**Jay B. Thomas**

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***Education***

Ph.D., Department of Geological Sciences, Virginia Tech, September 2003. Trace elements in melt inclusions and host minerals: insights into melt evolution, crystal growth and processes operative at the crystal/melt interface. Advisor: Robert J. Bodnar

M.S., Department of Geological Sciences, Virginia Tech, May 1998. Isotopes and trace elements in granitic rocks: modeling of petrogenetic processes related to crustal growth in mountain belts. Advisor: A. Krishna Sinha

B.A., Geology Department, Guilford College, North Carolina, May 1995

Senior thesis: mapping, petrology and interpretation of volcanic and plutonic rocks of the Carolina Slate Belt. Advisor: Charles Almy

***Professional Experience***

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| 1/1/2015 to present | Assistant Professor in the Department of Earth Sciences at Syracuse University, Syracuse, New York |
| 1/2009 to 12/31/2014 | Senior research scientist in the Department of Earth and Environmental Sciences at Rensselaer Polytechnic Institute, Troy, New York  |
| 10/2003 to 01/2009 | Postdoctoral researcher in the Department of Earth and Environmental Sciences at Rensselaer Polytechnic Institute, Troy, New York, under direction of E. Bruce Watson |
| 5/2000 to 8/2003 | Research assistant in the Fluids Research Laboratory at Virginia Tech, Blacksburg, Virginia, under direction of Robert J. Bodnar |
| Summer 1998 | Research assistant for David M. Wayne at Los Alamos National Laboratory, Los Alamos, New Mexico |
| Summer 1996 | Field assistant for M. L. Crawford in southeastern Alaska and northwestern British Columbia. |
| 1992-1999 | Teaching assistant at Guilford College (North Carolina) and Virginia Tech (Blacksburg, Virginia) |

***Refereed Publications****—***†***indicates student authors*

Google Scholar metrics

All: 2755 citations, h-index 20, i10-index 26

Since 2015: 1596 citations, h-index 18, i10-index 24

* 1. **†**Gonzalez JP, Baldwin SL, **Thomas JB**, Nachlas WO, Fitzgerald P (2020) Discovery of coesite in the Appalachian orogen: First evidence for subduction to mantle depths during the Taconic orogeny. Geology (in press)
	2. Kronenberg AK, Ashley KT, Francsis MK, **†**Jezek L, **†**Kronenberg JA, Law RD, **Thomas JB** (2020) Water loss during dynamic recrystallization of Moine thrust quartzites, northwest Scotland. Geology. <https://doi.org/10.1130/G47041.1>
	3. **Thomas JB**, Nachlas WO (2020) Discontinuous precipitation of rutilated quartz: grain-boundary migration induced by changes to the equilibrium solubility of Ti in quartz. Contrib Mineral Petrol 175:38. <https://doi.org/10.1007/s00410-020-01676-2>
	4. **†**Bonazzi M, Tumiati S, **Thomas J**, Angel RJ, Alvaro M (2019) Assessment of the reliability of elastic geobarometry with quartz inclusions. Lithos 105201. [https://doi.org/10.1016/j.lithos.2019.105201](https://doi.org/10.1007/s00410-020-01676-2)
	5. **†**Gonzalez JP, **Thomas JB**, Baldwin SL, Alvaro M (2019) Quartz‐in‐garnet and Ti‐in‐quartz thermobarometry: Methodology and first application to a quartzofeldspathic gneiss from eastern Papua New Guinea. Journal of Metamorphic Geology. <https://doi.org/10.1111/jmg.12508>
	6. **†**Osborne ZR, **Thomas JB**, Nachlas WO, Baldwin SL, Holycross ME, Spear FS, Watson EB (2019) An experimentally calibrated thermobarometric solubility model for titanium in coesite (TitaniC). Contributions to Mineralogy and Petrology 174:34. <https://doi.org/10.1007/s00410-019-1575-5>
	7. **†**del Real I, Smieska L, Thompson JFH, Martinez C, **Thomas J**, Layton-Matthews D (2019) Using multiple micro-analytical techniques for evaluating quantitative synchrotron-XRF elemental mapping of hydrothermal pyrite. Journal of Analytical Atomic Spectrometry 34:1724. <https://doi.org/10.1039/C9JA00083F>
	8. Gabitov R, Borrelli C, Buettner J, Thirumalai KG, Roobanvenkatesh BG, Testa M, Kirkland B, Skarake A, **Thomas JB**, Weremeichik J (2018) Characterization of carbonate crust from a recently discovered methane seep on the North Atlantic continental margin of the US. Minerals 9:138. <https://doi.org/10.3390/min9030138>
	9. Guerette M, Ackerson MR, **Thomas JB**, Watson EB, Walker D, Huang L (2018) Thermally induced amorphous to amorphous transition in hot-compressed silica glass. The Journal of Chemical Physics 148:194501. <https://doi.org/10.1063/1.5025592>
	10. Nachlas WO, **Thomas JB**, Hirth G (2018) TitaniQ deformed: Experimental deformation of out-of-equilibrium quartz porphyroclasts. Journal of Structural Geology 116: 207-222. <https://doi.org/10.1016/j.jsg.2018.07.012>
	11. **Thomas JB**, Spear FS (2018) Experimental study of quartz inclusions in garnet at pressures up to 3.0 GPa: evaluation of the quartz-in-garnet inclusion elastic thermobarometer. Contributions to Mineralogy and Petrology 173: 42. <https://doi.org/10.1007/s00410-018-1469-y>
	12. Kronenberg AK, **†**Hasnan HFB, Holyoke III CW, Law RD, Liu Z, Thomas JB (2017) Synchrotron FTIR imaging of OH in quartz mylonites. Solid Earth 8:1025–1045. <https://doi.org/10.5194/se-8-1025-2017>
	13. Zeitler PK, Enkelmann E, **Thomas JB**, Watson EB, Ancuta LD, Idleman BD (2017) Solubility and trapping of helium in apatite. Geochimica et Cosmochimica Acta 209:1–8. <https://doi.org/10.1016/j.gca.2017.03.041>
	14. Watson EB, Cherniak DJ, **Thomas JB**, Hanchar JM, Wirth R (2016) Crystal surface integrity and diffusion measurements on Earth and planetary materials. Earth and Planetary Science Lett 450: 346–354. <https://doi.org/10.1016/j.epsl.2016.06.043>
	15. Cherniak DJ, Watson EB, Trappisch R, **Thomas JB**, Chaussende D (2016) Diffusion of helium in SiC and implications for retention of cosmogenic He. Geochimica et Cosmochimica Acta 192:248–257. <https://doi.org/10.1016/j.gca.2016.08.007>
	16. **Thomas JB** (2016) Titanium. In: White WM (ed) Encyclopedia of Geochemistry: A Comprehensive Reference Source on the Chemistry of the Earth. Springer International Publishing, Cham, pp 1–7. [dx.doi.org/10.1007/978-3-319-39193-9\_289-1](https://link.springer.com/referenceworkentry/10.1007/978-3-319-39193-9_289-1)
	17. Trail D, Tailby ND, Lanzirotti A, Newville M, **Thomas JB**, Watson EB (2015) Redox evolution of silicic magmas: Insights from XANES measurements of Ce valence in Bishop Tuff zircons. Chemical Geology 402, 77–88. DOI: <https://doi.org/10.1016/j.chemgeo.2015.02.033>
	18. **†**Guerette M, **†**Ackerson MR, **Thomas JB**, Yuan F, Watson, EB, Walker, D, Huang L (2015) Structure and Properties of Silica Glass Densified in Cold Compression and Hot Compression. Scientific Reports 5, 15343. <https://doi.org/10.1038/srep15343>
	19. **Thomas JB,** Watson EB, Spear FS, Wark DA (2015) TitaniQ recrystallized: experimental confirmation of the original Ti-in-quartz calibrations. Contributions to Mineralogy and Petrology 169:27. <https://doi.org/10.1007/s00410-015-1120-0>
	20. **Thomas JB**, Watson EB (2014) Diffusion and partitioning of magnesium in quartz grain boundaries. Contrib Mineral Petrol 168:1–12. <https://doi.org/10.1007/s00410-014-1068-5>
	21. Spear FS, **†**Hallet BW, **Thomas JB** (2014) Overstepping the garnet isograd: a comparison of QuiG barometry and thermodynamic modeling. Contributions to Mineralogy and Petrology 168:1059. <https://doi.org/10.1007/s00410-014-1059-6>
	22. **†**Lanzillo NA, **Thomas JB**, Nayak S, Watson EB (2014) Pressure-enabled phonon engineering in metals. Proc Natl Acad Sci USA 111:8712–8716. <https://doi.org/10.1073/pnas.1406721111>
	23. Cherniak DJ, **Thomas JB**, Watson EB (2014) Neon diffusion in olivine and quartz. Chemical Geology 371:68–82. <https://doi.org/10.1016/j.chemgeo.2014.01.023>
	24. **†**Lanzillo NA, Watson EB, **Thomas JB**, Nayak S, Curioni A (2014) Near-surface controls on the composition of growing crystals: Car–Parrinello molecular dynamics (CPMD) simulations of Ti energetics and diffusion in alpha quartz. Geochimica et Cosmochimica Acta 131:33–46. <https://doi.org/10.1016/j.gca.2014.01.015>
	25. **†**Ashley KT, Webb LE, Spear FS, **Thomas JB** (2013) P-T-D histories from quartz: A case study of the application of the TitaniQ thermobarometer to progressive fabric development in metapelites. Geochemistry, Geophysics, Geosystems 14:3821–3843. <https://doi.org/10.1002/ggge.20237>
	26. Spear FS, **†**Ashley KT, Webb LE, **Thomas JB** (2012) Ti diffusion in quartz inclusions: implications for metamorphic time scales. Contrib Mineral Petrol 164:977–986. <https://doi.org/10.1007/s00410-012-0783-z>
	27. **Thomas JB**, Watson EB (2012) Application of the Ti-in-quartz thermobarometer to rutile-free systems. Reply to: a comment on: ‘TitaniQ under pressure: the effect of pressure and temperature on the solubility of Ti in quartz’ by Thomas et al. Contributions to Mineralogy and Petrology 164:369–374. <https://doi.org/10.1007/s00410-012-0761-5>
	28. Leeman WP, MacRae CM, Wilson NC, Torpy A, Lee C-T A, Student JJ, **Thomas JB**, Vicenzi EP (2012) A Study of Cathodoluminescence and Trace Element Compositional Zoning in Natural Quartz from Volcanic Rocks: Mapping Titanium Content in Quartz. Microscopy and Microanalysis 18:1322–1341. <https://doi.org/10.1017/S1431927612013426>
	29. **†**Behr WM, **Thomas JB**, Hervig RL (2011) Calibrating Ti concentrations in quartz for SIMS determinations using NIST silicate glasses and application to the TitaniQ geothermobarometer. American Mineralogist 96:1100–1106. <https://doi.org/10.2138/am.2011.3702>
	30. **†**Trail D, **Thomas JB**, Watson EB (2010) Redox evolution of silicic magmas: Insights from XANES measurements of Ce valence in Bishop Tuff zircons. Chemical Geology 402:77–88. <https://doi.org/10.1016/j.chemgeo.2015.02.033>
	31. **Thomas JB**, Watson EB, Spear FS, **†**Shemella PT, Nayak SK, Lanzirotti A (2010) TitaniQ under pressure: the effect of pressure and temperature on the solubility of Ti in quartz. Contrib Mineral Petrol 160:743–759. <https://doi.org/10.1007/s00410-010-0505-3>
	32. **†**Clay PL, Baxter EF, Cherniak DJ, Kelley SP, **Thomas JB**, Watson EB (2010) Two diffusion pathways in quartz: A combined UV-laser and RBS study. Geochimica et Cosmochimica Acta 74:5906–5925. <https://doi.org/10.1016/j.gca.2010.07.014>
	33. Cherniak DJ, Watson EB, **Thomas JB** (2009) Diffusion of helium in zircon and apatite. Chemical Geology 268:155–166. <https://doi.org/10.1016/j.chemgeo.2009.08.011>
	34. **Thomas JB**, Watson EB, Cherniak DJ (2008) Lattice diffusion and solubility of argon in forsterite, enstatite, quartz and corundum. Chemical Geology 253:1–22. <https://doi.org/10.1016/j.chemgeo.2008.03.007>
	35. Watson EB, **Thomas JB**, Cherniak DJ (2007) 40Ar retention in the terrestrial planets. Nature 449:299–304. <https://doi.org/10.1038/nature06144>
	36. **†**Severs MJ, **†**Azbej T, **Thomas JB**, Mandeville CW, Bodnar RJ (2007) Experimental determination of H2O loss from melt inclusions during laboratory heating: Evidence from Raman spectroscopy. Chemical Geology 237:358–371. <https://doi.org/10.1016/j.chemgeo.2006.07.008>
	37. Watson EB, Wark DA, **Thomas JB** (2006) Crystallization thermometers for zircon and rutile. Contributions to Mineralogy and Petrology 151:413–433. <https://doi.org/10.1007/s00410-006-0068-5>
	38. **Thomas JB**, Bodnar RJ, Shimizu N, Chesner C (2003) Melt inclusions in zircon. In: Reviews in Mineralogy and Geochemistry, 2003, 53, pp.63–87. Society of America and Geochemical Society: Washington, DC, United States. <https://doi.org/10.2113/0530063>
	39. **Thomas JB**, Bodnar RJ (2002) A technique for mounting and polishing melt inclusions in small (<1 mm) crystals. American Mineralogist 87:1505–1508. <https://doi.org/10.2138/am-2002-1030>
	40. **Thomas JB**, Bodnar RJ, Shimizu N, Sinha AK (2002) Determination of zircon/melt trace element partition coefficients from SIMS analysis of melt inclusions in zircon. Geochimica et Cosmochimica Acta 66:2887–2901. [https://doi.org/10.1016/S0016-7037(02)00881-5](https://doi.org/10.1016/S0016-7037%2802%2900881-5)
	41. **Thomas JB**, Sinha AK (1999) Field, geochemical, and isotopic evidence for magma mixing and assimilation and fractional crystallization processes in the Quottoon Igneous Complex, northwestern British Columbia and southeastern Alaska. Canadian Journal of Earth Sciences 36:819–831. <https://doi.org/10.1139/e99-001>
	42. **Thomas JB** (1994) Mangrove vegetation detection using remote sensing and image processing techniques. Proceedings of the Eighth National Conference on Undergraduate Research 699–703.

***Primary Supervisor of Postdoctoral Researcher***

William Nachlas: (2015–2018) Experimental studies of trace element incorporation in minerals (now Director of Electron Microbeam Research Labs at University of Wisconsin–Madison)

***Primary Supervisor of Graduate Students***

Benjamin Pummel: MS student 2019–present (anticipated completion 2021)

Effects of stress relaxation on strained mineral inclusions with implications on elastic thermobarometry

Carson Rufledt: student 2019–present (anticipated completion 2023)

Effects of pressure and temperature on carbonaceous materials

Glenn Thompson: PhD candidate 2018–present (anticipated completion 2023)

Applications of modern thermobarometry to granitoids of the Latir volcanic Field, northern New Mexico

Zach Osborne: PhD student 2016–present (anticipated completion 2021)

Development of new thermobarometers in silica minerals

Ellen Was: MS student 2015–2017 (graduated May 2017; now employed at Dickinson College) Aluminum solubility mechanism in quartz

***Undergraduate Student Research Under My Direct Supervision***

Andrew Meier: 2019–2020; BS in Earth Science 2020

Tephrochronology of sediment cores from Lake Kivu

Bryce Caplan: May–July 2019; BS in Chemistry 2020

Fluid inclusion study of granitic rocks

Anthony Crespo: 2016–2018; BS in Earth Science

Characterization of solids in hailstones; fluid inclusions in calcite from the Marcellus Shale; current MS student in Atmospheric and Oceanic Science Department at the University of Wisconsin–Madison, 2020; PhD in same department beginning fall 2020.

David Adams: 2016–2017; BS in Earth Science 2018

Experimental evaluation of the quartz-in-garnet thermobarometer

Guiomar (Gio) Camano: 2016-2017; BS in Earth Science 2017

Fluid inclusion studies of minerals from the Balmat-Edwards Zinc District, St. Lawrence County, NY

***Undergraduate Student Research Supervision with Other Advisors***

Matthew Kennelly (primary advisor Suzanne Baldwin): 2019–2020; BS in Earth Science 2020

Crystallization conditions of UHP rocks

Lindsay Moon (primary advisor Linda Ivany): 2019; BS in Earth Science 2019

Effects of heating on the oxygen isotopes of modern and fossilized clam shell material

***Courses Taught***

Dynamic Earth (EAR-105, EAR-110): introductory physical geology course

Mineralogy (EAR-314): core course for undergraduate Earth Science degrees

Petrology (EAR-418): elective course for undergraduate Earth Science degrees

Departmental Colloquium (EAR-483): students attend professional lectures in the Department’s K. D. Nelson Seminar Series

Applications of Electron Probe Microanalysis (EAR-600): graduate-level course to train students to use our electron microprobe

***Invited Lectures***

September 2019–University of Iowa; *Making rocks at home: experimental studies of equilibrium and kinetic controls on rock formation*

August 2018–Goldschmidt Pre-meeting Workshop at Woods Hole Oceanographic Institute on melt inclusions; *Making melt inclusions: an experimental approach to study syn- and post-entrapment compositional modifications*

May 2016–City College of New York, New York City; *Frontiers in thermobarometry*

March 2016–Colgate University, Hamilton, NY; *Frontiers in thermobarometry*

December 2015–American Geophysical Union Fall Meeting, San Francisco, CA; *Geochemistry of recrystallized rocks*

May 2014–ASM International Spring Symposium, Niskayuna, NY; *Exploring the Earth through experimental geochemistry: a quick tour*

April 2013–European Geosciences Union, Vienna, Austria; *Experimental calibration of a Ti-in-quartz thermobarometer: an overview for applications*

October 2011–Virginia Tech, Blacksburg, VA; *TitaniQ under pressure: the effect of pressure and temperature on the solubility of Ti in quartz*

April 2010–State University of New York at Binghamton, Binghamton, NY; *TitaniQ under pressure: the effect of pressure and temperature on the solubility of Ti in quartz—a new thermobarometer*

February 2009–American Museum of Natural History, New York City, NY; *TitaniQ under pressure: assessing the effect of pressure on the Ti-in-quartz geothermometer*

***Grants and Awards***

February 2020: Collaboration for Unprecedented Success and Excellence (CUSE) Grant Program through Syracuse University Office of Research ($5000 pending); PI on proposal, “Experimental evaluation of stress relaxation on the quartz-in-garnet thermobarometer.”

January 2020: National Science Foundation ($394,268 pending); PI on proposal “Collaborative Research: Revisiting the water-saturated granite solidus.” Collaboration with co-PI Michael Ackerson at the Smithsonian National Museum of Natural History.

January 2020: Syracuse Office of Undergraduate Research and Creative Engagement (SOURCE) through Syracuse University Office of Research; I am the Faculty Mentor for undergraduate PI Andrew Meier who was awarded $5000 ($750 to J. Thomas) for the proposal “Utilizing Volcanic Deposits to Develop a Sedimentation History.”

February 2019: National Science Foundation ($719,996 declined); Co-PI on “Collaborative Research: Phanerozoic co-evolution of life and surface Earth environment.” Collaboration with PI Zunli Lu (Syracuse University) and co-PIs Ariel Anbar (Arizona State U.), Eric Sperling (Stanford U.), Jonathan Payne (Stanford U.), Stephen Romaniello (U. Tennessee), Clara Blättler (U. Chicago), Curtis Deutsch(U. Washington), Andy Ridgwell **(**U. California–Riverside), Xiaoming Liu (U. North Carolina).

June 2017: Advanced Photon Source at the Argonne National Laboratory (awarded 16 days of analytical time over two years on GeoSoilEnviroCARS beamline 13-ID-E through General User Proposal-50914); PI on “Titanium solubility mechanisms in some important metamorphic index minerals with implications for the development of new metamorphic thermobarometers.” Co-PI William Nachlas at Syracuse University.

March 2018: National Science Foundation ($257,653; declined); PI on “Collaborative Research: Do melt inclusions record and preserve pre-eruptive volatile contents of magmas? An experimental assessment.” Collaboration with Robert Bodnar at Virginia Tech.

February 2017–2018: New York State Department of Economic Development (awarded $119,546 under contract number C150154). PI on proposal to obtain partial matching funds for the 30% match required by the MRI program that was applied to the award “Acquisition of an electron microprobe at Syracuse University: a central New York regional user facility”.

August 2016–2017: National Science Foundation (EAR-1625835 awarded Syracuse University $836,819; 30% match by SU ($239,091) and NY State Dept. of Economic Development ($119,546); total project cost $1,195,455); PI on “MRI—Acquisition of an electron microprobe at Syracuse University: a central New York regional user facility.” Co-PIs Suzanne Baldwin, Scott Samson and Jeremy Gilbert (Syracuse University).

March 2016–2020: National Science Foundation (EAR-1551343 awarded Syracuse University $376,200); PI on “Collaborative Research: equilibrium and kinetic studies of new trace element thermobarometers.” Collaboration with Bruce Watson at Rensselaer Polytechnic Institute.

June 2015–2018: National Science Foundation (EAR-1543627 awarded Syracuse University $29,162 for three years through a budget-adjusted subcontract to EAR-1447468 ($490,362) that was granted during transition from RPI); Co-PI on “Inclusion barometry and overstepping isograd reactions: How close is the approach to equilibrium during metamorphism?” Frank Spear at Rensselaer Polytechnic Institute was the other PI.

January 2015: National Science Foundation ($922,027; declined); PI on MRI—Acquisition of an electron microprobe at Syracuse University: a central New York regional user facility.” Co-PIs Suzanne Baldwin, Scott Samson and James Spencer (Syracuse University).

January 2012–2015: Department of Energy Basic Energy Sciences, Chemical Sciences, Geosciences, and Biosciences Division (DE-FG02-94ER144320 awarded $779,006); Co-PI on “The role of water in grain-boundary diffusion.” Bruce Watson at Rensselaer Polytechnic Institute was the other co-PI.

August 2012–2015: National Science Foundation (EAR-1220295 awarded $84,829); Co-PI on “Collaborative Research: Deformation thermometry and water weakening of quartz tectonites – case studies from the Himalaya and the Caledonides of NW Scotland.” Collaboration with PI Rick Law at Virginia Tech and co-PI Andreas Kronenberg at Texas A&M. Total project $469,816.

June 2011–2012: Bruce Watson and I were co-PIs on a grant funded by the Deep Carbon Observatory (Carnegie Institute-Sloan Foundation) for spectroscopic equipment to study carbonation of sediments and rocks ($5000).

November 2010–2011: National Science Foundation (EAR-0948987 awarded $140,254); PI on “Development of a Fourier-Transform Infrared Microscopy Laboratory for Research in Earth and Materials Sciences.”

April 2010–2013: National Science Foundation (EAR-0948530 awarded $91,107); Co-PI on “Collaborative Research: Constraining P-T-t-D paths of metamorphic tectonites with the TitaniQ thermobarometer.” Collaboration with Laura Webb at the University of Vermont. Total project cost $194,493.

July 2000–2003: National Science Foundation (EAR-000116 awarded $240,059); As a graduate student I wrote the proposal, “Melt inclusions in zircon (and other accessory minerals)”, awarded to PI Robert J. Bodnar and Co-PI A. Krishna Sinha at Virginia Tech.

July 2000–2003: National Science Foundation (EAR-0001102 awarded $184,999); As a graduate student I wrote the proposal, “Collaborative proposal: 4-D assessment of the earliest stages of magmatism in a continental margin arc” awarded to PI A. Krishna Sinha (Virginia Tech), Maria L. Crawford (Bryn Mawr) and James S. Beard (Virginia Museum Natural History).

May 1999: Tillman Teaching Award selected by students for excellence in meteorology instruction at Virginia Tech.

May 1997: David R. Wones Geoscience Scholarship Award selected by professors for innovative research achievements at Virginia Tech.

***Memberships***

American Geophysical Union

Mineralogical Society of America

Geological Society of America

***Service to Syracuse University***

2020–present: Department of Earth Sciences undergraduate and graduate student awards committee

2020–present: Head of Departmental website updates

2019–present: Director of Vibrational Spectroscopy Facilities

2019–present: Analytical Facilities Committee

2017–present Director of the Syracuse University Electron Microprobe Laboratory, a central New York user facility

2017–2018: organizer of K.D. Nelson Seminar Series in the Department of Earth Sciences

***Service to Industry through the SU Electron Microprobe Laboratory*** *(no details listed because of non-disclosure agreements)*

2020: [EAG Laboratories](https://www.eag.com/about/locations/north-america/syracuse-ny/) (Liverpool, NY)

2018–present: [Borg Warner](https://www.borgwarner.com/home) Incorporated (Ithaca, NY)

2018: [Corning Incorporation](https://www.corning.com/worldwide/en.html) (Corning, NY)

2017–present: [AMETEK Corporation-Cameca](https://www.ametek.com/products/businessunits/materialsanalysis/cameca) (Madison, WI)

2017–2018: IDL Development (Taunton, MA)

2018: [Crucible Industries](http://www.crucibleservice.com/index.aspx) (Syracuse, NY)

***Community Service***

2017–2018: Will Nachlas and I designed and implemented several outreach programs with the Liberty Partnerships Program at Syracuse University, Fowler High School, Corcoran and Danforth Middle Schools to show students how scientists work.

2017: Zoe Curewitz (Chittenango High School, Chittenango, NY) and Shannon Pitt (Nottingham High School, Syracuse, NY): I supervised an outreach program activity for high school students to perform real scientific mini-research projects in experimental and analytical laboratories.

***Other Professional Service***

2017: Hosted Mattia Bonazzi from the University of Pavia (Italy) for four weeks in July 2017. Mattia learned how to grow metamorphic index minerals and perform Raman analyses.

2017: Served on the National Science Foundation Petrology and Geochemistry Program panel review of submitted proposals.

2003–present: Recurring ad hoc reviewer for the National Science Foundation.

2003–present: Recurring journal article reviewer for: Geochimica et Cosmochimica Acta, Geostandards and Geoanalytical Research, Contributions to Mineralogy and Petrology, Earth and Planetary Science Letters, American Mineralogist, Geofluids, European Journal of Mineralogy, Physics and Chemistry of Minerals, E