

Curriculum Vitae
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Garrett Gene Euler

Current Address:

Department of Earth and Planetary Sciences
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Personal:

Born May 18, 1982, Osage Beach, Missouri, USA

Education:

Doctoral Candidate in Seismology, Washington University in St. Louis, 2007-present
Advisors: Michael E. Wysession, Douglas A. Wiens
M.A. Seismology, (GPA 3.85/4.0), Washington University in St. Louis, 2007
Advisor: Michael E. Wysession
Title of Defense: Probing Velocity Structure of the Lowermost Mantle Utilizing the
Relative Arrival Times of Core-Diffracted Waves
B.S. Geology and Geophysics with Mathematics minor, *summa cum laude* (GPA 3.93/4.0),
University of Missouri-Rolla (now Missouri University of Science and Technology), 2004
Advisors: Estella A. Atekwana, John Hogan, Steve Cardimona

Research Experience:

Graduate Research Assistant, Washington University in St. Louis, 2005-present

- Utilizing the frequency dependence of arrival times and amplitudes of Core-Diffracted Waves to study the Lowermost Mantle
- Combined Rayleigh Wave and Ambient Noise Analysis to Study the Crust and Uppermost Mantle in the Cameroon Volcanic Line Region

Research Assistant, Seismology, Washington University in St. Louis, Summer 2004

- Picking seismic phases of local earthquakes in the Marianas Subduction System

Research Assistant, Biogeophysics, University of Missouri-Rolla, 2002-2003

- study of sand grain surface etching from microbe-hydrocarbon interactions using scanning electron microscopy
- field studies using electrical resistivity tomography to detect remediation of hydrocarbon spills by microbial injection as well as identification of the extent of contamination in known US EPA Superfund sites

Teaching Experience:

- Teaching Assistant, Washington University in St. Louis
 - EPSc 201 – Earth and the Environment (Instructor: Michael Wyession), Fall 2008
 - EPSc 353 – Earth Forces (Instructor: Slava Solomatov), Spring 2005
- Guest Lectures, Washington University in St. Louis
 - EPSc 452 – Introduction to Seismology (Instructor: Michael Wyession), Spring 2008
 - Lecture on Seismic Anisotropy
 - Lecture on Spreading Centers
 - EPSc 553 – Geophysical Data Analysis (Instructor: Doug Wiens), Fall 2006 & 2008
 - Lecture on using Matlab for Fourier Analysis and Geophysical Inversions
 - Lecture on Convolution and Cross Correlation
- Guest Lectures, Camdenton High School
 - Lecture on Conics in Calculus, Spring 2000
 - Lecture on Logical Proofs in Math Analysis, Spring 1999
- Organized Tutoring
 - Fall 2008 – Tutored 4 students on Matlab (2 group sessions)
 - Spring-Fall 2007 – Tutored 1 student in mathematics (roughly monthly)
 - 2003-2004 – Tutored High School Students in Rolla, MO in mathematics (weekly)

Field Experience:

Seismological Investigation of the Cameroon Volcanic Line (32 broadband sensor array)

- May-July 2006 (42 days in the field) – seismic station servicing
 - buying, organizing, and testing of seismological equipment (3 stations)
 - planned and managed servicing schedule (entire array – 32 stations)
 - managed expenditures for servicing of the entire array
 - serviced 20 stations
 - gave demonstrations and tutorials to the public during servicing
 - installation of Unix workstations at the University of Yaounde
- Jan-Feb 2006 (41 days in the field) – seismic station deployment and servicing
 - buying, organizing, and testing of seismological equipment (25 stations)
 - decided final station locations (8 stations)
 - planned and managed installation and servicing schedule (10 stations)
 - managed accounting and expenditures for installation crew
 - negotiated with and informed station land owners and interested parties
 - installed and serviced stations (10 stations)
 - 2 day hike to the peak of Mt. Cameroon as a short geological field study

Study of Landslides in the Grand Canyon and Neighboring Regions

- May 2004 (14 days in the field) – soil coring and landslide mapping

Geologic Field Mapping in Southwestern Utah

- June-Aug 2003 (6 week structural geology field camp)

Geophysical Investigation of the New Haven, MO Superfund Site

- Sep-Dec 2002 (5 weekends in the field) – Resistivity, EM and GPR surveying

Technical and Computer Skills:

Geophysical Equipment:

- Datalogger: Reftek RT130, Reftek 72A-08, Quanterra Q330, Nanometrics Taurus
- Broadband Seismometer: Streckeisen STS-2, Guralp CMG-40T, Guralp CMG-3T,

Guralp CMG-3ESP, Nanometrics Trillium 40
Exploration Seismograph: Geometrics Geode (24 geophone array)
Magnetometer: Geometrics G-858
Gravimeter: Worden
Resistivity/IP: AGI SuperSting R8 IP, Geometrics OhmMapper, IRIS Syscal R1 Plus
EM: Geophex GEM-2, GSSI GEM-300, Geonics EM-31 MK2
GPR: GSSI SIR System 10
Applications: Matlab, Matseis, Antelope, SAC, SOD, GMT, GoogleEarth, Mineos,
SPECFEM3D, Passcal software, GIS, Surfer, EarthImager, Oasis Montaj,
RADAN, Res2DInv, SchlINV, Rinvert
Scripting/Programming: M (Matlab/Octave), Perl, F77, F90, C, C++, R, Python, bash, tsch
General Computer Assembly and Maintenance
Windows/Linux Software Installation and Maintenance

Certifications:

Wilderness First Responder (March 2009 - March 2011)
CPR (March 2009 - March 2011)

Professional Societies:

American Geophysical Union
Seismological Society of America
Geological Society of America
Society of Exploration Geophysicists
American Association of Petroleum Geologists

Honors:

AGU 2008 Fall Meeting Outstanding Student Presentation Award - Seismology Section
Carl Tolman Prize Honorable Mention 2005 (Outstanding Teaching Assistant)
Certificate of Appreciation from the US EPA for work on the New Haven, MO Superfund Site
GSA Joint Southeastern and South-Central Meeting (2003 Memphis, TN) – Best Poster
Ray E. Morgan Award (Top Junior in Geology and Geophysics)
Kerry S. Grant Award (Top Field Camp Student)
Marvin Zeid Award (Outstanding student in Geology and Geophysics)
James Redding Award (Outstanding student in Geology and Geophysics)
Karl F. Hasselmann Award (Outstanding student in Geology and Geophysics)
Sigma Gamma Epsilon (Earth Science Honor Society)
Kappa Mu Epsilon (Mathematics Honor Society)
Phi Eta Sigma (Freshman Honor Society)
UMR Honors Academy
UMR Curator's Scholar
Bright Flight Scholar

Department Service:

Peer Mentor, 2006-present
Graduate Student Association, President, 2009-2010
Graduate Student Association, Vice-President, 2008-2009
Graduate Student Association, Colloquia Lunch Coordinator, 2007-2008

Department Seismometer & Seismology Display Co-maintainer, 2005-present
Recent Topics in Seismology, Discussion Group Leader, 2007-2008
Geologic History of Africa, Discussion Group Leader, 2008
Recent Research of the Cameroon Volcanic Line Region, Discussion Group Leader, 2007

Posters and Presentations:

Euler, G. G., and M. E. Wysession (2009), A Survey of Earth's Lowermost Mantle Utilizing Core-Diffracted Waves, *Eos Trans. AGU*, 90(53), Fall Meet. Suppl., Abstract DI23A-1663

Euler, G. G., F. Koch, X. Sun, D. Wiens, M. Dugda, A. Reusch, and A. Nyblade (2009), Shear Velocity Structure in the Cameroon Volcanic Line Region, Gordon Research Conference: Interior of the Earth, Mount Holyoke College, South Hadley, MA

Wysession, M. E., G. G. Euler, and K. M. Fischer (2008), Exploring Earth's Lowermost Mantle With Core-Diffracted Waves From Linear Arrays, *Eos Trans. AGU*, 89(53), Fall Meet. Suppl., Abstract DI31C-1813

Euler, G. G., D. A. Wiens, P. J. Shore, R. Tibi, A. Nyblade, A. M. Reusch, and F. W. Koch (2008), Shear Velocity Structure of the Cameroon Volcanic Line Region from Rayleigh Wave Phase Velocities, *Eos Trans. AGU*, 89(53), Fall Meet. Suppl., Abstract S21C-1843

Euler, G. G., M. E. Wysession, and B. Huhmann (2007), Imaging Lower Mantle Heterogeneity with Differential Dispersion and Attenuation of Core-Diffracted Waves, *Eos Trans. AGU*, 88(52), Fall Meet. Suppl., Abstract U41B-0402

Shore, P., G. G. Euler, R. Tibi, D. A. Wiens, A. M. Larson, A. Nyblade, A. P. Tokam, C. Tabod, J. M. Nnange, and B. Ateba (2007), Rayleigh Wave Phase Velocity Structure of the Cameroon Volcanic Line Region, *Eos Trans. AGU*, 88(52), Fall Meet. Suppl., Abstract V33B-1386

Euler, G. G., R. Tibi, D. A. Wiens, A. M. Larson, A. Nyblade, A. P. Tokam, C. Tabod, J. M. Nnange, and B. Ateba (2007), The Cameroon Line: New Perspectives, Gordon Research Conference: Interior of the Earth, Mount Holyoke College, South Hadley, MA

Euler, G. G., M. E. Wysession, and G. I. Aleqabi (2006), Constraining Lower Mantle Heterogeneity with Differential Dispersion of Core-Diffracted Waves, *Eos Trans. AGU*, 87(52), Fall Meet. Suppl., Abstract S13B-0231

Lofton, K. M., G. G. Euler, D. A. Wiens, R. Tibi, P. J. Shore, A. Nyblade, A. M. Larson, J. M. Nnange, B. Ateba, C. Tabod, and A. Tokam (2006), A New Seismic Phase with Ray Parameter = 0: GOOOOOOOOOOOOAOAOAOAOAOAAAAAAAAALLLLLLLLLLL!!!, *Eos Trans. AGU*, 87(52), Fall Meet. Suppl., Abstract S11A-0194

Euler, G. G., M. E. Wysession, G. I. Aleqabi, and P. J. Shore (2005), Deciphering Lower Mantle Structure With the Dispersion of Core-Diffracted Waves, *Eos Trans. AGU*, 86(52), Fall Meet. Suppl., Abstract MR23B-0053

Euler, G. G., and E. A. Atekwana (2004), Influence of Microbe-Mineral Interaction on the

Electrical Properties of Unconsolidated Sands, Sigma Xi Graduation Jubilee Scientific and Engineering Poster Competition, University of Missouri-Rolla

Euler, G. G., M. E. Burton, A. J. Collins, N. M. Gregg, M. E. Barklage, G. Z. Abdelaal, and W. Kim (2003), Geophysical Investigation of a Superfund Site in New Haven, Missouri, GSA Annual Joint SE/SC Meeting, Undergraduate Research Section, Abstract 13-30

Publications:

Euler, G. G., D. A. Wiens, and K. M. Lofton (2007), Footquakes, *Iris Newsletter*, Issue 1, p. 13

Research Publicity:

St. Louis Post Dispatch (Apr 20, 2008)

McClatchy Washington Bureau (Apr 15, 2008)

CPO Focus on Earth Science (2007 Middle School Textbook, Ch. 12, p. 277)

Science (Nov 30, 2007)

St. Louis Post Dispatch (Dec 11, 2006)