

Adrian E. Castro

106 Central St • Wellesley, MA 02481 • ac114@wellesley.edu • 347-909-0027

PROFESSIONAL APPOINTMENTS

- Wellesley College, Department of Geosciences, Wellesley, MA** July 2020 – Present
Assistant Professor
- University of Wisconsin Madison, Geoscience Department, Madison, WI** July 2019 – July 2020
Postdoctoral Research Associate
- Carleton College, Geology Department, Northfield, MN** January 2019 – June 2019
Visiting Assistant Professor

EDUCATION

- Rensselaer Polytechnic Institute** December 2018
PhD in Metamorphic Petrology
- Rensselaer Polytechnic Institute** May 2016
Master of Science in Geology
- Amherst College** May 2014
Bachelor of Arts *Cum Laude* in Geology

HONORS, GRANTS AND FELLOWSHIPS

Wellesley College Faculty Award: (Sub)Urban Geology as a Tool for Tectonic Reconstruction: P–T–t Paths from New York City, and Central Massachusetts.

Award: \$6000

2019 Lead Writer for NSF Grant #175067: Does Overstepping of Garnet-producing Reactions Delay Devolatilization in Subduction zones? Insights From the Cycladic Blueschist Belt, Greece P.I.: Frank Spear

Award: \$419,247

John Mason Clarke 1877 Fellowship

Award: \$5,800

Forris Jewett Moore Fellowship

Award: \$9,000

John Mason Clarke 1877 Fellowship

Award: \$10,200

2015 Geological Society of America on to the Future Travel Grant

PUBLICATIONS

Kohn, M.J., Castro, A.E., Karswell, B.S., Ranero, C., Spear, F.S., 2018, Shear heating reconciles thermal models with the metamorphic rock record of subduction. *Proceedings of the National Academy of the Sciences*.

Castro, A.E, and Spear, F., 2016, Reaction Overstepping and Reevaluation of the Peak P-T Conditions of the Blueschist unit Sifnos, Greece: Implications for the Cyclades Subduction Zone. *International Geology Review*.

PUBLICATIONS IN PREPARATION

Yao, J*, Castro, A.E., Roberts, N.M, *Brunet, I., Wolfe, O.M., Vasey, D., Kuiper, Y., and Hepburn, C.J., Metamorphism on the Trailing Edge of Ganderia: Evidence for Moderate P/T Metamorphism in the Nashoba Terrane, Central MA, *In prep for Lithos*

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Castro, A.E., and Spear, F., Overstepped garnet nucleation in lawsonite-bearing blueschists from Syros, Greece: the role of metastable chlorite in subduction zone devolatilization. *In prep for Journal of Metamorphic Geology*.

Castro, A.E., Bonamici, C.E., Daniel, C.D., *In review*, Diving Deeper into the Picuris Orogen: Evidence for Upper Amphibolite Facies Metamorphism along the Plomo Shear Zone, *In Prep for Journal of Metamorphic Geology*

SCIENTIFIC PRESENTATIONS *INDICATES UNDERGRADUATE MENTEE

*Zizka, E.L., *Van Scoy, E., *Brunet, I., *Erwin, M.C., Yao, J., Castro, A.E., Tailby, N.D., 2022, Searching for the suture: Applying geochemical techniques to unravel the nature of Cameron's line in Central Park, NYC, Geological Society of America Abstracts with Programs. Vol 54, No. 3, <https://doi.org/10.1130/abs/2022NE-375404>

Yao, J., Castro, A., Castro, A., Brunet, I., Brunet, I., Roberts, N., Roberts, N., Wolfe, O. M., Wolfe, O. M., Kuiper, Y. D., Hepburn, J. C., & Hepburn, J. C., 2022, "Barrovian" metamorphism in the Nashoba terrane: evidence from combined phase equilibria modeling, geothermobarometry, and petrographic analysis. Geological Society of America Abstracts with Programs. Vol 54, No. 5, <https://doi.org/10.1130/abs/2022AM-381261>

*Yao, J., *Brunet, I., Castro, A.E., Wolfe, O.M., Kuiper, Y., Hepburn, & C.J., 2022, Synthesizing petrographic analysis and modern thermodynamic modeling to determine the P–T conditions of metamorphism in the Nashoba Terrane, East-Central MA, *Geological Society of America*, Abstracts with Programs., Vol 54, No. 3, <https://doi.org/10.1130/abs/2022NE-374827>

Yao, J.*, Castro, A.E., Kohn, M.J., Spear, F.S., 2021, Garnet nucleation overstepping: A potential mechanism for fluid production within the Seismic-Aseismic Transition in subduction zones, *NE Geological Society of America Meeting*

Castro, A.E., Bonamici, C.E., Daniel, C.D., 2020, Diving deeper into the Picuris Orogen: Upper amphibolite facies metamorphism and brittle deformation all the Plomo shear zone. *Geological Society of America Annual Meeting*

Castro, A.E., Frank S. Spear, and Kohn, M.J., 2017, Shear heating and metamorphism in subduction zones, 2. The seismic-aseismic transition at c. 50 km depth. *American Geophysical Union Fall Meeting*

Castro, A.E., and Spear, F.S., 2017, Lawsonite revisited: insights from integrated QuiG Raman barometry, trace element thermometry, and OS thermodynamic modelling of garnet inclusions in lawsonite pseudomorphs from Syros, Greece. *Geological Society of America Annual Meeting*

Castro, A. E., Frank S. Spear, and Cheney, J.T., 2016, Application of epidote and quartz inclusion Raman barometry: reevaluation of the PT conditions of garnet bearing blueschists from Sifnos, Greece. *NE Geological Society of America Meeting*

Castro, A. E., Frank S. Spear, and Gurette, M., 2015, Epidote Raman Peak Shift as a Function of Pressure and Composition: Calibration and Preliminary Applications. *NE Geological Society of America Meeting*

Castro, A. E., and Spear, F.S., 2015, Quartz Inclusion in Garnet Raman Barometry at Mt. Moosilauke, New Hampshire: Revisiting Classic Thermobarometric Calibrations. *NE Geological Society of America Meeting*

Castro, A. E., T. A. Harms, and Cheney, J. T., 2014, Geochemical and petrologic analysis of Paleoproterozoic metamorphosed mafic dikes and sills from the highland mountains Montana. *NE Geological Society of America Meeting*

INVITED TALKS

“What Goes Down Must Come Up: Probing the depths of subduction zone processes”
City College

2017

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Paradigm Lost: Does chemical disequilibrium in subduction zone metamorphism drive devolatilization? 2020
Boise State University, Purdue University

Some Like it Hot: Reevaluating the Prograde Metamorphic History of the Nashoba Terrane 2021
Smithsonian Institute, Boston College, Colby College, and John's Hopkins University

STUDENT ACADEMIC ADVISING

Master's Thesis Committee Member for Sam Couch, Boise State University 2020-2021

Wellesley Undergraduate Advisor: 4 Major advisees, 2 Minor advisees 2020-Present

SERVICE AND OUTREACH

Tektonika 2022-Current
Associate Editor

Second National Conference: Justice in Geoscience 2022
Attendee

Diversity, Equity and Inclusion Committee, Geochemical Society 2021-Current
Member

Every Rock Has a Story K-12 Earth Science Education Show 2021
Guest Host

University of Wisconsin-Madison, Geopath, Madison, WI. 2017
Member

Rensselaer Polytechnic Institute, School of Science Grad Council, Troy, NY. 2017
Vice President

Rensselaer Polytechnic Institute, School of Science Grad Council, Troy, NY. 2016
Department Representative