

Andrew (Andy) M. Frassetto, Ph.D.

Incorporated Research Institutions for Seismology
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Education

University of Arizona

2009 Ph.D. Geosciences, *Dissertation Title: Teleseismic Studies of the North American Cordillera: Evaluating the Changing Structure, Composition, and Fabric after Subduction*

University of South Carolina

2004 B.S. Geophysics, Magna Cum Laude with Honors, Minor: Math

Peer-Reviewed Manuscripts

Frassetto, A. and H. Thybo, Lithospheric Structure of Southern Norway and Sweden from P-Receiver Functions, *In Prep.*

Frassetto, A., G. Zandt, J. Calkins, and K. Dueker, Complex Mantle Flow within the Canadian Cordilleran Slab Window from SKS anisotropy, *In Prep.*

Frassetto, A., G. Zandt, H. Gilbert, T.J. Owens, and C. Jones (2011), Structure of the Sierra Nevada from Receiver Functions and Implications for Lithospheric Foundering, *Geosphere*, doi: 10.1130/GES00570.1

Frassetto, A., G. Zandt, H. Gilbert, T.J. Owens, and C. Jones (2010), Improved Imaging with Phase-Weighted Common Conversion Point Stacks of Receiver Functions, *Geophys. J. Int.*, doi: 10.1111/j.1365-246X.2010.04617.x

Frassetto, A., H. Gilbert, G. Zandt, S. Beck, and M. Fouch (2006), Support of high elevation in the southern Basin and Range based on the composition and architecture of the crust in the Basin and Range and Colorado Plateau, *Earth Plan. Sci. Lett.* 249(1-2), 62-73.

Frassetto, A., T.J. Owens, and P. Crotwell (2003), Evaluating the Network Time Protocol (NTP) for Timing in the South Carolina Earth Physics Project (SCEPP), *Seis. Res. Lett.* 74(5), 649-652.

Employment

Incorporated Research Institutions for Seismology Project Associate (7/2011-)

Manage scientific projects operating within EarthScope's USArray and IRIS core programs.

University of Copenhagen Postdoc, Dept. Geography and Geology (9/2009-9/2011)

Used receiver functions to analyze the structure and properties of the crust and upper mantle beneath southern Fennoscandia. Part of the TopoScandiaDeep Project.

University of Arizona Graduate Associate, Dept. Geosciences (8/2004-9/2009)

Collected seismic datasets using regionally distributed arrays of broadband seismometers. Modeled and inverted direct and converted teleseismic body waves to develop tectonic models for structure, composition, and deformational fabric of the crust and upper mantle. Expertise in receiver function and shear-wave splitting techniques.

ExxonMobil Upstream Research Company Geoscience Intern, Division of Integrated Seismic Research (5/2007-8/2007)

Parameterized elastic tensor and predicted shear wave response for fractured, anisotropic reservoir rocks using proprietary software, performed preliminary shear wave splitting analysis of borehole shear-sourced vertical seismic profile.

University of South Carolina Research Assistant, Dept. Geological Sciences (1/2001-6/2004)
Managed the 25 station South Carolina Earth Physics Project seismic network.

Teaching

Incorporated Research Institutions for Seismology Alumni Mentor, Undergraduate Internship Program (Summer 2006, 2007, 2008)

Helped coordinate student orientation in Socorro, NM, developed and presented lectures on introductory seismology research and preparing for graduate school, interacted with interns through blogs and social media during summer.

University of Arizona Graduate Teaching Assistant

Introduction to Geophysics (Spring 2008)

Instructed two labs per week, proctored exams, graded assignments and quizzes, guest lectured, held office hours. 33 students enrolled. "Superior" performance evaluation.

Geological Disasters and Society (Spring 2007)

Graded assignments and exams, prepared and presented two lectures, held office hours. 151 students enrolled. "Superior" performance evaluation.

Honors and Awards

2009	College of Science Outstanding Scholar
2009, 2008	John and Nancy Sumner Summer Research Scholarship
2009	MARGINS Prize, Best Talk Fall AGU
2008	Best Talk Overall, Department Symposium
2007	Galileo Circle Scholar, College of Science
2007	First Place Talk in Geophysics, Department Symposium
2006	Third Place Talk in Tectonics, Department Symposium
2005	Second Place Talk in Geophysics, Department Symposium
2004	National Science Foundation Graduate Research Fellowship
2004	First Place Poster in Geoscience, University Research Symposium
2003-2004	Barry M. Goldwater Scholar
2000-2004	Society for Exploration Geophysicists Scholarship

Abstracts (Recent Talks* and Posters)

Frassetto, A., H. Thybo (2010), Receiver function imaging of the mantle discontinuities beneath Fennoscandia and northern Europe, *Geophys. Res. Abs.*, 12, EGU2010-7160.

Zandt, G., A. Frassetto, J. Calkins, K. Dueker (2009), Regional variations of mantle anisotropy across the Canadian Cordillera from teleseismic shear-wave splitting, *Eos Trans. AGU*, 90(52), Fall Meet. Suppl., Abstract S11A-1685.

Frassetto, A., H. Thybo (2009), Preliminary constraints on crustal thickness, V_p/V_s , and lithospheric structure across the southern Scandes, Norway from receiver functions, *Eos Trans. AGU*, 90(52), Fall Meet. Suppl., Abstract T51B-1515.

*Frassetto, A., H. Gilbert, G. Zandt, T.J. Owens, C. Jones (2008), Seismic character of the crust and upper mantle beneath the Sierra Nevada, *Eos Trans. AGU*, 89(53), Fall Meet. Suppl., Abstract S33B-05.

Ryan, J.C., A. Frassetto, O. Hurd, G. Zandt, H. Gilbert, T. Owens, C. Jones (2008), Focal Mechanisms for Deep Crustal Earthquakes in the Central Foothills and Near Yosemite National Park in the Sierra Nevada, California, *Eos Trans. AGU*, 89(53), Fall Meet. Suppl., Abstract S33B-1957.

Frassetto, A., H. Gilbert, G. Zandt, T. Owens, C. Jones (2008), Detecting Delamination? Receiver functions and regional waveforms from the Central and Northern Sierra Nevada, 17th Annual IRIS Workshop, Stevenson, WA.

Hubenthal, M., J. Taber, R. Aster, A. Frassetto (2007), Developing virtual REU cohorts: Reflections from the IRIS Undergraduate Internship Program, *Eos Trans. AGU*, 88(52), Fall Meet. Suppl., Abstract ED33B-1226.

*Frassetto, A., I. Bastow, O. Hurd, G. Zandt, H. Gilbert, T. Owens, C. Jones (2006), Crustal anisotropy, deep crustal earthquakes, and the Moho hole beneath the west-central Sierra Nevada, California, *Eos Trans. AGU*, 87(52), Fall Meet. Suppl., Abstract T52B-02.

Frassetto, A., H. Gilbert, S. Beck, K. Creager, G. Zandt, A. Wech (2005), Episodic tremor and slip and the alteration of the Juan de Fuca subduction interface, a feasibility study of time dependent teleseismic receiver functions, *Eos Trans. AGU*, 86(52), Fall Meet. Suppl., Abstract T33B-0536.

Service

Judge – Student Presentations Fall 2009 AGU (DI), Fall 2011 AGU (S and T)

Reviewer – Bulletin Seismological Society of America, Geophysical Journal International, Journal Geophysical Research, Lithosphere, NSF EarthScope, South American Journal Earth Science, Tectonophysics

Contributor – 2006 IRIS Annual Report

Vice-President – Arizona Geoscience Graduate Student Organization (2005-2006): Organized creation of field trip for new students.

Organizer and Co-Chair – “GeoDaze” 33rd Annual Department Research Symposium (2004-2005)

Technical Expertise

Computers – unix, matlab, seisan, seismic analysis code, generic mapping tools, html, MS office software, Adobe Creative Suite products.

Practical Seismology – permitting sites, testing instruments, constructing stations, on-land and marine controlled source acquisition, data archiving.

Field Experiences – 8 months total: TopoGreenland Marine Seismic Acquisition Cruise (2011), Sierra Nevada EarthScope Project (2006,2007), Batholiths Continental Dynamics Experiment (2005,2006), Episodic Tremor and Slip Mini-Array Experiment (2005), Deep Reflection Acquisition Constraining Unusual Lithospheric Activity (2004), Consortium for an Arizona Reconnaissance Seismic Experiment (2003-2007), Summer of Applied Geophysical Experience REU (2002)

Hobbies

Scientific advocacy, fantasy baseball, travel, softball, photography, fitness, camping, cooking, world history, Adobe Photoshop

References

Dr. Robert Woodward (Director, Instrumentation Services) IRIS
woodward@iris.edu

Dr. Hans Thybo (Postdoctoral Advisor)
University of Copenhagen
thybo@geo.ku.dk

Dr. George Zandt (Graduate Advisor)
University of Arizona
gzandt@email.arizona.edu

Dr. Thomas J. Owens (Undergraduate Advisor)
University of South Carolina
owens@seis.sc.edu