

**Victor E. Guevara, PhD**  
Assistant Professor  
Geology Department, Amherst College  
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Curriculum Vitae  
*Updated November 6, 2022*

## Education

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### Virginia Polytechnic Institute and State University, Ph.D. Geosciences 2017

- **Ph.D. Dissertation** – How hot, how deep, how long: constraints on the tectono-metamorphic evolution of granulite terranes. Virginia Polytechnic Institute and State University, 2017 Advisor: Mark J. Caddick

### University of Montana, M.S. Geosciences 2012

- **M.S. Thesis** – Structural, thermochronological, and stratigraphic constraints on the evolution of the Clearwater metamorphic core complex, Idaho. University of Montana, 2012  
Advisor: Julia A. Baldwin

### Middlebury College, B.A. Geology 2010

- **B.A. Thesis** – Origin of the Echo Pond Pluton, VT; Middlebury College, 2010 Advisor: Raymond A. Coish

## Professional Experience

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**Assistant Professor** – Amherst College Geology Department, July 2019-present

**Assistant Professor** – Skidmore College Department of Geosciences, August 2017-May 2019

## Peer-Reviewed Journal Articles (*\*indicates student advisee*)

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- [1] Hoover, W.F., Condit, C.B., Lindquist, P.C., Moser, A.M., and **Guevara, V.E.** Episodic slow slip hosted by talc-bearing metasomatic rocks: High strain rates and stress amplification in a chemically reacting shear zone. *Geophysical Research Letters*, in press. DOI: 10.1029/2022GL101083
- [2] **Guevara, V.E.**, Smye, A.J., Caddick, M.J., Searle, M.P., \*Olsen, T., \*Whalen, L., Kylander-Clark, A.R.C., Jercinovic, M.J., and Waters, D.J. A modern pulse of plate-velocity exhumation and diachronous partial melting in the Nanga Parbat Massif. *Science Advances*, 8, 31. DOI: 10.1126/sciadv.abm2689
- [3] Cooperdock, E.H., Chen, C.Y., **Guevara, V.E.**, and Metcalf, J.M. 2021. Addressing Systemic Bias in the Lab, Field, and Classroom. *AGU Advances*, 2, 1. DOI: <https://doi.org/10.1029/2020AV000353>
- [4] Condit, C.B., **Guevara, V.E.**, Delph, J.R., and French, M.E., 2020. Slab dehydration in warm subduction zones at depths of episodic slip and tremor. *Earth and Planetary Science Letters*, 552,

116601. DOI: 10.1016/j.epsl.2020.116601.

- [5] **Guevara, V.E.**, MacLennan, S.A., Caddick, M.J., Schoene, B., Dragovic, B., Kylander-Clark, A.R.C., and Couëslan, C.G., 2020. Polyphase zircon growth during slow cooling from ultrahigh temperature: an example from the Archean Pikwitonei Granulite Domain. *Journal of Petrology*. DOI: 10.1093/petrology/egaa021
- [6] **Guevara, V.E.**, Caddick, M.J., and Dragovic, B. 2017. Rapid high-T decompression recorded by Archean granulites in the northern Wyoming Province: insights from petrological modelling. *Journal of Metamorphic Geology*, 35, 943-965. DOI: 10.1111/jmg12262
- [7] Dragovic, B., **Guevara, V.E.**, Caddick, M.J., and Baxter, E.F., 2016. A pulse of cypitic granulite-facies metamorphism in the Archean Wyoming Craton revealed by Sm-Nd garnet and U-Pb monazite geochronology. *Precambrian Research*, 283, 24-49. DOI: 10.1016/j.precamres.2016.07.010
- [8] **Guevara, V.E.** and Caddick, M.J., 2016. Shooting at a moving target: phase equilibria modeling of high temperature metamorphism. *Journal of Metamorphic Geology*, 34, 209-245. DOI: 10.1111/jmg.12179

### Published Geologic Maps and Field Guides

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- [1] Regan, S.P., **Guevara, V.E.**, \*Drauschak, T., Chiarenzelli, J.R., and Gaschnig, R.M., 2018. Geology of the Copper-Kiln Landslide: a glimpse into the Marcy Massif Detachment Zone. New England Intercollegiate Geological Conference Field Guide.
- [2] Couëslan, C.G. and **Guevara, V.E.**, 2015. Preliminary results from bedrock mapping in the south and central Cauchon Lake area, eastern margin of the Pikwitonei granulite domain, central Manitoba (parts of NTS 63P7, 8); in Report of Activities, 2015, Manitoba Mineral Resources, Manitoba Geological Survey, p. 24-37.
- [3] Couëslan, C.G. and **Guevara, V.E.**, 2015. Bedrock geology of the south and central Cauchon Lake area, central Manitoba (parts of NTS 63P7, 8); Manitoba Mineral Resources, Manitoba Geological Survey, Preliminary Map, scale 1:20,000
- [4] **Guevara, Victor E.**, Chelsea B. Ward-Waller, and Julia A. Baldwin, 2012, Geologic Map of the Surveyors Ridge Area, Clearwater and Shoshone Counties, Idaho: Idaho Geological Survey Technical Report 12-7, scale 1:24,000
- [5] Lewis, R.S., Brewer, R.A., Jansen, A.C., **Guevara, V.E.**, Vervoort, J.D., and Baldwin, J.A., 2011. Below the Belt: A Road Log of Archean and Paleoproterozoic Rocks in the Eastern Clearwater Complex, Idaho. *Northwest Geology*, 40, p. 143-158.

### Courses Taught at Amherst College (Fall 2019-present)

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#### 2019-2020

- GEOL111: Planet Earth
- GEOL321: Igneous and Metamorphic Petrology

#### 2020-2021

- GEOL111: Planet Earth
- GEOL271: Mineralogy
- GEOL321: Igneous and Metamorphic Petrology

## 2021-2022

- GEOL104: Geology of the National Parks
- GEOL271: Mineralogy
- GEOL321: Igneous and Metamorphic Petrology

## **Courses Taught at Skidmore College (Fall 2017-Spring 2019)**

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- GE209: Earth Materials
- GE105: Earthquakes and Volcanoes: the Hazards of Plate Tectonics
- GE204: Structural Geology
- GE377: Senior Seminar

## **Invited Lectures and Presentations** (^indicates conference talk; \*indicates department seminar)

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- [1] ^University of Oxford, July 2022.
- [2] \*University of California, Santa Barbara, April 2022.
- [3] ^Geological Society of America Northeastern Section Meeting, March 2022.
- [4] ^Geological Society of America Annual Meeting, October 2021.
- [5] \*Boston College, April 2021.
- [6] \*University of Wisconsin, April 2021.
- [7] \*Princeton University, April 2021.
- [8] ^Geological Society of America Annual Meeting, October 2020.
- [9] ^American Geophysical Union Fall Meeting, December 2019.
- [10] \*Massachusetts Institute of Technology, October 2019.
- [11] \*Five College Geology Symposium. October 2019.
- [12] \*University of Massachusetts Amherst, April 2019.
- [13] \*Amherst College, November 2018.
- [14] \*Middlebury College, September 2018.
- [15] \*Norwich University, April 2018.
- [16] \*University of New Hampshire, April 2018.
- [17] \*Hudson-Mohawk Professional Geologists Association, April 2018.
- [18] \*Skidmore College, December 2016.
- [19] \*Marshall University, April 2015.

## **Student Advising/Mentoring**

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### **Research Student Advisees (\*indicates Senior Honors Thesis):**

- James Maeder, Amherst '23, Project: Petrogenesis of Iron-Oxide Apatite Deposits in the New Jersey Highlands
- Cameron Mueller-Harder, Amherst '23, Project: Petrogenesis of Iron-Oxide Apatite Deposits in the New Jersey Highlands
- \*Angelina Han, Amherst '22, Project: Geospeedometry of earth's youngest exposed migmatites
- \*Rilla McKeegan, Amherst '21, Project: Exhumation of subducted mafic rocks in a dynamically evolving thermal structure: constraints from phase equilibria modelling.
- \*Olivia Moehl, Amherst '20 (Co-advised with Tekla Harms), Project: Mineralogic and Bulk Composition of Proterozoic Mylonitic Garnet Leucogneiss in the Ruby Range, Montana
- Lucy Walker, Skidmore '19, Project: Secular changes in metamorphic *P-T* paths through Earth history
- Tess Drauschak, Skidmore '20, Project: U-Pb petrochronology of leucogranitoid sills in the Adirondacks
- Telemak Olsen, Skidmore '20, Project: U-Th-Pb petrochronology of Earth's youngest migmatites
- Nathan Smail, Skidmore '20, Project: low-pressure metamorphism of coastal Maine
- Adele Conde, Virginia Tech '16, Project: Zr in rutile thermometry of Archean UHT metamorphism
- Jared Geil, Virginia Tech '17, Project: phase equilibria of Archean granulites from the Wyoming Craton

**Informal/Unofficial Student Mentorship (e.g. recommendation letters, career advice):**

Fiona Antsey, Amherst '24  
 Dalya Ackerman, Amherst '23  
 Elizabeth Birmingham, Amherst '23  
 Isabelle Caban, Amherst '23  
 Breanda Gomez, Amherst '24  
 Nathan Grove, Amherst '23  
 Eric Hasegawa, Amherst '20  
 Isabel Koran, Princeton '22  
 Sarah Liebovitz, Amherst '24  
 Luz Lim, Amherst '20  
 Luke Maxwell, Amherst '20  
 Colin Murphy, Amherst '21  
 Ellen Mutter, Amherst '19  
 Jessica Reid, Amherst '20  
 Sarah Vierling, Amherst '23  
 Kaetu Wleh, Amherst '23  
 Lisa Whalen, Virginia Tech (Graduate Student) '16

**Research grants submitted/awarded (role in proposal specified in parentheses)**

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**Total research grant funding awarded as a faculty member at Amherst College: \$312,713**

**2022:** (1) NSF-EAR-2210076 (2022-2025): Collaborative Research: Resolving conflicting

thermobarometry and stratigraphy in the Tethyan Himalaya: is non-lithostatic pressure during orogenesis preserved at crustal scales? (co-PI): \$108,172  
(2) NSF-EAR Frontier Research in Earth Sciences (co-PI): not funded

**2021:** (1) NSF-EAR-2120412 (2021-2023): Collaborative Research: Understanding the Tectonic and Petrological Processes Controlling Iron Oxide-Apatite Mineralization in a Mesoproterozoic Collisional Orogen. (co-PI): \$98,567  
(2) NSF-EAR-2119843 (2021-2024): Collaborative Research: Probing feedbacks between thermal structure, petrologic transformation, and rheologic evolution within dynamically evolving subduction zones. (co-PI): \$105,974

**2019:** (1) NSF EAR Petrology and Geochemistry (lead PI): not funded

**2018:** (1) Faculty Development Grant, Skidmore College (PI): \$1,800

**2017:** (1) NSF EAR Petrology and Geochemistry (co-PI): not funded

**2015:** (1) Earthscope Award for Geochronology Student Research (PI) \$9,439  
(2) NSF EAR Award#1447568, Petrology and Geochemistry (co-wrote proposal with PIs M.J. Caddick and B. Dragovic): \$336,215

**2014:** (1) National Geographic Society Young Explorer's Grant (PI): \$5,000  
(2) Virginia Tech David R. Wones Geological Scholarship (PI): \$1,083.50

**2014:** (3) Tobacco Root Geologic Society – TRGS Scholarship (PI): \$1,000  
(4) Colorado Scientific Society (PI): \$800

**2013:** (1) Geological Society of America Graduate Student Research Grant (PI):\$2,124  
(2) Tobacco Root Geologic Society – TRGS Scholarship (PI): \$500

**2011:** (1) Geological Society of America Graduate Student Research Grant (PI):\$4000  
(2) USGS EDMAP (co-wrote proposal with PI Dr. J.A. Baldwin): \$9,395  
(3) Colorado Scientific Society - George L. Snyder Memorial Fund (PI): \$1,000  
(4) Tobacco Root Geologic Society - Harrison Scholarship (PI): \$500  
(5) Belt Association Scholarship (PI): \$400

**2010:** (1) Vermont Geological Society Research Grant (Principal Investigator): \$500

### **Awards**

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- Tillman Award for Teaching Excellence, Virginia Tech Dept. of Geosciences, 2014
- Virginia Tech Graduate School Dean's Diversity Assistantship, 2012-2014
- College Scholar – Middlebury College, Fall 2006

### **Professional activities**

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- **Referee for peer review of journal articles and grant proposals (# of reviews in parentheses):** Geological Society of America Bulletin (1), Geology (1), Geoscience Frontiers (3), Geosphere (1), Journal of Geophysical Research – Solid Earth (2), Journal of Metamorphic Geology (2), Journal of

- Petrology (2), Precambrian Research (1), NSF (3), NSERC (1), National Geographic Society (7).
- **Session co-chair:** Geological Society of America Annual Meeting, 2022. The thermal structure of subduction zones: constraints, evolution, consequences.
  - **Session co-chair:** Geological Society of America Northeastern Section Meeting, 2021. Insights about the Tectonic Evolution of Eastern North America from Rocks, Seismic Data, Experiments, and Models
  - **Session co-chair:** Geological Society of America Annual Meeting, 2019. A Life in Mineralogy and Petrology: a Session in Honor of Robert J. Tracy.
  - **Session co-chair:** Goldschmidt Conference, 2018. Metamorphic Records of Lithospheric Processes: Everyday, Exceptional, and Extreme.
  - **Session co-chair:** Geological Society of America Northeastern Section Meeting, 2018. Petrologic Insights on Modern and Ancient Plate Margins.

#### Professional development workshops attended: scientific

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- PTt trajectory of Metamorphic Processes, Geochemical Society online workshop, December 2020.
- SERC Early Career Geoscience Faculty Workshop, College Park, MD, July 2019.
- Quantitative Compositional Mapping of Geological Materials using XMapTools, Goldschmidt Conference, Boston, MA, August 2018
- NSF Ion Microprobe Student Workshop, UCLA, Los Angeles, CA, February 2014
- Applying Phase Equilibria Modeling to Rocks, Goldschmidt conference, Florence, IT, August 2013

#### Professional development workshops attended: pedagogy

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- Amherst College Provost's Retreat on Teaching and Learning 2021: Metacognitive Equity: Supporting the Educational Agency of All Students, Fall 2021
- Anti-Racist Pedagogy Conversation Circles, Center For Teaching and Learning at Amherst College, Spring 2021.
- ACUE Course Design Seminar for Flexible Teaching, Center For Teaching and Learning at Amherst College, Summer 2020.
- Amherst College Provost's Retreat on Teaching and Learning 2019: Belonging in a Digital World, Fall 2019
- SERC Early Career Geoscience Faculty Workshop, College Park, MD, July 2019.

#### Conference Presentations and Abstracts

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- [1] **Guevara, V.E.**, Smye, A.J., Caddick, M.J., Searle, M.P., \*Olsen, T., \*Whalen, L., \*Han, A. Kylander-Clark, A.R.C., Jercinovic, M.J., Waters, D.J., and Garber, J.M., 2022. A modern pulse of ultrafast exhumation and diachronous partial melting in the Nanga Parbat Massif. Himalaya-Karakoram-Tibet Workshop, Pokhara, Nepal.
- [2] \*Maeder, J., \*Mueller-Harder, C., **Guevara, V.E.**, McKanna, A., \*Koran, I., Schoene, B., and Jercinovic, M.J., 2022. Genesis of iron-oxide-apatite deposits in a collisional orogen: a petrologic and geochronologic study of magnetite ores in the New Jersey Highlands. Geological Society of America Annual Meeting, Denver, CO.
- [3] Condit, C., Myers, M., Warren, J., Holder, R.M., Cooperdock, E.H.G., **Guevara, V.E.**, Rader, E., Bauer, A., and Mixon, E., 2022. Petronet: a petrology and high-temperature geochemistry

- community built within an antiracist and inclusive framework. Geological Society of America Annual Meeting, Denver, CO.
- [4] Condit, C., Bonamici, C., **Guevara, V.E.**, Williams, M.L., Karlstrom, K., Aikin, N., Regan, S., and Roberts, N., 2022. How to build the mid-crustal strength beam: the role of melt emplacement in the Upper Granite Gorge, Grand Canyon. Geological Society of America Annual Meeting, Denver, CO.
  - [1] Hoover, W., Condit, C., Moser, A., Lindquist, P. and **Guevara, V.E.**, 2022. The role of metasomatism in episodic tremor and slow slip: stress and strain rate variations in a chemically reacting shear zone. Geological Society of America Annual Meeting, Denver, CO.
  - [2] Lindquist, P., Condit, C., **Guevara, V.E.**, Hernández-Uribe, D., and Hoover, W., 2022. Fluid release and silica metasomatism near the plate interface beneath Guerrero, Mexico: predicting talc production at the conditions of episodic tremor and slow slip. Geological Society of America Annual Meeting, Denver, CO.
  - [3] Dragovic, B., **Guevara, V.E.**, Caddick, M.J., Inglis, J., and Raimondo, T., 2022 (invited presentation). Deciphering Neoproterozoic polymetamorphism and crustal melting in the northern Wyoming Province using garnet petrochronology. European Geosciences Union, Vienna Austria.
  - [4] \*Koran, I., McKanna, A., Schoene, B., and **Guevara, V.E.**, 2022. Magnetite-apatite mineralization in the New Jersey Highlands: apatite as a coupled geochronometer and geochemical indicator. Geological Society of America Northeastern Section Meeting, Lancaster, PA.
  - [5] \*Han, A., **Guevara, V.E.**, Caddick, M.J., Searle, M.P., Smye, A.J., Jercinovic, M.J., and Waters, D.J., 2022. Exhumation rate and reaction history of Pleistocene migmatites from the western Himalaya: insights from chemical zonation in garnet. Geological Society of America Northeastern Section Meeting, Lancaster, PA.
  - [6] **Guevara, V.E.**, Smye, A.J., Caddick, M.J., Searle, M.P., \*Olsen, T., \*Whalen, L., \*Han, A. Kylander-Clark, A.R.C., Jercinovic, M.J., and Waters, D.J., 2022 (invited presentation). A modern pulse of ultrafast mid-crustal extrusion and diachronous partial melting in the Nanga Parbat Massif. Geological Society of America Northeastern Section Meeting, Lancaster, PA.
  - [7] Lindquist, P., Condit, C.B., **Guevara, V.E.**, and Hernandez-Uribe, D., 2021. Metasomatic Production of Talc at the Plate Interface under Guerrero, Mexico: Implications for Slip Behavior and Episodic Tremor and Slow Slip. American Geophysical Union Fall Meeting, New Orleans, LA.
  - [8] Condit, C.B., Holt, A., and **Guevara, V.E.**, 2021. The effects of an evolving subduction thermal structure on dehydration and rheology: coupling geodynamic and thermodynamic models with the experimental and rock records. American Geophysical Union Fall Meeting, New Orleans, LA.
  - [9] **Guevara, V.E.**, Smye, A.J., Caddick, M.J., Searle, M.P., \*Olsen, T., \*Whalen, L., Kylander-Clark, A.R.C., Jercinovic, M.J., and Waters, D.J., 2021 (invited presentation). A modern pulse of ultrafast mid-crustal extrusion and diachronous partial melting in the Nanga Parbat Massif. Geological Society of America Annual Meeting, Portland, OR.
  - [10] Condit, C.B., **Guevara, V.E.**, Holt, A.F., French, M.E., Delph, J.R., 2021. Warm thermal structures in subduction zones lead to ample dehydration at the depths of deep slow slip and tremor and resultant transformations in viscous rheology. EGU General Assembly, Online.
  - [11] \*McKeegan, R., **Guevara, V.E.**, Holt, A.F., Condit, C.B., 2021. Exhumation of subducted mafic rocks in a dynamically evolving thermal structure: constraints from phase equilibria modelling. EGU General Assembly, Online.
  - [12] Condit, C.B., **Guevara, V.E.**, Delph, J.R., and French, M.E., 2020. Forearc dehydration in warm

- subduction zones provides ample fluids at the depths of episodic slip and tremor. AGU Fall Meeting, Online.
- [13] Condit, C.B., **Guevara, V.E.**, Delph, J.R., and French, M.E., 2020 ([invited presentation](#)). Metamorphic dehydration from oceanic crust provides fluid sources for deep slow slip and tremor in subduction zones. Geological Society of America Annual Meeting, Online.
- [14] **Guevara, V.E.**, Dragovic, B., Caddick, M.J., and Couëslan, C.G., 2020 ([invited presentation](#)). Slow Differentiation of Continental Crust in an Archean Granulite Terrane. Geological Society of America Annual Meeting, Online.
- [15] Condit, C.B., Holt, A.F., **Guevara, V.E.**, Delph, J.R., French, M.E., 2020. Thermal controls on oceanic lithosphere dehydration and fluid flux to the mantle during subduction. Goldschmidt conference, Online.
- [16] Dragovic, B., **Guevara, V.E.**, Caddick, M.J., and Couëslan, C.G., 2020. Deciphering the timescales and mode of Archean orogenesis in the Pikwitonei Granulite Domain using multi-mineral petrochronology. Geoconvention, Calgary, AB, Canada.
- [17] \*Moehl, O., **Guevara, V.E.**, and Harms, T.A., 2020. Mineralogic and bulk chemical composition of mylonitic garnet leucogneiss in the Ruby Range, Montana. Abstracts with Programs –Geological Society of America Northeastern/Southeastern Joint Section Meeting, Reston, VA.
- [18] **Guevara, V.E.**, \*Olsen, T., \*Whalen, L.M., Kylander-Clark, A.R.C., Caddick, M.J., Smye, A.J., Searle, M.P., and Waters, D.J., 2019 ([invited presentation](#)). What drove partial melting of Earth’s youngest exposed migmatites? Insights from monazite petrochronology of the Western Himalayan Syntaxis. AGU Fall Meeting, San Francisco, CA.
- [19] \*Olsen, T., **Guevara, V.E.**, \*Whalen, L.M., Kylander-Clark, A.R.C., Caddick, M.J., Smye, A.J., Searle, M.P., and Waters, D.J., 2019. Quaternary partial melting in the Western Himalayan Syntaxis: insights from monazite petrochronology of Earth’s youngest migmatites. Abstracts with Programs – Geological Society of America Annual Meeting, Phoenix, AZ
- [20] Dragovic, B., Caddick, M.J., **Guevara, V.E.**, and Inglis, J., 2019. Neoproterozoic polymetamorphism in the Wyoming Province recorded by zoned garnet petrochronology. Abstracts with Programs – Geological Society of America Annual Meeting, Phoenix, AZ
- [21] **Guevara, V.E.**, Mako, C.A., \*Smail, N.E., and West, D.P.W., 2019. Cryptic “Barrovian” metamorphism in a regional low-pressure metamorphic terrane: an example from south-central Maine. Abstracts with Programs – Geological Society of America Northeastern Section Meeting, Portland, ME.
- [22] Dragovic, B., **Guevara, V.E.**, and Caddick, M.J., 2018. Variable garnet (re)crystallization during polyphase high-temperature metamorphism. Goldschmidt conference, Boston, MA.
- [23] Regan, S.P., Toft, M.E., Walsh, G.J., Williams, M.L., McAleer, R., Merschat, A., Suarez, K., Baird, G., and **Guevara, V.E.**, 2018. Detachment, ore mineralization, and progressive uplift of the Marcy Massif during the Grenville Orogenic Cycle, Adirondack Mountains, NY. Abstracts with Programs – Geological Society of America Northeastern Section Meeting, Burlington, VT.
- [24] **Guevara, V.E.**, Dragovic, B., Caddick, M.J., Couëslan, C., Kylander-Clark, A.R.C., Maclennan, S.A., Baxter, E.F., and Schoene, B., 2018. Ultrahigh Temperature Metamorphism of Archean Continental Crust: Insights from the Petrochronology Arsenal. Abstracts with Programs – Geological Society of America Northeastern Section Meeting, Burlington, VT.
- [25] Dragovic, B., **Guevara, V.E.**, Caddick, M.J., Couëslan, C., Baxter, E., 2017. Punctuated HT/UHT metamorphism during prolonged Archean orogenesis in the Pikwitonei Granulite Domain revealed by garnet petrochronology. EGU General Assembly, Vienna, AU.
- [26] Caddick, M., Dragovic, B., **Guevara, V.E.**, 2017. Comparative Chronology of Archean HT/UHT



- crustal metamorphism. EGU General Assembly, Vienna, AU.
- [27] **Guevara, V.E.**, Maclennan, S.A., Schoene, B., Dragovic, B., Caddick, M.J., Kylander-Clark, A.R.C., and Couëslan, C.G., 2016. Quantifying the timescales of Archean UHT metamorphism through U-Pb monazite and zircon petrochronology. AGU Fall Meeting, San Francisco.
- [28] Dragovic, B., **Guevara, V.E.**, Caddick, M.J., and Baxter, E.F., 2016. Deciphering the timescales of Archean HT/UHT metamorphism in the Pikwitonei Granulite Domain using garnet petrochronology. AGU Fall Meeting, San Francisco.
- [29] Caddick, M.J., **Guevara, V.E.**, Dragovic, B., Baxter, E.F., 2016. A brief pulse of Archean granulite facies metamorphism: the Beartooth Mountains of Montana, USA. International Geological Congress, Capetown, South Africa
- [30] Dragovic, B., **Guevara, V.E.**, Caddick, M.J., and Baxter, E.F., 2016. HT/UHT garnet geochronology: limitations and applications from two Neoproterozoic terranes. International Geological Congress, Capetown, South Africa.
- [31] **Guevara, V.E.**, Dragovic, B., Caddick, M.J., Kylander-Clark, A.R.C., and Couëslan, C.G., 2016. Ultrahigh Temperature Metamorphism of the Pikwitonei Granulite Domain. Abstracts with Programs – Geological Society of America Annual Meeting, Denver, CO.
- [32] **Guevara, V.E.** Dragovic, B., Caddick, M.J., and Baxter, E.F., 2016. The ghost of a craton's past. Abstracts with Programs – Geological Society of America Northeastern Section Meeting, Albany, NY.
- [33] **Guevara, V.E.** Dragovic, B., and Caddick, M.J., 2015. P-T path of short-lived Neoproterozoic granulite facies metamorphism of the Wyoming Craton. Abstracts with Programs – Geological Society of America Annual Meeting, Baltimore, MD.
- [34] Dragovic, B., **Guevara, V.E.**, and Caddick, M.J., 2015. Limitations and utility of Sm-Nd garnet geochronology of high-temperature metamorphism: an example from the Wyoming Craton. Abstracts with Programs – Geological Society of America Annual Meeting, Baltimore, MD.
- [35] **Guevara, V.E.** and Caddick, M.J., 2015. Shooting at a moving target: a multi-scalar approach to thermodynamic modeling. Abstracts with Programs – Geological Society of America Southeastern Section Meeting, Chattanooga, TN.
- [36] **Guevara, V.E.**, Dragovic, B., Caddick, M.J., and Baxter, E.F., 2014. 2.69-2.68 granulite facies metamorphism in the Wyoming Craton revealed by Sm-Nd garnet geochronology and trace element zoning. AGU Fall Meeting, San Francisco, CA.
- [37] **Guevara, V.E.**, Caddick, M.J., and Tracy, R.J., 2013. Is thermodynamic modeling of local mineral equilibria required to elucidate high temperature P-T evolution? Abstracts with Programs – Geological Society of America, Annual Meeting, Denver, CO.
- [38] Baldwin, J.A., **Guevara, V.E.**, and Foster, D.A., 2013. Constraining the Proterozoic growth and modification of the western North American craton in northern Idaho using monazite and xenotime petrochronology. Abstracts with Programs – Geological Society of America, Annual Meeting, Denver, CO.
- [39] **Guevara, V.E.** and Caddick, M.J., 2013, Unraveling cryptic high-grade polymetamorphism: an Alpine Example. 2013 V.M. Goldschmidt conference, Florence, IT.
- [40] **Guevara, V.E.**, Baldwin, J.A., and Foster, D.A., 2012. Exhumation of the middle crust within a continental-scale strike-slip fault system: insights from the Clearwater metamorphic core complex, Idaho. Abstracts with Programs – Geological Society of America, Annual Meeting, Charlotte, NC.
- [41] Baldwin, J.A., **Guevara, V.E.**, Stevens, L.M., Cottle, J., and Hacker, B.R., 2012. Deciphering

- multiple metamorphic events by laser ablation split stream (LASS) petrochronology of monazite and xenotime in the Clearwater complex, northern Idaho. Abstracts with Programs – Geological Society of America, Annual Meeting, Charlotte, NC.
- [42] Baldwin, J.A. and **Guevara, V.E.**, 2012. Reconstruction of P-T paths in polymetamorphic rocks of the Clearwater core complex, northern Idaho. 2012 V.M. Goldschmidt conference, Montreal, QC
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- [45] **Guevara, V.E.** and Coish, R.A., 2010. A Geochemical and Petrographic Analysis of the Echo Pond Pluton, VT. Abstracts with Programs – Geological Society of America, Northeast/Southeast Joint Section Meeting, Baltimore, MD.
- [46] **Guevara, V.**, 2010. A Geochemical and Petrographic Analysis of the Echo Pond Pluton, VT. Abstracts – The Green Mountain Geologist, 37 (2), p. 3

## Field Experience

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**2021:** 11 days sampling and making outcrop-scale observations of Proterozoic mid-crustal igneous and metamorphic rocks in the Grand Canyon, Arizona, USA.

**2020:** Co-led and co-organized a 10-day Geology department field trip to the Island of Hawaii with 24 undergraduate students.

**2017-2018:** Several days of mapping, sampling, and analyzing outcrop-scale field relationships of granulite-facies metasedimentary and metaigneous rocks of the Adirondack Mountains, New York.

**2015:** 4 weeks total of mapping, sampling, and analyzing outcrop-scale field relationships of metasedimentary and metaplutonic rocks of the Pikwitonei Granulite Domain, central Manitoba. 2 weeks were spent mapping the Cauchon Lake area with the Manitoba Geological Survey.

**2013-2014:** 4 weeks total of mapping, sampling, and analyzing outcrop-scale field relationships of metasedimentary and metaplutonic rocks in the Beartooth Mountains, Montana and Wyoming.

**2010-2011:** 7 weeks total of mapping and sampling metasedimentary and metaplutonic rocks in the Clearwater complex, Idaho.

**2009:** 4 days of collecting granitoid samples in northern Vermont for undergraduate thesis.

**2009:** University of Houston YBRA field camp: 5 weeks of field mapping in the Beartooth Mountains, Elk Basin, and area around Dillon, MT.

## Laboratory Skills and Experience

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### Mineral separation

- Rock crushing and sieving, magnetic and heavy liquid mineral separation, microdrilling of garnet crystals, grain picking under microscope. Minerals separated include: quartz, zircon, monazite, garnet, biotite, muscovite

#### **Radiogenic isotope analysis**

- Isotope dilution-thermal ionization mass spectrometry (ID-TIMS) for U-Th-Pb monazite and zircon and Sm-Nd garnet geochronology
- Laser ablation inductively coupled mass spectrometry (LA-ICPMS) of *in-situ* U-Th-Pb monazite, xenotime, and zircon geochronology

#### **Elemental analysis via microbeam and mass spectrometry techniques**

- Electron Microprobe
- Scanning electron microscope
- LA-ICPMS
- Inductively coupled argon emission spectrometry

#### **Petrographic analysis**

- Qualitative and quantitative petrographic analysis of igneous and metamorphic rocks with optical microscope in transmitted light and reflected light

#### **Quantitative petrologic modelling**

- Thermodynamic modelling of rocks using activity-composition models and solid-solution models of minerals with the computer programs *Perple\_X* and *THERMOCALC*
- Diffusion modelling of preserved major element chemical zonation in garnet

#### **DEI (Diversity, Equity, and Inclusion) work/Community Service/Outreach**

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- Unlearning Racism in Geoscience (URGE) program participant (January 2021-present)
- Co-organizer/Steering Committee, AAPI in Geoscience (August 2020-July 2021)
- Co-organizer, Petronet (July 2020-present)
- Resident Advisor and Invited Presenter, Virginia Tech College of Science Nanocamp, August 2016. Presentation title: Deciphering Tectonic Processes through Nano-Milli-Mega-Giga-Tera Scale Observations
- Exhibitor – Virginia Tech Museum of Geosciences Geofair and Mineral Sale, October 2015
- Virginia Tech Museum of Geosciences Outreach and Collections Committee, Fall 2015
- Exhibitor – Virginia Tech Museum of Geosciences Geofair and Mineral Sale, October 2014
- Exhibitor – Kids' Tech University, Blacksburg, VA, January 2013. Exhibit title: From magma to mineral: how do crystals form?
- Guest Lecturer of Geology – Cornwall Elementary School, VT October 2009
- Volunteer Tutor - Middlebury Union High School, VT September 2008 - November 2009

#### **Professional Society Memberships**

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- American Geophysical Union
- Geological Society of America
- Geochemical Society
- Mineralogical Society of America