James Andrew Conder

Southern Illinois University, Department of Geology
1259 Lincoln Dr, Mailcode 4324, Carbondale, IL, 62901
Office: 618-453-7352, fax: 618-453-7393, email: *conder@siu.edu*

ACADEMIC APPOINTMENTS

Assistant Professor, Southern Illinois University, Carbondale, IL, 2008 - Present
Research Associate, Washington University, St. Louis, MO, 2004 – 2008
MARGINS Postdoctoral Fellow, 2003 - 2004
Postdoctoral Research Associate, Washington University, 2000 – 2004

EDUCATION

Ph.D., Brown University, Providence, Rhode Island, 2001
Dissertation: *Tectonics and plate boundary processes along the Southeast Indian Ridge and East Pacific Rise*
Sc.M. Geophysics, Brown University, 1998
Thesis: *Magnetic anomalies and seafloor spreading history near the Amsterdam-St. Paul hotspot, Southeast Indian Ridge*
B.S. Geology, minor Mathematics, University of Utah, Salt Lake City, Utah, 1994

TEACHING/WORK EXPERIENCE

Instructor, *Field Geology*, Southern Illinois University, 2012
Instructor, *Data Analysis for Earth Scientists*, SIU, 2012
Instructor, *Natural Hazards and Catastrophes*, SIU Core Curriculum, 2011, 2012, 2013
Instructor, *Solid Earth Geophysics*, SIU, 2008, 2009, 2010, 2011, 2012
Instructor, *Earthquake Seismology*, SIU, 2011, 2013
Instructor, *Earth and Environment*, SIU Core Curriculum, 2009, 2010
Instructor, *Science in the Media*, Washington University, 2006, 2007, 2008
Guest Instructor, *Earth Forces*, Washington University, 2004
Guest Lecturer, *Introductory Planetary Geology*, Washington University, 2003
PEW Consortium Workshop on Building an Academic Career; Grinnell, Iowa, 2001
Teaching Assistant, *Structural Geology*, Brown University, 1997, 1998, 2000
Geological Data Technician, Kennecott Exploration, Inc.; Magna, Utah, 1994 – 1995

FIELD EXPERIENCE

Cedar Lake Array, Southern Illinois, 2010-2011
Airgun OBS deployment and recovery (LScan), Lau Basin, *R/V Langseth*, 2009
Temporary broadband seismic array in Marianas, serviced, 2003
Mariana ocean bottom seismograph deployment, *R/V Kaiyo*, 2003
Seismic Array and Tonga (SAFT), surveyed, deployed, and serviced array, 2001, 2002
Trans-Antarctic Mountains Seismic Experiment (TAMSEIS), serviced array, 2001
North American Mantle Anisotropy and Discontinuity Experiment (NOMAD), serviced, 1998
Southeast Indian Ridge geophysical surveying cruise near Amsterdam-St. Paul Plateau, Indian Ocean, *R/V Melville*, 1996
Gravimetry surveying for mineral prospects, Globe, Arizona, 1995

PROFESSIONAL SERVICE

Convener, Hydraulic Fracturing and Fluids in the Shallow Subsurface, AGU Fall meeting, NS05, 2011

Convener, The lithospheric anisotropy of Archean shields, GSA Annual meeting, 2011

Judge, Natural Hazards Outstanding Student Paper Award, AGU Fall meeting, 2010

Judge, MARGINS Outstanding Student Paper Award, AGU Fall meeting, 2009

Reviewer AGU Monograph proposal, 2012

Peer reviewer, research proposals: *NSF, CRDF*

At SIU, have reviewed 21 NSF proposals, with multiple contributions to each of RIDGE2000, MARGINS, GeoPrisms, and EarthScope programs

Peer reviewer, publications: *EPSL, JGR, GRL, GJI, G-cubed, Geology, EPS, J. Geodynamics, Chem. Geol., Lithosphere, Comp. Geosci.*

At SIU, have reviewed two dozen manuscripts with majority for AGU journals (*G-cubed, JGR, GRL*) and *EPSL*

PROFESSIONAL COMMITTEES

Graduate program coordinator, Dept. of Geology, SIU, 2012 – present

Sigma Xi admissions committee, SIU chapter, 2012 - present

Graduate admissions committee, Dept. of Geology, SIU, 2011 - present

Scholarship and Fellowship Committee, Dept. of Geology, SIU, 2010 - present

Grad Student-Faculty Liaison, Dept. of Geosciences, Brown Univ., 1998 - 2000

Geo-Club President; Brown University, 1996 - 1997

COMMUNITY INVOLVEMENT

Southern Illinois Earth Science Club, January meeting speaker, 2012

Science Café speaker, Carbondale Science Center, 2011

Illinois Seismic Safety Task Force, Office of the Governor, Springfield, IL, 2008 – 2010

Judge, Illinois Region 8 Science Fair, 2011, 2012

Science blog contributor, St. Louis Post-Dispatch, 2007 - 2008

Participation in *Partners in Education*, Rockwood School District, St. Louis, 2001 - 2002

AFFILIATIONS AND AWARDS

American Geophysical Union

Sigma Xi

Union of Concerned Scientists

AGU Outstanding Student Paper Award, Spring Meeting, 2000

Utah Geological Society, Field Camp award, 1994

PUBLICATIONS

Ferré, E.C., S.A. Friedman, F. Martín-Hernández, J.M. Feinberg, J.A. Conder, and D.A. Ionov, The magnetism of mantle xenoliths and potential implications for sub-Moho magnetic sources, *Geophysical Research Letters,* 40, 1-6, doi:10.1029/2012GL054100, 2013

Conder, J.A., Non-Pratt component of oceanic isostasy, *Lithosphere*, 4, 430-434, doi: 10.1130/L229.1, 2012

Ratnapridipa, D., J.A. Conder, and W.P. Dundulis, Impact of the 2011 Japanese earthquake: A perspective on sustaining ecologically-friendly practice, *Umwelt und Gesundheit Online*, 5, 40 – 44, 2012

Ratnapridipa, D., J. Conder, The 2011 Japanese Earthquake: An overview of Environmental Health Impacts. *Journal of Environmental Health*, 74(6), 42 – 50, 2012

Conder, J. A. and D. A. Wiens, Shallow seismicity and tectonics of the central and northern Lau basin, *Earth and Planetary Science Letters*, 304, p538-546, 2011

Anderson, K. B., and J. A. Conder, Discussion of multicyclic Hubbert modeling as a method for forecasting future petroleum production, *Energy and Fuels*, 2011

Pozgay, S. H., D. A. Wiens, J. A. Conder, H. Shiobara, and H. Sugioka, Seismic attenuation tomography of the Mariana subduction system: Implications for thermal structure, volatile distribution, and slow spreading dynamics, *Geochemistry, Geophysics, Geosystems, 10*, Q04X05, doi:10.1029/2008GC002313, 2009

Wiens, D. A., J. A. Conder, and U. Faul, The seismic structure and dynamics of the mantle wedge, *Annual Review of Earth and Planetary Sciences*, *36*, 421-55, doi: 10.1146/annurev.earth.33.092203.122633, 2008

Conder, J. A., and D. A. Wiens, Rapid along-strike asthenosphere flow beneath the Tonga volcanic arc, *Earth and Planetary Science Letters, 264,* 299-307, 2007

Conder, J. A., Dynamically driven mantle flow and shear wave splitting asymmetry across the EPR, MELT area, *Geophys. Res. Lett., 34*, L16301, doi:10.1029/2007GL030832*,* 2007

Pozgay, S. H., D. A. Wiens, J. A. Conder, H. Shiobara, and H. Sugioka, Complex mantle flow in the Mariana subduction system: Evidence from shear wave splitting, *Geophysical Journal International, 170, 371-386, doi:10.1111/j.1365-246X.2007.03433.x*, 2007

Conder, J. A., and D. A. Wiens, Seismic structure beneath the Tonga arc and Lau back-arc basin determined from joint Vp, Vp/Vs tomography, *Geochemistry, Geophysics, Geosystems, 7*, Q03018, doi:10.1029/2005GC001113, 2006

Wiens, D. A., N. Seama, and J. A. Conder, Mantle Structure and Flow Patterns Beneath Active Back-Arc Basins Inferred from Passive Seismic and Electromagnetic Methods, in *Back-Arc Spreading Systems- Geological, Biological, Chemical, and Physical Interactions, AGU Monograph, Vol. 166,* 2006

Conder, J. A., A case for hot slab surface temperatures in numerical viscous flow models of subduction zones with a new fault zone parameterization, *Physics of the Earth and Planetary Interiors, 149,* 155-164, 2005

Conder, J. A., D. A. Wiens, and J. Morris, On the decompression melting structure at volcanic arcs and back-arc spreading centers, *Geophysical Research Letters, 29, doi:2002GL015390,* 2002

Conder, J. A., D. W. Forsyth, and E. M. Parmentier, Asthenospheric flow and the asymmetry of the East Pacific Rise, MELT area, *Journal of Geophysical Research, 107, 2344, doi:10.1029/2001JB000807*, 2002

Toomey, D. R., W. S. D. Wilcock, J. A. Conder, D. W. Forsyth, J. Blundy, E. M. Parmentier, and W. C. Hammond, Asymmetric mantle dynamics in the MELT region of the East Pacific Rise, *Earth and Planetary Science Letters*, *200,* 287-295, 2002

Conder, J. A. and D. W. Forsyth, Seafloor spreading on the Southeast Indian Ridge over the last one million years: A test of the Capricorn plate hypothesis, *Earth and Planetary Science Letters, 188*, 91-105, 2001

Conder, J. A., D. S. Scheirer, and D. W. Forsyth, Seafloor spreading on the Amsterdam-St. Paul hotspot plateau, *Journal of Geophysical Research, 105*, 8263-8277, 2000

Scheirer, D. S., D. W. Forsyth, J. A. Conder, M. A. Eberle, S.-H. Hung, K. T. M. Johnson, and D. W. Graham, Anomalous seafloor spreading of the Southeast Indian Ridge near the Amsterdam-St. Paul Plateau, *Journal of Geophysical Research, 105*, 8243-8262, 2000

Conder, J. A. and D. W. Forsyth, Do the 1998 Antarctic plate earthquake and its aftershocks delineate a plate boundary?, *Geophysical Research Letters, 27*, 2309-2313, 2000

Shen, Y., D. W. Forsyth, J. A. Conder, and L. M. Dorman, Investigation of microearthquake activity following an intraplate teleseismic swarm on the west flank of the Southern East Pacific Rise, *Journal of Geophysical Research, 102*, 459-475, 1997

FUNDED PROPOSALS

Conder, J. A., and L. Zhu, *Collaborative Research: Seismic experiment in the Wabash Valley*, 2012, NSF-Earthscope

Bohnenstiehl, D., J. A. Conder, D. A. Wiens, R. Dziak, and H. Matsumoto, *Collaborative Research: Assessment of T-wave Processes and Hydroacoustic Monitoring Capabilities in the Lau Basin,* NSF, $95,617, 2008

Wiens, D.A. and J. A. Conder, *MARGINS: Dynamics of the Mariana Subduction Factory Determined From Seismic Observations and Geodynamic Modeling*, NSF, $201,579, 02/15/2006

Wiens, D.A. and J. A. Conder *A Numerical Investigation of the Relative Importance of different Melting Mechanisms at Volcanic Arcs*, NSF, $95,133, 07/01/2003

Wiens, D. A., J. A. Conder, D. Blackman, R. A. Dunn, S. Webb, and W. Menke, *Collaborative Research: Crustal Accretion and Mantle Processes Along the Subduction-Influenced Eastern Lau Spreading Center*, NSF, $52K, 2004

UNFUNDED PROPOSALS

Conder, J. A., and L. Zhu, *Collaborative Research: Seismic experiment in the Wabash Valley*, 2011, NSF-Earthscope

Conder, J.A., and E.C. Ferré, Earthquakes workshop for high-school juniors in the Midwest, 2011, Honda Foundation

Ferré, E.C., J.M. Feinberg, J.A. Conder, K. H. Singh, F. Martín-Hernández, D.A. Ionov, A. Tommasi, and S. Demouchy, *Collaborative Research: Is the Moho truly a magnetic boundary?*, 2010, NSF-Geophysics

Conder, J.A., *Pilot autonomous hydrophone array study of seismic hazard and tectonic monitoring in Cedar Lake, Carbondale, Illinois*, SEED proposal, 2009, submitted to SIU Office of Research and Development

Ferré, E.C., J.A. Conder, C. Teyssier, P, Morin, N. Christensen, D. Mainprice, *Collaborative Research: Seismic Anisotropy of the Continental Crust in the Superior Province, Minnesota & Tectonic Significance*, 2009, NSF-Geophysics

Ferré, E.C., J.M. Feinberg, J.A. Conder, D. Ravat, F. Martín-Hernández, D.A. Ionov, A. Tommasi, and S. Demouchy, *Collaborative Research: Towards a New Magnetic Model for the Lithospheric Mantle*, 2009, NSF-Geophysics

Kontar, Y.A. F.K. Boadu, J.A.Conder, A.M. Ismail, M.D. Long, R.S. Nelson, and M.S. Zhdanov, *Collaborative Research: Wabash Valley Geophysical Experiment in Illinois*, 2009, NSF-Geophysics

Wiens, D.A. and J. A. Conder, *Tectonic and Hydrothermal Variability along the Eastern Lau Spreading Center: A Microearthquake Study*, 2006, submitted to NSF OCE

Dunn, R.A., J. A. Conder, and D. A. Wiens, *Collaborative Research: evaluation of melt production models for the Lau spreading center and Tofua (Tonga) Arc via a joint surface wave and body wave study*, 2005, submitted to NSF OCE

Conder, J.A., *Pilot autonomous hydrophone array study of seismic hazard and tectonic monitoring in Cedar Lake, Carbondale, Illinois*, SEED proposal, 2008, submitted to SIU Office of Research and Development