

Chastity A. Aiken

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Georgia Institute of Technology
School of Earth & Atmospheric Sciences
311 Ferst Drive
Atlanta, GA 30332

EDUCATION

Ph.D., Earth & Atmospheric Sciences, Georgia Institute of Technology (expected) 2015
Thesis: *Triggered earthquakes and tremors: their characteristics and physical mechanisms*
Advisor: Dr. Zhigang Peng

B.S., Physics with concentration in Geology, Georgia State University 2010
Advisor: Dr. Brian Thoms
GPA 3.93/4.0

RESEARCH INTERESTS

Nucleation of seismic sources, earthquakes, tectonic and volcanic tremor, icequakes, volcano seismology, static and dynamic triggering, aseismic processes related to triggering,

AWARDS AND HONORS

Achievement Rewards for College Scientists Foundation Global Impact award	2014
Society of Exploration Geophysicists Annual Meeting Travel award	2014
American Geophysical Union Outstanding Student Paper Award	2013
Georgia Institute of Technology, EAS Symposium Best Student Poster	2013
Achievement Rewards for College Scientists Foundation award	2013
International Summer School of Earthquake Science Travel award	2013
Incorporated Research Institutions of Seismology Short Course Travel award	2013
American Geophysical Union Meeting of the Americas Student Travel award	2013
National Science Foundation Graduate Research Fellowship	2012
International Conference of Auditory Display Student Travel award	2012
StatSei7 Conference Student Travel award	2011
Robert Hankla Award for Outstanding Senior Physics Major	2010
National Science Foundation Research Experience for Undergraduates	2009

RESEARCH EXPERIENCE

Earthquake Research Institute, University of Tokyo, Visiting Scholar	2014
Georgia Institute of Technology, Earth & Atmospheric Sciences, Research Assistant	2010 – present
University of Central Florida, Department of Mathematics, Research Assistant	2009

TEACHING EXPERIENCE

Georgia Institute of Technology, Earth & Atmospheric Sciences, Teaching Assistant Earth Processes Introduction to Seismology	2010 – 2014
Georgia State University, Physics, Teaching Assistant Newtonian Mechanics Electromagnetism	2008 – 2010

FIELD EXPERIENCE

Scout/Deployer, 100+ geophones and data loggers for SUGAR Project	2014
Tester/Deployer, Seismometers/GPS/data loggers	2010 – 2011
Structural Geologist, exploration of deformation in northern Georgia	2010

PROFESSIONAL SERVICE

Session monitor, Society of Exploration Geophysicists Annual Meeting	2014
Peer-Reviewer, Journal of Geophysical Research	2014
Peer-Reviewer, Bulletin of Seismological Society of America	2014
Session convener, American Geophysical Union Meeting of the Americas	2013

ACADEMIC SERVICE

Georgia Institute of Technology	
Organizer, Earth & Atmospheric Sciences Symposium	2014
Proposal reviewer, President's Undergraduate Research Awards	2013 – present
Vice president/Secretary, Society of Exploration Geophysicists Student Chapter	2013 – present
Poster judge, Undergraduate Research Symposium (university-wide)	2012 – present
Computing Committee Member, Earth & Atmospheric Sciences	2011 – present
Mentor, Earth & Atmospheric Sciences	2010 – present

PROFESSIONAL AFFILIATIONS

Member, Achievement Rewards for College Scientists (ARCS) Foundation	2013 – present
Member, American Geophysical Union (AGU)	2008 – present
Member, Seismological Society of America (SSA)	2010 – present
Member, Sigma Pi Sigma, Physics honors society	2008 – present
Member, Society of Exploration Geophysicists (SEG)	2010 – present

VOLUNTEER EXPERIENCE

Food preparation, Second Harvest (Tokyo soup kitchen)	2014
Science Fair judge, Grady High School (Atlanta)	2013
Guest speaker, Clarkston High School (Atlanta area)	2013
Tree conservationist, Trees Atlanta	2010 – present
Builder/Judge, Georgia Science Olympiad	2008 – 2011
Math and Physics Tutor, high school and college levels, individual and groups	2008 – present

PUBLICATIONS

In Preparation:

Aiken, C., Z. Peng, K. Chao, R. Douilly, A. Deschamps, E. Calais, and J. Haase (2015), Effect of the 2010 Mw8.8 Maule, Chile earthquake on fault structures in the southern Haiti peninsula, *Earth Planet. Sci. Lett.*, manuscript in preparation.

Peer-Reviewed:

Aiken, C., J. P. Zimmerman, Z. Peng, and J. I. Walter (2014), Triggered seismic events along the Eastern Denali Fault in northwest Canada following the 2012 Mw7.8 Haida Gwaii, 2013 Mw7.5 Craig, and two Mw > 8.5 teleseismic earthquakes, *B. Seismol. Soc. Am.*, **105**(2b), in press.

- Aiken, C.** and Z. Peng (2014), Dynamic triggering of microearthquakes in three geothermal regions of California, *J. Geophys. Res.*, **119**, no. 9, 6992-7009, doi: 10.1002/2014JB011218.
- Chao, K., Z. Peng, H. Gonzalez-Huizar, **C. Aiken**, B. Enescu, H. Kao, A. A. Velasco, K. Obara, and T. Matsuzawa (2013), Global Search of Triggered Tremor Following the 2011 Mw9.0 Tohoku-Oki Earthquake, *B. Seismol. Soc. Am.*, doi:10.1785/0120120171.
- Aiken, C.**, Z. Peng, and K. Chao (2013), Tremors along the Queen Charlotte margin triggered by large teleseismic earthquakes, *Geophys. Res. Lett.*, **40**, 829-834, doi: 10.1002/GRL50220.
- Peng, Z., H. Gonzalez-Huizar, K. Chao, **C. Aiken**, B. Moreno, G. Armstrong (2013), Tectonic Tremor in Cuba Triggered by Large Teleseismic Earthquakes, *B. Seismol. Soc. Am.*, **103**(1), 595-600, doi: 10.1785/0120120253
- Hill, D.P., Z. Peng, D.R. Shelly, and **C. Aiken** (2013), S-wave triggering of tremor beneath the Parkfield, CA, section of the San Andreas Fault by the 2011 Tohoku-Oki Japan earthquake: observations and theory, *B. Seismol. Soc. Am.*, **103**(2b), 1541-1550, doi: 10.1785/0120120114.
- Peng, Z., **C. Aiken**, D. Kilb, D. R. Shelly, and B. Enescu (2012), Listening to the 2011 magnitude 9.0 Tohoku-Oki, Japan earthquake, *Seismol. Res. Lett.*, **83**(2), 287-293, doi:10.1785/gssrl.83.2.287.
- Aiken, C.** and J. Veras (2012), An Inverse Source Problem in Near Zero Frequency Sounding of Layered Media, *Fixed Point Theory*, **13**, no. 1, pp. 11-21.
- Shelly, D. R., Z. Peng, D. P. Hill and **C. Aiken** (2011), Triggered creep as a possible mechanism for delayed dynamic triggering of tremor and earthquakes, *Nat. Geosci.*, **4**, pp. 384-388, doi:10.1038/ngeo1141.
- Peng, Z., C. Wu, and **C. Aiken** (2010), Delayed triggering of microearthquakes by multiple surface waves circling the Earth, *Geophys. Res. Lett.*, **38**, L04306, doi:10.1029/2010GL046373.
- Peng, Z., D. P. Hill, D. R. Shelly, **C. Aiken** (2010), Remotely triggered microearthquakes and tremor in Central California following the 2010 Mw 8.8 Chile Earthquake, *Geophys. Res. Lett.*, **37**, L24312, doi:10.1029/2010GL045462.

PRESENTATIONS

- Aiken, C.**, K. Obara, Z. Peng, K. Chao, and T. Maeda (2014), Sweet Spot Tremor Triggered by Intraslab Earthquakes in the Nankai Subduction Zone, *Eos AGU*, Fall Meet. Suppl.
- X. Meng, Z. Peng, **C. Aiken**, and D. Kilb (2014), Dynamically Triggered Earthquakes in the Geysers Region following the 2014 M6.0 South Napa Earthquake, *Eos AGU*, Fall Meet. Suppl.
- Z. Peng, D. Shelly, W. Ellsworth, and **C. Aiken** (2014), Tectonic Tremor along the Parkfield-Cholame Section of the San Andreas Fault Triggered by the 2014 M6.0 South Napa and Other Regional Earthquakes, *Eos AGU*, Fall Meet. Suppl.
- Walter, J. I., H. Kao, Z. Peng, **C. Aiken**, X. Meng, and J. Zimmerman (2014), Investigating dynamic interactions between the October 2012 Haida Gwaii and January 2013 Craig earthquakes, *Seismol. Res. Lett.*, Spring Meet. Suppl.

- Aiken, C., Z. Peng, D. R. Shelly, D. P. Hill, H. Gonzalez-Huizar, K. Chao, J. P. Zimmerman, R. Douilly, A. Deschamps, J. Haase, E. Calais** (2013), Tectonic Tremor Triggered along Major Strike-Slip Faults around the World, *Eos AGU*, Fall Meet. Suppl.
- Zimmerman, J. P., **C. Aiken**, and Z. Peng (2013), Tectonic Tremor and Brittle Seismic Events Triggered along the Eastern Denali Fault in northwest Canada, *Eos AGU*, Fall Meet. Suppl.
- Aiken, C., Z. Peng, R. Douilly, E. Calais, A. Deschamps, and J. Haase** (2013), Deep Tectonic Tremor in Haiti triggered by the 2010/02/27 Mw8.8 Maule, Chile earthquake, *AGU Meeting of the Americas (Talk)*.
- Peng, Z., **C. Aiken**, K. Chao, H. Yang, H. Gonzalez-Huizar, B. Wang, and L. Ojha (2013), Global Search of Triggered Tectonic Tremor, *Earthscape National Meeting (Talk)*.
- Aiken, C.** and Z. Peng (2012), What Can Sounds Tell Us About Earthquake Interactions?, *Eos Trans. AGU*, 93, Fall Meet. Suppl.
- Aiken, C., Z. Peng, and K. Chao** (2012), Tremors Triggered along the Queen Charlotte Fault, *Eos Trans. AGU*, 93, Fall Meet. Suppl.
- Aiken, C., Z. Peng, D. Simpson, A. Michael, D. Kilb, B. Enescu, D.R. Shelly** (2012), Shaking up Earth Science: Visual and Auditory Representations of Earthquake Interactions, AAPT Summer meeting abstract.
- Armstrong, G., Z. Peng, K. Chao, **C. Aiken**, H. Gonzalez-Huizar, and B. Moreno (2012), Dynamic Triggering of Deep Tectonic Tremor in Cuba and Southern Chile, SCEC annual meeting abstract.
- Peng, Z., K. Chao, C. Wu, B. Fry, B. Enescu, and **C. Aiken** (2012), Global Observations of Triggered Tectonic Tremor, *Seismol. Res. Lett.*, Spring Meet. Suppl.
- Aiken, C., Z. Peng, D. Simpson, A. Michael, D. Kilb, B. Enescu, D.R. Shelly** (2012), Shaking up Earth Science: Visual and Auditory Representations of Earthquake Interactions, *International Conference for Auditory Display*, Summer meeting.
- Peng, Z., **C. Aiken**, D. Kilb, D. R. Shelly, and B. Enescu (2011), Listening to the 2011 magnitude 9.0 Tohoku-Oki, Japan earthquake, *Eos Trans. AGU*, 92, Fall Meet. Suppl.
- Hill, D. P., D. R. Shelly, Z. Peng, and **C. Aiken** (2011), Tectonic Tremor beneath the Parkfield section of the San Andreas Fault Triggered by Shear and Surface waves from the MW 9.0 Tohoku- Oki, Japan, Earthquake, *Eos Trans. AGU*, 92, Fall Meet. Suppl.
- Aiken, C., Z. Peng, D. Shelly, and D. Hill** (2011), Comprehensive analysis of triggered tremor around the Parkfield-Cholame section of the San Andreas Fault, *Eos Trans. AGU*, 92, Fall Meet. Suppl., Abstract S13A-2247.
- Shelly, D.R., K.M. Johnson, Z. Peng, D.P. Hill, and **C. Aiken** (2011), Impacts of static and dynamic stress changes on tremor and creep along the lower-crustal San Andreas fault, SCEC Annual meeting abstract.

- Chao, K., Z. Peng, D. P. Hill, D. R. Shelly, B. Enescu, B. Fry and **C. Aiken** (2011), Triggered Non-volcanic Tremor following the 2011 Tohoku-Oki Earthquake, SCEC Annual meeting abstract.
- Aiken, C.**, Z. Peng, D. Shelly, and D. Hill (2011), Comprehensive analysis of triggered tremor around the Parkfield-Cholame section of the San Andreas Fault, *Research in Geophysics*, eISSN 2038-9663.
- Aiken, C.**, Z. Peng, and C. Wu (2011), Dynamic triggering of microearthquakes at three geothermal regions in California, *Research in Geophysics*, eISSN 2038-9663.
- Sullivan, B., Z. Peng, C. Wu, and **C. Aiken** (2011), Delayed triggering of earthquakes by multiple waves circling the Earth, *Seismol. Res. Lett.*, 82, 278, Spring Meet. Suppl. **(Talk)**.
- Peng, Z., K. Chao, **C. Aiken**, D. Shelly, D. Hill, C. Wu, B. Enescu, and A. Doran (2011), Remote triggering following the 2011 M9.0 Tohoku, Japan earthquake, *Seismol. Res. Lett.*, 82, 278, Spring Meet. Suppl. **(Talk)**.
- Peng, Z., D. R. Shelly, D. P. Hill, and **C. Aiken** (2011), Tremor and creep events on the deep San Andreas Fault triggered by local, regional, and teleseismic earthquakes, *Seismol. Res. Lett.*, 82, 278, Spring Meet. Suppl.
- Peng, Z., D. R. Shelly, D. P. Hill, and **C. Aiken** (2010), Tremor evidence for dynamically triggered creep events on the deep San Andreas Fault, *Eos Trans. AGU*, 91, Fall Meet. Suppl., Abstract S12A- 05 **(Talk)**.
- Aiken, C.**, Z. Peng, and C. Wu (2011), Dynamic triggering of microearthquakes at three geothermal regions in California, *Seismol. Res. Lett.*, 82, 278, Spring Meet. Suppl.
- Aiken, C.**, Z. Peng, and C. Wu (2010), Dynamic triggering of microearthquakes in the Long Valley Caldera and Coso Geothermal Field, *Eos Trans. AGU*, 91, Fall Meet. Suppl., Abstract S33B-2103.
- Aiken, C.**, A. Tamasan and J. Veras (2009), Near Zero Frequency in Layered Media, 76th Annual Meeting of the Southeastern Section of the American Physical Society, Atlanta, GA.
- Aiken, C.**, A. Tamasan and J. Veras (2009), Near Zero Frequency in Layered Media, National Science Foundation (NSF) Research Experience for Undergraduates (REU) Showcase, University of Central Florida, Orlando, FL.