealand more resilient.

The Head of Department is responsible for:

- Strategic leadership of the Department,
- Management of people, with an emphasis on creating a culture of high performance;
- Management of assets, intellectual property and information;
- Developing and maintaining excellent relationships with clients and stakeholders;
- Developing the Department's budget and tracking financial performance; and
- Contributing to and, where appropriate, leading research and consultancy projects.

To be successful in this role, you will bring:

- A PhD or equivalent postgraduate degree in earth sciences or a closely related discipline;
- Excellent people leadership and relationship management skills;
- Business acumen and the ability to identify and capitalise on new research and technology transfer opportunities; and
- An excellent track record of success in geological hazards research.

Applications close on 30 September 2014.

For more information on both positions, see the website:

<https://careers.sciencenewzealand.org/gns-science/about-us>

Head of Department, Volcanology – GNS Science, Taupo, New Zealand

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Are you an experienced leader in volcanology?

GNS Science is seeking a person who has both people leadership and scientific experience. You will be responsible for a team of 15 staff with expertise in volcano monitoring and research and volcanic hazard and risk assessment. Scientists in the department work on the GeoNet Project, and are funded from natural hazards core-funded research programmes, by the Earthquake Commission biennial grants programme and through other research grants. Through this research and linked technology transfer activity across the Natural Hazards Division we are working towards reducing the impact of volcanic hazards and making New Zealand more resilient.

The Head of Department is responsible for:

- Strategic leadership of the Department;
- Management of people, with an emphasis on creating a culture of high performance;
- Management of assets, intellectual property and information;
- Developing and maintaining excellent relationships with clients and stakeholders;
- Developing the Department's budget and tracking financial performance; and
- Contributing to and, where appropriate, leading research and consultancy projects.

To be successful in this role, you will bring:

- A PhD or equivalent postgraduate degree in volcanology or a closely related discipline;
- Excellent people leadership and relationship management skills;
- Business acumen and the ability to identify and capitalise on new research and technology transfer opportunities; and
- An excellent track record of success in geological hazards research.

Applications close on 30 September 2014.

For more information on both positions, see the website:

<https://careers.sciencenewzealand.org/gns-science/about-us>

Tenure-Track Faculty Position in Structural Geology/Tectonics - Department of Geological and Atmospheric Sciences, Iowa State University

The Department of Geological and Atmospheric Sciences at Iowa State University, Ames, Iowa, invites applications for a tenure-track faculty position at the assistant professor level beginning in August 2015. The position will be in the broad area of structural geology/tectonics. The selected candidate is expected to demonstrate a commitment to teaching and establish a successful, externally funded research program. It would complement existing strengths in the department, including geophysics, economic geology, sedimentary geology, groundwater and surface-water hydrology, paleoclimatology, isotope geochemistry, weather and climate modeling, glacial and Quaternary geology, surficial processes, and geoscience education. Opportunities exist for participation in the Iowa State University Geology Field Camp, located in the Bighorn Mountains near Shell, Wyoming. We also encourage interactions with researchers and faculty in other units on campus, including but not limited to the Department of Energy Ames Laboratory, ISU

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Bioeconomy Institute, and departments of Civil, Construction and Environmental Engineering, and Materials Science and Engineering. In addition, this faculty member will be expected to teach at the undergraduate and graduate levels and to develop courses in her/his specialty area. Information about the Department may be found at <http://www.ge-at.iastate.edu/>.

Candidates must hold a Ph.D. by the time of appointment. All applications must be submitted electronically at www.iastatejobs.com (search vacancy ID#: 140762). Please be prepared to attach a letter of application, including concise teaching and research statements, curriculum vitae, and the names, addresses, e-mail addresses, and phone and fax numbers of at least three references. Questions regarding this vacancy should be directed to the Search Chair (Alan Wanamaker; adw@iastate.edu) or the Department Chair (Bill Simpkins; bsimp@iastate.edu).

The position will remain open until filled. Full consideration will be given to applications received by October 31, 2014. Iowa State University is an EO/AA employer. All qualified applicants will receive consideration for employment without regard to race, color, religion, sex, national origin, disability, or protected veteran status.

Tenure Track Assistant Professor: Geophysics California State University Northridge

The Department of Geological Sciences at California State University, Northridge invites applications for a full-time tenure-track faculty position at the level of Assistant Professor in Solid Earth Geophysics or Earthquake Processes. The successful candidate must have a Ph.D. at the time of appointment. Experience in post-doctoral research and/or University-level lecture instruction is desirable. We seek an innovative geophysicist with technical expertise in passive or active source seismology, geodynamics, numerical modeling, or earthquake geophysics. We particularly seek candidates who both complement our current research program and integrate across tectonics and geophysics. We offer B.Sc. and M.Sc. degrees in Geology and in Geophysics. The successful candidate is expected to develop a vigorous research program, which includes seeking extramural funding, publishing peer-reviewed papers, and involving undergraduate and M.S. students. Furthermore, the successful candidate is expected to demonstrate teaching excellence and provide effective instruction to students of diverse backgrounds in a multicultural setting. A successful candidate will enthusiastically contribute to teaching courses that provide rigorous preparation for students in our geophysics program at a range of levels. Course offerings include: an introductory course Living with Earthquakes in California, a new undergraduate core course in Earth Tectonics and Structure, undergraduate courses in geophysics, and elective offerings at the upper-division and/or graduate level in the candidate's research specialty.

Applicants should submit a cover letter, CV, three letters of recommendation, statement of teaching philosophy and experience, and statement of research interests. Electronic submissions are strongly encouraged and should be sent to: geophysics.search@csun.edu. Materials can also be sent to: Geophysics Search Committee, Department of Geological Sciences, California State University Northridge, 18111 Nordhoff Street, Northridge, CA 91330-8266. Review of applications will begin on 1 January 2015. Priority will be given to applications received by this date, but the position remains open until filled. For additional information, see <http://www.csun.edu/geology>. The University is an EO/AA employer.

Sandia National Laboratories- Geosciences Engineer (Senior or Principal) - Carlsbad, New Mexico

JOB ANNOUNCEMENT: Geosciences Engineer (Senior or Principal)

JOB ID: 647115

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LOCATION: Carlsbad, New Mexico

ABOUT SANDIA

Sandia National Laboratories is the nation's premier science and engineering lab for national security and technology innovation. Our mission: *Exceptional Service in the National Interest.*

DEPARTMENT DESCRIPTION

Sandia National Labs is the Scientific Advisor to the Department of Energy's Carlsbad Field Office. The WIPP Performance Assessment and Decision Analysis Department is responsible for performing probabilistic system assessments and related uncertainty/sensitivity analyses for implementing WIPP recertification and/or modification strategies.

JOB SUMMARY

This opening is for a full-time staff member in the areas of high performance and highly parallelized computing and code development on multiple platforms for coupled heat transfer, multiphase flow, and multicomponent reactive transport simulated within the open source code PFLOTRAN. The successful applicant will be expected to conduct innovative research, develop and manage open-source software, apply novel methods to challenging coupled flow and transport problems, and collaborate with geoscience and repository science research groups. The successful applicant will also be expected to develop and apply scientific and engineering methods through lab- and field-scale experimentation to develop or demonstrate new designs, concepts, materials, processes, or systems. This position is for a motivated and enthusiastic individual with a background in engineering, geoscience, mathematics, statistics, hydrology, and computer science, or related areas.

REQUIRED

A Ph.D. in engineering or applied mathematics from a leading post-graduate institution
Thorough understanding of two-phase flow in porous media as well as experience modeling groundwater flow and reactive transport in a subsurface environment
Extensive experience in the application of scientific programming in C, C++, Fortran, and the Python scripting language
Other requirements as described on Sandia's Careers website and application process

DESIRED

Established experience with development, management, and application of an existing open-source high performance computing multiphase flow and transport code
Expertise in setting up and maintaining continuous integration systems for automated software build, test, and deployment workflow
Ability to function effectively independently, but also be able to communicate and collaborate within an interdisciplinary research team
Ability to obtain and maintain a DOE security clearance

BENEFITS

At Sandia you will receive many benefits as a valued employee of a premier national multi-program engineering and science research laboratory. In our Total Rewards package you will enjoy competitive pay, great benefits, a stimulating, positive environment and learning opportunities that will help build your career. More information may be found on our Careers website.

LEARN MORE AND APPLY ONLINE

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Explore career opportunities at www.sandia.gov/careers. To be considered for this position, apply online to the Job ID number listed above.

The Department of Earth, Planetary & Space Sciences seeks an assistant professor in geology- The University of California

Recruitment Period

Open Aug 15, 2014 through Nov 15, 2014

Next review date: October 1st, 2014

Apply by this date to ensure full consideration by the committee

Description

The Department of Earth, Planetary & Space Sciences seeks an assistant professor in geology. We encourage applicants from all sub-disciplines of geology but preference may be given to candidates with experience on both sides of the cover/bedrock interface or who complement existing strengths in tectonics, paleoclimate, geochronology, and sedimentology. Applicants should have a Ph.D. or equivalent in geological sciences or a related field. Selection will begin on October 1, 2014. Please include a curriculum vitae, list of publications, statement of teaching and research, names and email addresses of three referees, electronic copies of up to five significant publications, and a cover letter addressing how your experience fits the job description. Electronic applications should be directed to the Chair of the Geology/Surface Processes Search Committee at <https://recruit.apo.ucla.edu/apply/JPF00331>. Inquiries may be directed to geologysurfaceprocesses_search@epss.ucla.edu.

The University of California is an Equal Opportunity/Affirmative Action Employer and has a commitment to enhance diversity in the geosciences at UCLA (see <https://faculty.diversity.ucla.edu>). Women and underrepresented minorities are encouraged to apply. All qualified applicants will receive consideration for employment without regard to race, color, religion, sex, national origin, disability, age or protected veteran status. For the complete University of California nondiscrimination and affirmative action policy see: UC Nondiscrimination and Affirmative Action Policy.

Documents

- Curriculum Vitae - Your most recently updated C.V.
- Cover Letter
- Statement of Research
- Statement of Teaching
- Electronic Copies of Publications - Please send links if possible.
- Misc / Additional - List of publications

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Assistant Professorship in Geochemistry - The New Mexico Institute of Mining and Technology

The New Mexico Institute of Mining and Technology (NMT) invites applications for a tenure-track assistant-professor position in Geochemistry. Applicants should have a Ph.D. in Earth Sciences, Environmental Engineering, or a related field at the time of appointment. We seek candidates with interests in igneous petrochemistry (especially volcanic rocks), metamorphic petrology, sedimentary geochemistry, geochemistry of ore deposits, or radiogenic isotope geochemistry. Potential for excellence in teaching and research are the most important qualifications.

Applicants should submit a letter of interest, resume, a statement of teaching and research interests, one representative publication, and the names of three references to Geochemistry Search, Human Resources, New Mexico Institute of Mining and Technology, 801 Leroy Pl., Socorro, New Mexico 87801. College transcripts will be required if selected to interview. Review of application material will begin on October 1, 2014. The search will remain open until the position is filled. Email applications are not accepted. New Mexico Tech is an equal opportunity/affirmative action employer.

For inquiries, contact the search committee chair, Fred Phillips (phillips@nmt.edu). Read more about these positions on the AGU Career Center, search "Assistant Professors of Hydrology and Geochemistry."

Tenure-Track Faculty Position in Chemistry of Earth Materials-University of Southern California

The **Department of Earth Sciences** in the Dana and David Dornsife College of Letters, Arts and Sciences of the University of Southern California (<http://dornsife.usc.edu/earth/>) in Los Angeles, California, wishes to appoint a tenure-track Assistant Professor with research interests in the application of geochemical techniques to the evolution and dynamics of the solid Earth, including the crust and lithosphere. The anticipated start date would be in the 2015-2016 academic year. The appointee will be expected to establish a vigorous research program supported by extramural funding and to contribute to the Department's overall research effort in Lithospheric System Dynamics. Candidates must hold a Ph.D. in Earth Sciences or a related field and have the ability to develop and support laboratory facilities in their research area. The successful appointee will also be expected to contribute to undergraduate and graduate teaching, particularly in the areas of mineralogy, petrology, and geochemistry. Applications should include a curriculum vitae, publication list, statement of teaching and research interests, and three or more names of individuals familiar with the applicant's work who could be contacted by USC for letters of reference. In order to be considered for this position, applicants are required to submit an electronic USC application; follow this job link or paste in a browser: <http://jobs.usc.edu/postings/30497> . Review of complete applications will begin November 1, 2014. Inquiries can be directed to: Chair, Search Committee, c/o Karen Young (kayoung@usc.edu).

USC is an equal-opportunity educator and employer, proudly pluralistic and firmly committed to providing equal opportunity for outstanding persons of every race, gender, creed and background. The University particularly encourages women, members of underrepresented groups, veterans and individuals with disabilities to apply. USC will make reasonable accommodations for qualified individuals with known disabilities unless doing so would result in an undue hardship. Further information is available by contacting uschr@usc.edu .

Postdoc opportunity at USGS

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We are seeking applications for a 2-year position as a postdoctoral research scientist to design and conduct experimental rock deformation tests related to earthquake physics. Experiments will be conducted at the USGS Rock Physics Laboratory located in Menlo Park, California. The Rock Physics Laboratory has a broad range of research interests related to brittle deformation and earthquake and faulting processes. These interests include the measurement of fracture and frictional sliding strength at elevated pressure and temperature, fluid-rock interactions, measurement of transport and poroelastic properties, as well as acoustic emission and wave-speed studies.

The Rock Physics Laboratory has a number of triaxial deformation machines (general capabilities can be found on our web site: <http://earthquake.usgs.gov/research/rockphysics/>), including a large test rig that accommodates 76 mm-diameter cylindrical samples. A high speed/low normal stress rotary machine is also available for high speed friction studies.

For this Mendenhall Research Opportunity we seek a postdoctoral fellow who can make fundamental contributions to experimental rock mechanics, addressing, in particular, fundamental questions related to earthquake processes and brittle deformation.

Application deadline: October 31, 2014

Further information is available at the USGS Mendenhall Fellowship Program website:

<http://geology.usgs.gov/postdoc/> under 'Research Opportunities'

Opportunity S6: 'Laboratory Research in Earthquake Processes and Fluid-Rock Interactions'

Interested applicants are encouraged to contact

David Lockner dlockner@usgs.gov

Nick Beeler nbeeler@usgs.gov

Diane Moore dmoore@usgs.gov

to discuss and develop research proposal plans.

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