

Christopher J. Thissen

Department of Terrestrial Magnetism
Carnegie Institution of Washington
5241 Broad Branch Rd NW
Washington, DC 20015

cthissen@carnegiescience.edu
1 (612) 229-9521
www.christopherthissen.com

EDUCATION

2016 Ph.D. Geology & Geophysics, Yale University
2010 M.Phil. Yale University
2008 B.S. University of Notre Dame. *summa cum laude*
2008 Field Camp, Sardinia Italy. *Award for best field map.*
2007 University of Western Australia. *Study abroad program*

HONORS AND AWARDS

2014 Cooperative Institute for Dynamic Earth Research (CIDER) Jr. Participant
2012 Ford Prize for Excellence in Mineralogy, Yale University
2010 Stephen E. Laubach Award, Geological Society of America
2008 Sterling Prize, Yale University
2008 Rev. Alexander Kirsch CSC Award, University of Notre Dame
2004 President's Scholarship, University of Notre Dame

GRANTS AND FELLOWSHIPS

2016-present Postdoctoral Fellowship in Geophysics, Carnegie Institute of Washington
2011-2014 NSF EAR-111432, Geophysics, California Institute of Technology
2010-2012 National Science Foundation Graduate Research Fellowship, Yale University
2009 Funded Project Proposal, Advanced Photon Source, Argonne National Labs
2007 National Science Foundation Research Experience for Undergraduates

PUBLICATIONS

Invited Refereed Journal Articles

(3) **Thissen, C. J.** and Mark T. Brandon, (2015), An Autocorrelation Method for Three-Dimensional Strain Analysis, *Journal of Structural Geology*. 81, 135-154, doi:10.1016/j.jsg.2015.09.001

Refereed Journal Articles

(2) Paczkowski, K., **C. J. Thissen**, M. D. Long, and L. G. J. Montési (2014), Deflection of mantle flow beneath subducting slabs and the origin of subslab anisotropy, *Geophys. Res. Lett.*, 41, 6734–6742, doi:10.1002/2014GL060914.

(1) Paczkowski, K., L. G. J. Montési, M. D. Long, and **C. J. Thissen** (2014), Three-dimensional flow in the subslab mantle, *Geochem. Geophys. Geosyst.*, 15, 3989–4008, doi:10.1002/2014GC005441.

Field Guides

Brandon, M. T., Anderson, R. and **Thissen, C.J.** (2013), Great Britain 2013 Field Guide, Department of Geology and Geophysics, Yale University, New Haven, CT

Brandon, M.T., **Thissen, C. J.** and Winger, T. (2012), Narragansett Basin Field Guide, Department of Geology and Geophysics, Yale University, New Haven, CT

Thissen, C. J., Paczkowski, K. and Behlke, A. (2009), Geologic History of Connecticut Field Trip, The Official Guide, Department of Geology and Geophysics, Yale University, New Haven, CT

FIELD EXPERIENCE

- 2014 San Juan Islands Subduction Complex. Grain size sensitivity of pressure-solved sandstones: a field approach. 1 week.
- 2013 Scotland, Moine Thrust, Stack of Glencoul. Statistical symmetry of lattice preferred orientations beneath the Moine thrust shear zone. 3 weeks.
- 2012 Italy, Umbria-Marche Apennines. Paleogeographic cycles in Scaglia Rossa limestones: Can true polar wobbles provide a new time calibration approach for magnetostratigraphy? 3 weeks.
- 2011 Antarctica, Seymour and Snow Hill Islands. High latitude impacts of the Cretaceous-Tertiary mass extinctions using stable isotope geochemistry in molluscan carbonate. 5 weeks.
- 2011 Rhode Island, Purgatory Conglomerate. Modern finite strain methods applied to the pressure-solved Purgatory Conglomerate. 2 weeks.
- 2009 Quebec, Gaspé Bay, and Chickies Rock, Pennsylvania. Grain size sensitivity of pressure-solved quartzites. 2 weeks.
- 2007 Italy, Island of Sardinia. Field Mapping Course. 5 weeks.

PROFESSIONAL SERVICE

- 2015 Released MATLAB implementation of olivine texture model D-Rex
2013 Department International Field Trip, Geology of Great Britain, Yale University
2012 Department Field Trip, Geology of the Narragansett Basin, Yale University
2009 Volunteer, Peabody Museum of Natural History
2009 Department Field Trip, Geology of Central Connecticut, Yale University

TEACHING EXPERIENCE

Undergraduate Advisees

Thomas Winger, Yale University, Fluid Flow, Mass Loss, and Stable Isotopes in the Purgatory Conglomerate, Rhode Island

Yale University

Advanced Structural Geology (Fall 2009)

Introduction to Geology Lab (Fall 2008)

University of Notre Dame

Historical Geology (Spring 2008)

PROFESSIONAL SOCIETIES

American Geophysical Union

Geological Society of America

American Association for the Advancement of Science

INVITED LECTURES AND PRESENTATIONS

- (1) Flow Paths and Strain in a Subduction Wedge, Cascadia Subduction Zone, NW Washington State. June 27, 2016. Seminar at the Carnegie Institution of Washington, Washington, DC.
- (2) Statistical Symmetry of Lattice Preferred Orientations. May 26, 2016. Presentation at Microanalysis Society on Electron Backscatter Diffraction. Tuscaloosa, AL.

CONFERENCE PROCEEDINGS

Mitchell, R. N., Thissen, C. J., Kirschvink, J. L., et al., (2015) Milankovitch wobble? Eos Trans. AGU, Fall Meeting, Abstract.

Thissen, C. J., and Brandon, M. T., (2015). Statistical Symmetry of Lattice Preferred Orientations: Applications to Quartz and Olivine. GSA Abstracts with Program.

Kirschvink, J. L., Mitchell, R. N., Thissen, C. J., Pietrasz, V., Rioux, M., Montanari, A., Coccioni, R., Ward, P., Raub, T., Evans D. A. D. (2014) Reversal Asymmetry after the end of the Cretaceous Superchron. Eos Trans. AGU, Fall Meeting, Abstract.

Wicks, J., Weller, M., Towles, N., Thissen, C. J., Knezek, N., Johnston, S., Hongsresawat, S., Duncan, M., Black, B., Schmerr, N., Panning, M., Montesi, L. G. J., Manga, M., Lognonne, P. (2014). Mars Thermal History: Core, Atmosphere, Mantle, Phobos, and Surface (MaTH CAMPS). Eos Trans. AGU, Fall Meeting, Abstract.

Thissen, C. J., and Brandon, M.T., (2014), Relating Lattice Preferred Orientation to Deformational Process Using Statistical Analysis of Symmetry in Orientation Distribution Space. Structural Geology and Tectonics Forum, Colorado School of Mines.

Paczkowski, K. P., Montési, L. G. J, Long, M. D. and Thissen, C. J., (2013), Deflection of Mantle Flow Around Subducting Slabs: The Effect of the Viscous Lower Mantle on Sub-slab Seismic Anisotropy, Eos Trans. AGU, Fall Meeting, Abstract

Thissen, C. J., and Brandon, M. T., (2013) Two brittle ductile transitions in subduction wedges, as revealed by topography, Eos Trans. AGU, Fall Meeting, Abstract

Winger, T. P., Thissen, C. J., and Brandon, M. T., (2013) Extreme fluid circulation in a wedge as revealed by strain measurements, western Rhode Island, Eos Trans. AGU, Fall Meeting, Abstract

Penserini, B. D., Kirschvink, J. L., Slotznick, S. P., Mitchell, R. N., Thissen, C. J., Montanari, A., and Holt, J.W., (2013), Short, Sharp, Tropical Magnetic Inclination Excursions: Comparison Between Pleistocene Lavas from Hawaii and Late Campanian (~C33R/33N) Scaglia Rossa Limestone of Italy, Eos Trans. AGU, Fall Meeting, Abstract

Thissen, C. J., and Brandon M. T., (2012), "3D Finite Strain Measurements: Correlation Functions and X-ray Microtomography": Eos Trans. AGU, Fall Meeting, Abstract

Thissen, C. J., and Brandon M. T., (2012), "3D Finite Strain Measurements: Correlation Functions and X-ray Microtomography": Eos Trans. AGU, Fall Meeting, Abstract

Paczkowski, K. P., Montési, L. G. J, Long, M. D. and Thissen, C. J., (2012), "Deflection of Mantle Flow Beneath Subducting Slabs and the Origin of Sub-slab Seismic Anisotropy": Eos Trans. AGU, Fall Meeting, Abstract

Thissen, C. J., and Brandon, M. T. (2012), "3D Finite Strain Measurements: Correlation Functions and X-ray Microtomography": Structural Geology and Tectonics Forum, Williams College

Thissen, C. J., Mitchell, R. N., Kirschvink, J. K., Evans, D. A. D., Montanari, A., Coccioni, R., Hinnov, L. A., and Tsai, V. C., (2010), "True polar wobbles: Cretaceous magnetostratigraphy provides continuous age-calibration and paleogeography": Eos Trans. AGU, Fall Meeting, Abstract GP13A-0758.

Thissen, C. J. Mitchell, R. N., Kirschvink, J. K., Montanari, A., Evans, D. A. D., Coccioni, R., (2010), "Paleogeographic cycles in Scaglia Rossa limestones: Can true polar wobbles provide a new time calibration approach for magnetostratigraphy?" GSA Abstracts with Programs, vol. 42, no. 5, Paper 263-6.

Thissen, C., & Brandon, M. T. (2009). Relating Lattice Preferred Orientation to Deformational Process using Statistical Analysis of Symmetry in Orientation Distribution Space. In AGU Fall Meeting Abstracts (Vol. 1, p. 1852).

Thissen, C. J, and Sakimoto, S. E. H. (2007) "Comparative Analysis of Depth Averaged, Overland Tsunami Flow Velocities From Sediment Transport Models, Structural Damage, and Video Recordings with Applications to Tsunami PaleoDeposits." GSA Abstracts with Programs.