Dr. Matthew Hurtgen  
Northwestern University  

Friday, February 24th, 2012, 3:30 PM, Weeks Hall – Room AB20  
The role of ocean chemistry in regulating Earth surface oxygen levels  

Several lines of evidence suggest that Cretaceous oceans experienced discrete, short-lived (<1 Ma) episodes of widespread anoxia. These episodes, termed oceanic anoxic events (OAEs), record significant increases in organic carbon burial and are marked by positive carbon isotope excursions in both marine carbonate and organic carbon. While it is widely held that these events were driven by enhanced primary production within surface waters, the mechanistic details underpinning the initiation, maintenance and termination of OAEs remain equivocal. I will present sulfur isotope measurements from rocks deposited in the Cretaceous Western Interior Seaway of North America.
before, during and after OAE2 (~94.5 Ma)—one of the more pronounced and studied Cretaceous OAEs. These data support a new hypothesis that OAE2 was triggered by a massive addition of volcanic sulfur, ultimately manifesting as oceanic sulfate, which facilitated increased organic carbon remineralization by sulfate reducers, enhanced nutrient recycling, and a global increase in primary production. OAE2 persisted until sulfate levels were sufficiently reduced via pyrite burial to inhibit nutrient recycling, and in so doing, returned marine primary productivity to background levels. These findings suggest that fluctuating marine sulfate levels may have played an important role in regulating the exogenic carbon and oxygen cycles for much of Earth history.

Friday, Mar 2, 2012:
Reinhard Kozdon, UW-Madison (Host: Peters)

Friday, Mar 9, 2012:
Aradhna Tripati, UCLA (Host: Carlson)

Friday, Mar 16, 2012:
Steve Holbrook, Univ of Wyoming (Host: Tobin)

Friday, Mar 23, 2012:
Marin Clark, Univ of Michigan (Host: Goodwin)

Friday, Apr 13, 2012:
BOV

Friday, Apr 27, 2012:
Tim Masterlark, U. Alabama (Host: Feigl)

Friday, May 4, 2012:
Carl Jacobson, IOWA State (Host: Goodwin)

Friday, May 11, 2012:
Margaret Fraiser, UW-Milwaukee (Host: Peters)
AEG (Association of Engineering Geologists) Club Meeting

Upcoming Events:

• March 6, 2012 at 6pm, location TBD
  o Eric Bahner, P.E., D.GE. from Edward E. Gillen Co. will give a presentation on soil nailing.
• Coming soon!
  o Field trip to a local Madison project with the geotechnical firm SES, Inc. We may be able to witness a blasting event! The trip will probably occur on a Friday afternoon. Email aeg@cae.wisc.edu if interested.

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JOB OPENINGS:

• University of Nice - Seeking a candidate in the broad area of seismology and high-performance computing
• The Department of Geological Sciences and Engineering at Missouri University of Science and Technology (formerly University of Missouri-Rolla) invites applications for a full-time tenure-track position at the assistant professor level in Geology and Geophysics in the area of Neotectonics, Remote-Sensing, and Geodynamics
• Postdoctoral Researcher in high-pressure mineral physics/geochemistry at Bayerisches Geoinstitut (University of Bayreuth, Germany)
• UNIVERSITY OF CAMBRIDGE DEPARTMENT OF EARTH SCIENCES - Two University Lectureships in Tectonics/Geophysics
• Postdoctoral fellowship in Seismology
• At Portsmouth on the south coast of the UK offering a permanent lectureship
• The Bird terrestrial biogeochemistry lab is seeking a postdoctoral researcher to work on a NSF-funded project in terrestrial biogeochemistry and microbial ecology.
• Assistant Professor in Sedimentary Geology, Central Washington University - Postdoctoral Research Fellow at the National Oceanography Centre Southampton

JOB OPENINGS:

University of Nice - Seeking a candidate in the broad area of seismology and high-performance computing. Particularly interested in candidates having a strong affinity with geodynamics who can reinforce interaction within Geoazur among these disciplines. This 'Chaire d'excellence' involves teaching duties in the departments of Geosciences and Physics (primarily in the new geophysics track at the Licence level, and in Master programs in Earth Science and Physics/astronomy), but at a reduced (50%) level compared to a regular enseignant-chercheur position. Candidates have a PhD, and competence in the area of wave propagation and/or inversion for the Earth's structure at different length scales and interpretation in terms of physical/mineralogical properties. They have
already obtained the formal qualification to teach (see http://www.enseignementsup-recherche.gouv.fr/cid22646/page.html). Preferred qualifications include postdoctoral experience and a demonstrated ability to perform high quality research in the form of publications. We expect foreign candidates to be able to teach in French after a reasonably short period of adaptation. Following the French system for recruitment of civil servants, the position and its code will be published on Feb 23 on the Galaxie site (https://www.galaxie.enseignementsup-recherche.gouv.fr/ensup/candidats.html). Once one has obtained the code for this position from Galaxie, complete dossiers must be submitted before the deadline of March 27, 2012, on the recruitment site of the University of Nice http://recrutement-ec.unice.fr/. For more information please contact: Emmanuel Tric, director Geoazur, (tric@unice.fr), Chrystel Verati, head of department (verati@unice.fr), or Guust Nolet (nolet@geoazur.unice.fr, phone +33.4.92.94.26.32).

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The Department of Geological Sciences and Engineering at Missouri University of Science and Technology (formerly University of Missouri-Rolla) invites applications for a full-time tenure-track position at the assistant professor level in Geology and Geophysics in the area of Neotectonics, Remote-Sensing, and Geodynamics to begin September, 2012. The successful candidate will be expected to develop an externally-funded research program integrated with excellence in teaching at both the graduate and undergraduate levels. Teaching responsibilities will include courses in Tectonics and Remote Sensing as well as others in the individual’s area of expertise. Specific research subfields of the successful applicant could include active deformation/geodesy/InSAR, morphotectonics/dynamic-topography, and crustal/mantle dynamics that can build on departmental strengths in Mechanical Earth Modeling, Tectonics, Geophysics/Seismology, and Natural Hazard Mitigation. The Department currently has 20 full-time faculty, and 320 undergraduate and 226 graduate degree-seeking students with established B.S., M.S., and Ph.D. programs in Geology & Geophysics, Petroleum Engineering, and Geological Engineering. Local area establishments with active research include the U.S. Geological Survey (Mid-continent Geospatial Mapping Center), Missouri Department of Natural Resources, and Fort Leonard Wood. Visit our department web pages for more information on faculty and research (http://gse.mst.edu/). Questions regarding this position should be directed to the chair of the search committee, Dr. John P. Hogan (jhogan@mst.edu).

A Ph.D. in Geology and/or Geophysics is required. The final candidate is required to provide an official transcript showing completion of the terminal degree listed in the application materials submitted. A copy of the transcript must be provided prior to the start of employment. In addition, the final candidate may be required to verify other credentials listed in application materials. Failure to provide the official transcript or other required verification may result in the withdrawal of the job offer.

Applications must include a letter describing interests and possible contributions to our programs, curriculum vita, statements of teaching and research goals, and the names and contact information of three referees. Applications received before 5:00 pm April 15, 2012 are ensured a full review. Open until filled.

All application materials including resume/vita, cover letter, reference letters, portfolio, etc., must include the position reference number in order to be processed and be electronically submitted to

Missouri University of Science and Technology
Human Resource Office
Position Reference Number #00031149 (Geoscientist)
using the following address: hrsinfo@mst.edu

Acceptable electronic formats that may be used include PDF and Word.
Postdoctoral Researcher in high-pressure mineral physics/geochemistry at Bayerisches Geoinstitut
(University of Bayreuth, Germany)

This postdoc position, which can be filled for up to 5 years, is for a scientist who will investigate the partitioning
of a range of elements between liquid Fe-alloys, silicate liquids and crystalline silicates up to the pressure-
temperature conditions of the Earth’s core-mantle boundary. The position is funded by the European Research
Council project ‘Accretion and Early Differentiation of the Earth and the Terrestrial Planets’. The successful
candidate will work in a multidisciplinary team with expertise that covers planetary science, accretion modelling
and cosmochemistry (see: http://www.accrete.uni-bayreuth.de).

Experience of one or more of the following experimental/analytical techniques is desirable: laser-heated diamond
anvil and/or multianvil experiments, transmission electron microscopy (TEM), focused ion beam (FIB) sample
preparation, laser ablation ICPMS analysis, nano-SIMS analysis.

Applications, consisting of a CV, publication list, details of three referees and a statement of current and future
research interests, should be sent to Prof. David Rubie (dave.rubie@uni-bayreuth.de), from whom further details
can be obtained.

David C. Rubie
Bayerisches Geoinstitut
Universitaet Bayreuth
D-95440 Bayreuth
Germany
Bayerisches Geoinstitut Home page: http://www.bgi.uni-bayreuth.de
ERC Project "ACCRETE": http://www.accrete.uni-bayreuth.de

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UNIVERSITY OF CAMBRIDGE DEPARTMENT OF EARTH SCIENCES - Two University Lectureships
in Tectonics/Geophysics

We invite applications from those whose research bears on any aspect of tectonics or geophysics, whether field-
based, laboratory-based or computational. This may include marine geophysics, seismology, gravity, tectonics
and geodynamics, and the application of physics to other fields of the Earth Sciences. The Department has a
strong tradition of broad-based interactive teaching and research across these and other disciplines. Candidates
should have an outstanding record of research in a relevant subject area and will be expected to develop a
vigorous research programme at an international level.

The persons appointed will be expected to contribute to the Department's undergraduate teaching at various
levels, and to take part in field teaching. At elementary level they may be asked to help with teaching outside
their field of specialisation. We welcome applications from persons with degrees in Earth Sciences, Geophysics,
Physics, or Mathematics.

The successful applicants will be expected to contribute to the research activity of the Department leading to
interaction with academic staff across several areas of the subject, to supervise research students and actively to
seek external funds to support their research. The Department assists new academic staff as much as possible to establish their research in Cambridge.

We will also shortly be advertising a chair in quantitative Earth Sciences. Please contact the Administrator (ab78@esc.cam.ac.uk) for further particulars and information about current research in the Department. The appointments will be made at an appropriate point on the scale for University Lecturers (£36,862 to £46,696 a year) and will be for a probationary period of five years with appointment to the retiring age thereafter, subject to satisfactory performance.

To apply, please submit electronic files of (a) a full curriculum vitae, (b) list of publications, (c) 1000 word statement of research interests and intended research direction, and of teaching experience, (d) name, address, telephone number and email of three referees, to reach the Administrator (admin@esc.cam.ac.uk) no later than Monday 2 April, 2012.

Candidates are also requested to ask their referees to write direct to the Administrator (admin@esc.cam.ac.uk) by Monday 2 April, 2012. Interviews will be held in the period 1 May to 4 May 2012.

See also our website http://www.esc.cam.ac.uk

Postdoctoral fellowship in Seismology


Project WILAS is a R&D project funded by FCT, the Portuguese Science and Technology Foundation, which aims to contribute to image the 3D seismic structure beneath W Iberia from Crustal to Lithosphere-Astenospheric scale. Project WILAS has a strong cooperation with the Spanish project TOPO-IBERIA (Consolider-Ongenio CSD2006-00041), allowing the complete coverage of the Iberian Peninsula.

Candidates should have a PhD in seismology or a closely related area, excellent communication skills, ability to work as part of a team, and familiarity with techniques used in processing broad-band seismological data. Due to the aims of the project, expertise in the one or more of the following methods is required: receiver functions, ambient seismic noise tomography, teleseismic surface or body-waves tomography, local earthquake tomography.

The successful candidate will be expected to publish research papers and to present the research at national and international meetings. Below is the announcement of the fellowship, whose details could be checked also in the attached pdf file. http://www.eracareers.pt/opportunities/index.aspx?task=global&jobId=28334

The application will be open from March 1st to 20th 2012 and the contract is expected to start in April 2012.

At Portsmouth on the south coast of the UK offering a permanent lectureship available from September 2012. Candidates are invited who have a strong publication record in high quality journals and evidence of attracting external research income or the potential to do so. We require someone who contribute to our undergraduate teaching programme in some or all of the following areas: structural geology, petrology, fieldwork and economic geology. Portsmouth has a growing, dynamic department and we particularly seek keen and motivated people who can join and enhance our Crustal
Evolution Research Group. Our analytical facilities include LA-ICPMS (for geochronology and trace elements), SEM-EDS and CL, XRF, XRD, research grade microscopes and imaging, mineral separation and rock crushing facilities and a thin section lab.

The deadline for applications is Friday 2nd March. Expressions of interest or informal discussions can be made by contacting the Head of School, Dr Rob Strachan (rob.strachan@port.ac.uk).

Please follow this link for further details and application procedures:
http://www.port.ac.uk/vacancies/academic/vacancytitle,150049,en.html

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The Bird terrestrial biogeochemistry lab is seeking a postdoctoral researcher to work on a NSF-funded project in terrestrial biogeochemistry and microbial ecology. The 5-yr project will investigate the fundamental biological, chemical and physical controls on black carbon (BC) degradation and transport processes in a northern forest soil. This research will link the charring temperature of BC materials to their chemical and physical structures and their resulting decay rates, the activity of the main degraders, enzyme activities, transport dynamics, and its stabilization mechanisms in soil. In addition, the postdoc would complete soil analysis for a second, recently completed field study funded by DOE, which is examining the fate of aboveground versus belowground plant C and N inputs to a temperate forest soil.

We seek a highly motivated PhD with demonstrated ability to carry out research in terrestrial biogeochemistry and microbial ecology. The successful candidate will be responsible for 1) quantifying soil microbial utilization of BC, 2) determining enzyme activities and dynamics of BC biomarkers, 3) tracking the movement of BC into soil organic matter fractions, and 4) assisting with field activities. The postdoc will also have the opportunity to develop new, complementary projects. Field work will take place at The University of Michigan Biological Station in Pellston, MI, and the postdoc will be expected to lead field sampling trips at the site along with a second postdoc working with co-PI Knute Nadelhoffer (University of Michigan) and graduate students. For more information about the Bird lab, Nadelhoffer lab, or UMBS please visit:
http://qcpages.qc.cuny.edu/~jbird/index.html
http://www.lsa.umich.edu/umbs/
http://www.lsa.umich.edu/eeb/directory/faculty/knute/

Applicants should have a PhD in biogeochemistry, soil microbiology, chemistry, or a related field. Demonstrated experience in stable isotope biogeochemistry and undertaking field experiments will be preferred. The position requires an independent, organized, creative individual who is personable and enthusiastic about working in a collaborative group environment. The postdoc should be comfortable training and mentoring graduate and undergraduate students related to the projects. Interested candidates should send a single pdf file containing the following to Dr. Jeff Bird at jbird@qc.cuny.edu: (i) A cover letter indicating interest in the project, (ii) a curriculum vitae, (iii) a list of three references including names, email addresses, and telephone numbers, and (iv) two representative publications. Applications will be reviewed beginning March 15, 2012 and will be accepted until a suitable candidate is found. The position will be for one year, renewable up to two years based on performance. Start date for the position is June/early summer 2012.

The Research Foundation (RF) of The City University of New York is an Affirmative Action/Equal Opportunity/Americans with Disabilities Act employer. All qualified applicants will receive consideration for employment without regard to race, color, religion, sex, national origin, disability, age, citizenship status, Vietnam era or special disabled veteran's status, or sexual orientation. CUNY is an E-Verify employer.

Postdoctoral researcher position in soil ecology and biogeochemistry
University of Michigan Biological Station, University of Michigan

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**Assistant Professor in Sedimentary Geology, Central Washington University**

Postdoctoral Research Fellow at the National Oceanography Centre Southampton

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(1) **Assistant Professor in Sedimentary Geology, Central Washington University**

The Department of Geological Sciences at Central Washington University invites applications for a tenure-track Assistant Professor position to begin September 16, 2012. We seek a field-based geoscientist in sedimentary geology, inclusive of the broad areas of sedimentary deposits, processes and/or systems at a variety of time scales. The faculty member will contribute to teaching relevant core and elective courses in the undergraduate and graduate Geological Sciences curriculum and General Education courses; mentor undergraduate and M.S. graduate research; and seek external funding for research or curricular pursuits that further his/her scholarly program and the goals of the department. A strong commitment to teaching and research at the undergraduate and M.S. graduate level is essential. Central Washington University is located in Ellensburg, WA, a community of 18,000 that enjoys one of the finest living environments of the Pacific Northwest.

Complete position announcement and application instructions available at: https://jobs.cwu.edu/. For additional information, see www.geology.cwu.edu or contact Dr. Carey Gazis at cgazis@geology.cwu.edu. Screening will begin on March 1, 2012 and continue until the position is filled. CWU is an AA/EEO/Title IX Institution.

(2) **Postdoctoral Research Fellow at the National Oceanography Centre Southampton**

Structural evolution of the Gulf of Corinth continental rift zone

The school of Ocean and Earth Science at the National Oceanography Centre Southampton is seeking to recruit a Postdoctoral Research Fellow in Active Tectonics to research the stratigraphic and structural evolution of the Corinth rift, Greece. This rift is a highly active, young extensional zone and a focus of research into early rift development processes. The project, funded to aid and advance proposed scientific drilling, will combine the extensive network of seismic reflection data in order to define the offshore syn-rift stratigraphy and fault network at a high level of detail. The results will be used to further our understanding of the rift evolution and to refine borehole locations for potential drilling to quantify fault slip, strain distribution and rift history and to analyse syn-rift stratigraphy and regional palaeoenvironment. The successful applicant will be part of an active seagoing Geology and Geophysics research group and will work with project partners in Greece, USA, France and within the petroleum industry.

Applicants will have a PhD in geology or geophysics with experience of structural and stratigraphic interpretation of seismic reflection data and knowledge of active rift processes. They will also have demonstrated the ability to conduct innovative research leading to high-impact publications in international refereed journals.

This is a fixed term post of 1.5 years starting in ~August 2012.

Salary: £27,428 to £33,734

the closing date for applications is 15 March 2012.

Informal enquiries can be made to Dr. Lisa McNeill on tel: 44-23 8059 3640, email: lcmn@noc.soton.ac.uk

Please apply through www.jobs.soton.ac.uk or telephone 023 8059 2750 for an application form. Please quote reference number 082912HN in all correspondence.

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