

Curriculum Vitae
Benjamin W. Hallett
University of Wisconsin, Oshkosh
Department of Geology
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Education

Ph.D. in Geology, Rensselaer Polytechnic Institute, May 2012

Focus: Metamorphic Petrology, Geochronology, Tectonics

Dissertation: “Metamorphic history and timescales of cooling and exhumation of partially melted rocks: studies in the North American Cordillera”, Advisor: Frank Spear

M.S. in Geosciences, University of Idaho, August 2005

Focus: Tectonics, Geochronology, Structural Geology

Thesis: “Timing and development of the Storstrømmen Shear Zone, North East Greenland Caledonides”, Advisor: William McClelland (presently at University of Iowa)

B.S. Cum Laude with honors in Geology, Bucknell University, May 2002

Honors Thesis: “Timing of partial melting and regional deformation in Proterozoic migmatites of the Rincon Range, North-central New Mexico: application of monazite U–Th–Pb chemical dating”, Advisor: Chris Daniel Minor: Geography

Teaching Experience

Lecturer, University of Wisconsin, Oshkosh, Fall 2021–Spring 2023

Taught Environmental Geology Lab, Physical Geology Quest 1 Lab and Discussion, Geochemistry, Lithology, Mineralogy, Minerals Energy and the Environment, Honors Geology, mentored undergraduate research projects and trained students to use laboratory equipment and Scanning Electron Microscope.

Assistant Professor, University of Wisconsin, Oshkosh, Fall 2014–Spring 2021

Taught Physical Geology Lecture and Lab, Geochemistry, Lithology, Mineralogy, Mineral Deposits, Minerals Energy and the Environment, Honors Geology, mentored undergraduate research projects and trained students to use laboratory equipment and Scanning Electron Microscope.

Adjunct Professor, Rensselaer Polytechnic Institute, Fall 2012, Fall 2013

Instructor for Field Methods: field based, writing/communication intensive course.

Data Mining Supervisor, Rensselaer Polytechnic Institute, Summer 2012–Fall 2013

Mentored and supervised undergraduate students in efforts to mine and upload petrologic data to MetPetDB: the Database for Metamorphic Petrology.

Graduate Teaching Assistant, Rensselaer Polytechnic Institute, 2008–2010

Prepared labs and field trips, assessment, and helped teach Structural Geology and Earth Materials classes.

Graduate Teaching Assistant University of Idaho, 2003–2004

Prepared curriculum, assessment, and helped teach Advanced Field Camp based in Dillon, Montana, Physical Geology Lab for Science Majors, and Physical Geology Lab.

Undergraduate Teaching Assistant *Bucknell University*, 1999–2002

Helped prepare, grade, and supervise lab exercises and tutor students for 3 courses: Plate Tectonics, Physical Geology, and Engineering Geology.

Course and Curriculum Development

- Independently created entirely new courses: Geol-102Q1–Physical Geology Quest 1 Lab and Discussion (2017), Geol-323/ES-323–Minerals Energy and the Environment (2019)
- Rebuilt courses independently from prior versions using entirely different material and text: EARTH-2210–Field Methods (2013 at RPI), Geol-369–Geochemistry of Earth Environments (2014), Geol-206–Lithology and Lab/Field Trip (2015), Geol-322–Mineral Deposits and Lab/Field Trip (2015), Geol-110–Honors Geology and Lab/Discussion (2020)
- Regularly revised and updated courses and labs and lab manual material, often in collaboration with other instructors
- Compiled course field trips / field guide material, and planned transportation and camping/accommodation for multi-day (and single-day) field trips predominantly held outside of class time

Field Instruction and Leadership

- Led course single and multi-day field trips for undergraduate Physical Geology, Mineralogy, Mineral Deposits, Minerals Energy and the Environment, Environmental Geology, Honors Geology, and Lithology courses in Wisconsin and Michigan, 2014–Present
- Led weekly field trips for undergraduate Field Methods class in east-central New York and surrounding areas, 2012, 2013
- Led or co-led informal field trips for RPI students/postdocs in Massachusetts, New York, Vermont, and New Hampshire, Summers 2008, 2009, 2011
- Field camp instruction as Teaching Assistant, deformed Paleozoic sequence, near Dillon, Montana
- Attended University of Missouri field camp, Wind River Range, Wyoming, Summer 2002

Grants and Awards

- UW Oshkosh Student–Faculty Collaborative Research Grants, 2015–2021
- WiSys Council on Undergraduate Research Proposal Writing Institute Award, 2019
- UW Oshkosh Faculty Development Fund, Research Grant, 2016
- UW Oshkosh Faculty Development Fund, Off Campus Grant, 2015
- NSF Research Grant, EAR #1019768 (co-wrote proposal and led investigation as assistant to PI Frank Spear), 2010–2013.
- Geological Society of America Graduate Student Research Grants, 2004 and 2009
- Teaching / Research Assistantship, Rensselaer Polytechnic Institute, 2007–2012
- Teaching / Research Assistantship, University of Idaho, 2003–2005
- Savage / Stearn Scholarships, University of Idaho, 2003–2005
- Branson Field Camp Scholarship, University of Missouri, summer 2002
- PricewaterhouseCoopers Undergraduate Research Fellowship, summer 2001

Other Professional Experience

Postdoctoral Research Associate, Rensselaer Polytechnic Institute, 2012–2014

Performed collaborative research in petrology and geochemistry. Mentored undergraduate research projects. Planned and provided technical oversight of development of MetPetDB: the database for metamorphic petrology.

Field Geologist, New Mexico Bureau of Geology and Mineral Resources, 2005–2007

Completed independent geologic mapping of six USGS 7.5 minute quadrangles as part of a hydrogeologic characterization project in the Sacramento Mountains of southern New Mexico. Carried out field analysis and assessment of hydrogeologic potential of alluvial fans in the Tularosa basin. Also, performed independent geologic mapping in the Sangre de Cristo Range, northern New Mexico, funded by the STATEMAP program.

Laboratory Technician / Researcher, US Geological Survey, 2002–2003

Completed textural and carbonate analyses in support of government funded marine and coastal geology research at Woods Hole field center at Woods Hole Oceanographic Institution, Massachusetts. Also performed petrographic analyses on crystalline bedrock cores, publishing a peer-reviewed regional scientific paper and USGS open file report.

Published Articles (Peer Reviewed)

Hallett, B.W., 2023, Petrologic constraints on Picuris Orogeny metamorphism and deformation in the Rincon Range of northern New Mexico, USA, *International Geology Review* (*in revision*).

Hallett, B.W., Spear, F.S., 2015, Monazite, zircon, and garnet growth in migmatitic pelites as a record of prograde and retrograde metamorphism and partial melting in the East Humboldt Range, Nevada, *American Mineralogist*, v. 100, p. 951–972.

Spear, F.S., Thomas, J., **Hallett, B.W.**, 2014, Overstepping the garnet isograd: A comparison of QuiG barometry and thermodynamic modeling, *Contributions to Mineralogy and Petrology*, v. 168, DOI: 10.1007/s00410-014-1059-6.

Hallett, B.W., Spear, F.S., 2014, The P–T history of anatectic pelites of the northern East Humboldt Range, Nevada: evidence for tectonic loading, decompression, and anatexis, *Journal of Petrology*, v. 55, no. 1, p. 3–36.

Hallett, B.W., McClelland, W.C., and Gilotti, J.A., 2014, The timing of strike-slip deformation along the Storstrømmen Shear Zone, North-East Greenland Caledonides: U-Pb zircon and titanite geochronology, *Geoscience Canada* v. 41, no. 1, p. 19–45.

Hallett, B.W., Spear, F.S., 2011, Insight into the Cooling of the Valhalla Complex, *British Columbia, Lithos*, v. 125, p. 809–824.

Spear, F. S., **Hallett, B.**, Pyle, J. M., Adali, S., Szymanski, B. K., Waters, A., Linder, Z., Pearce, S. O., Fyffe, M., Goldfarb, D., Glickenhause, N., and Buletti, H., 2009, MetPetDB: A database for metamorphic geochemistry: *Geochemistry, Geophysics, and Geosystems*,

doi:10.1029/2009GC002766.

Hallett, B.W., Poppe, L.J., Brand, S.G., 2004, Petrography and character of the bedrock surface beneath western Cape Cod, Massachusetts, *Northeastern Geology and Environmental Science*, v. 26, no. 3, p. 230–241.

Published Abstracts / Presentations (* denotes mentored student presentations)

*Weimer, J., **Hallett, B.W.**, 2020, Zr-in-Titanite and Major Element Thermobarometry Records Granulite Facies Conditions in the Northern Taos Range, New Mexico, *Abstract in preparation*, North-Central GSA, Duluth, MN, May 2020.

Hallett, B.W., Brink, S., 2020, Zr-in-Rutile and Major Element Thermobarometry with Thermodynamic Modeling of Metapelites Records Yavapai-aged Metamorphism near the Penokean Suture in Northern Wisconsin, *Abstract*, North-Central GSA, Duluth, MN, May 2020.

Hallett, B.W., 2019, Multiple Generations of Rutile Inclusions in Metamorphic Garnet from the Taos Range, NM: Evidence for High Temperature Granulite Facies Regional Metamorphism, *Abstracts with Programs*, v. 51, no. 2, doi: 10.1130/abs/2019SC-327846

Hallett, B.W., Wiemer, A.M., 2018, Crystallographically Oriented Rutile Needles in Garnet from the Taos Range of Northern New Mexico Suggest (Ultra) High Temperature Proterozoic Metamorphism, *Abstracts with Programs*, v. 50, no. 5, doi: 10.1130/abs/2018RM-314357

Hallett, B.W., Dere, A.L., Waite, A.J., Lehnert, K.A., Carter-Orlando, M., 2017, iSamples RCN Education & Training Working Group: Training the Next Generation of Scientists in Sample Stewardship, Abstract presented at the 2017 NSF EarthCube All Hands Meeting, Seattle, WA

Hallett, B.W., Kotlowski, E., Daniel, C.G., 2017, Petrologic Constraints from a Discontinuous Regional Metamorphic Field Gradient During the Picuris Orogeny in the Rincon Range, North-Central New Mexico, *Abstracts with Programs*, v. 49, no. 2, doi: 10.1130/abs/2017NE-291674

*Wiemer, A.M., **Hallett, B.W.**, 2017, A Preliminary Record of High Grade Metamorphism from Chemical Zoning Preserved in Garnet from Pelitic Schists of the Northern Taos Range, New Mexico, *Abstracts with Programs*, v. 49, no. 2, doi: 10.1130/abs/2017NE-291219

Hallett, B.W., Dere, A.L., Waite, A.J., Lehnert, K.A., Carter, M., 2016, How iSamples (Internet of Samples in the Earth Sciences) Improves Sample and Data Stewardship in the Next Generation of Geoscientists, Abstract PA51B-2267 presented at the 2016 Fall Meeting, AGU, San Francisco, California

Hallett, B.W., Dere, A.L., Waite, A.J., Tuite, M.L., Lehnert, K.A., Carter, M., 2016, The Earthcube iSamples Network engagement and training: Helping teach sample management and stewardship to a broad audience of new geoscientists, NAGT Earth Educators Rendezvous, Madison, WI, July 18–22.

Hallett, B.W., 2016, Preliminary EPMA and Cathodoluminescence Study of Zoned Metamorphic

Apatite: Tracking Accessory Mineral Reactions and a Potential Tool for Thermal Modeling, presented at Microanalytical Society EPMA Topical Conference, Madison, WI, May 16–19, Program p. 130-131.

- *Kotowski, E., **Hallett, B.W.**, 2016, Raman Spectrometry of Quartz Inclusions in Garnet (QuiG) from the Rincon Range, North-Central New Mexico: Prograde Pressure and Temperature Estimates for The Picuris Orogeny, Abstracts with Programs, v. 48, no. 5, doi: 10.1130/abs/2016NC-275683.
- Hallett, B.W.**, Daniel, C.G., McFarlane, C., Stotter, S.V., 2015, U–Pb monazite ages suggest a complex Mesoproterozoic metamorphic history during the Picuris Orogeny recorded by metapelites of the Rincon Range, north–central New Mexico: Abstracts with Programs - Geological Society of America, v. 47, no. 7, p. 785.
- Hallett, B.W.**, 2015, Zr-in-titanite geothermometry integrated with major phase thermobarometry in the Lizzies Basin block of the northern East Humboldt Range, Nevada, Abstracts with Programs - Geological Society of America, v. 47, no. 5, p. 69.
- Hallett, B.W.**, 2014, An application of Petrochronology: U/Th-Pb geochronologic rates of burial and exhumation in the Cordilleran hinterland, northern Nevada, USA, Abstract 31886 presented at the 2014 Fall Meeting, AGU, San Francisco, California (*invited talk*).
- Spear, F.S., **Hallett, B.W.**, and Thomas, J.B., 2014, Overstepping the garnet isograd: A comparison of QuiG barometry and thermodynamic modeling, Mineralogical Magazine, (V. M. Goldschmidt Conference, Sacramento).
- Hallett, B.W.**, Spear, F.S., 2013, The major and trace element zoning record of garnet growth and equilibration in metapelitic rocks of the central Ruby Mountains, Nevada, Abstracts with Programs - Geological Society of America v. 45, no. 7, p. 800.
- Hallett, B.W.**, Spear, F.S., Horkley, L.K.S., Adali, S., Szymanski, B.K., Fox, P., and the MetPetDB Data Mining Team, 2012, Making MetPetDB a tool for reconnaissance studies of metamorphism and metamorphic rocks, Abstract IN23C-1531 presented at 2012 Fall Meeting, AGU, San Francisco, Calif., 3–7 Dec.
- Hallett, B.W.**, Spear, F.S., 2012, The accessory mineral record of metamorphism and protracted melt crystallization in a metamorphic core complex, Mineralogical Magazine, v. 76, no. 6, p. 1798 (V. M. Goldschmidt Conference, Montreal, Canada).
- West, P., Fox, P.A., Spear, F.S., Adali, S., Nguyen, C., **Hallett, B.W.**, Horkley, L.K., 2012, Semantically Enabling Knowledge Representation of Metamorphic Petrology Data, Abstract IN51A-1685 presented at 2012 Fall Meeting, AGU, San Francisco, Calif., 3–7 Dec.
- Hallett, B.W.**, Spear, F.S., 2011, Linking metamorphic monazite growth to the P–T path using major and trace element zoning in garnet and monazite from migmatitic pelites of the East Humboldt Range, Nevada, Abstracts with Programs - Geological Society of America v. 43, no. 5, p. 330.

- Hallett, B.W.**, Spear, F.S., 2010, The tectonic record preserved in growth and diffusion zoning patterns in garnet from migmatitic pelites of the East Humboldt Range, Nevada, Abstracts with Programs - Geological Society of America v. 42, no. 5, p. 629.
- Hallett, B.W.**, Spear, F.S., 2009, Petrologic constraints on core complex emplacement, Valhalla Complex, British Columbia, Abstracts with Programs - Geological Society of America v. 41, no. 7, p. 356.
- Hallett, B.W.**, Spear, F.S., 2008, Retrograde T-t Histories From Pelitic Migmatites Reflect Structural Distance From the Gwillim Creek Shear Zone, Valhalla Complex, British Columbia, Abstract T23C-2067 presented at the 2008 Fall Meeting, AGU, San Francisco, California.
- Spear, F.S., Adali, S., Szymanski, **Hallett, B.W.**, Waters, A.J., Linder, Z.J., Fyffe, M.E., Goldfarb, D., Barlett, K., 2008, MetPetDB: New Directions for Metamorphic Studies, Eos Trans. AGU, 89(53), Fall Meet. Suppl., Abstract V13E-2155.
- Hallett, B.W.**, McClelland, W.C., Gilotti, J.A., Power, S.E., Tucker, R.D., 2005, Timing of displacement on the Storstrømmen Shear Zone, North East Greenland Caledonides, Geological Association of Canada National Meeting, Halifax, Nova Scotia, May 2005.
- Power, S.E., McClelland, M.C., Gilotti, J.A., **Hallett, B.W.**, Wopenka, B., 2005, Late stage ultrahigh-pressure metamorphism in the north-east Greenland Caledonides; U-Pb SHRIMP geochronology of coesite-bearing zircons, Geological Association of Canada National Meeting, Halifax, Nova Scotia, Vol. 30, pp.158
- Hallett, B.W.**, Poppe, L.J., Brand, S., 2003, Petrography and character of the bedrock surface beneath western Cape Cod, Massachusetts, Abstracts with Programs - Geological Society of America v. 35, no. 6, p. 325.
- Hallett, B.W.**, Daniel, C.G., Pyle, J.M., 2002, ~1.4 Ga partial melting and regional deformation in Proterozoic migmatites of the Rincon Range, north-central New Mexico: application of monazite U-Th-Pb chemical dating, Abstracts with Programs - Geological Society of America v. 34, no. 1, p. 67-68.

Geologic Maps / Open File Reports / Published Digital Resources

- Hallett, B.W.**, 2017, iSamples Sample Management Training Module for Rock Outcrop Samples. Interdisciplinary Earth Data Alliance (IEDA). EarthChem Library Dataset, [DOI: 10.1594/IEDA/100691](https://doi.org/10.1594/IEDA/100691)
- Hallett, B.W.**, 2009, Preliminary geologic map of the **Bluff Springs quadrangle**, Otero County, New Mexico, New Mexico Bureau of Geology and Mineral Resources, Open-file Geologic Map [OF-GM 137](#), scale 1:24,000.
- Hallett, B.W.**, 2007, Preliminary geologic map of the **Harvey Ranch quadrangle**, Otero County, New Mexico, New Mexico Bureau of Geology and Mineral Resources, Open-file Geologic Map [OF-GM 154](#), scale 1:24,000.

- Hallett, B.W.**, 2007, Preliminary geologic map of the **Mayhill quadrangle**, Otero County, New Mexico, New Mexico Bureau of Geology and Mineral Resources, Open-file Geologic Map [OF-GM 155](#), scale 1:24,000.
- Aby, S. and **Hallett, B.W.**, 2007, Preliminary geologic map of the **Tres Ritos quadrangle**, Taos County, New Mexico, New Mexico Bureau of Mines and Mineral Resources, Open-file Geologic Map [OF-GM 145](#), scale 1:24,000.
- Koning, D.J., **Hallett, B.W.**, and Shaw, C., 2007, Preliminary geologic map of the **Alamogordo North 7.5-minute quadrangle**, Otero County, New Mexico: New Mexico Bureau of Geology and Mineral Resources, Open-file Geologic Map [OF-GM 153](#), scale 1:24,000.
- Hallett, B.W.**, 2006, Preliminary geologic map of the **Cloudcroft quadrangle**, Otero County, New Mexico, New Mexico Bureau of Geology and Mineral Resources, Open-file Geologic Map [OF-GM 135](#), scale 1:24,000.
- Hallett, B.W.**, 2006, Preliminary geologic map of the **Rogers Ruins quadrangle**, Otero County, New Mexico, New Mexico Bureau of Geology and Mineral Resources, Open-file Geologic Map [OF-GM 139](#), scale 1:24,000.
- Hallett, B.W.**, Paskevich, V.F., Poppe, L.J., Brand, S.G., Blackwood, D.S., 2004, A pictorial survey of the bedrock beneath western Cape Cod, Massachusetts, [U.S. Geological Survey open file report 03-221](#), CD-ROM.

Field Research Experience

- Targeted sampling for petrologic/geochronologic studies of Precambrian rocks Wisconsin and northern Michigan, 2015–Present
- Targeted sampling for petrologic/geochronologic studies of central Arizona May 2018
- Targeted sampling for petrologic/geochronologic studies of Precambrian rocks of northern New Mexico, Summer 2014, 2016
- Targeted sampling for petrologic/geochronologic studies of metamorphic rocks of the Strafford and Goshen domes, Vermont and Massachusetts, 2012–2013
- Ph.D. dissertation research field observations, petrologic and geochronologic sampling in a metamorphic terrane: Ruby Mountains / East Humboldt Range, Nevada, Summer 2009
- Proterozoic / Paleozoic mapping for *New Mexico Bureau of Geology and Mineral Resources* in Sangre de Cristo and Sacramento ranges, New Mexico, Summer 2005 – Winter 2006–2007
- Intrusive complex mapping and geochronologic sampling project, Nevada, Summer 2004
- M.S. thesis field mapping / structural analysis / sampling (oriented and geochronologic), North-East Greenland Caledonides, Summer 2003
- Field analysis / oriented sample collection, Proterozoic basement, Rincon Range, New Mexico, Summer 2001

Professional Memberships

- American Geophysical Union
- Geological Society of America
- Mineralogical Society of America
- National Association of Geoscience Teachers
- Sigma Xi Scientific Research Society

Honors, Activities, and Service

- Chemical supplies manager for UWO Geology Department (ChemManager System)
- UW Oshkosh College of Letters and Sciences Curriculum Committee, 2019–2020
- Special session organizer and co-chair, Geological Society of America Northeast and North-Central section meetings, 2017 and 2019
- Steering committee member, NSF EarthCube Internet of Samples for the Earth Sciences Research Coordination Network (iSampleS)
- Communication and Outreach working group co-chair, NSF EarthCube Internet of Samples for the Earth Sciences Research Coordination Network (iSampleS)
- Reviewer for UW Oshkosh Student-Faculty Collaborative Research Program, 2019
- Peer reviewer for UW Oshkosh Faculty Development Program, 2017–2020
- Awards Judge, UW Oshkosh Celebration of Scholarship and Creative Activity, 2017–2019
- Peer reviewer for NSF Tectonics and Petrology programs
- Peer reviewer for scientific journals: Minerals, Journal of Metamorphic Geology, American Mineralogist, Journal of Petrology
- Invited talks: Western Michigan University 2013, Hudson-Mohawk Professional Geologist Association 2014, University of Wisconsin Oshkosh 2014, AGU 2015, University of Iowa 2016, Lawrence University 2016, Illinois State University 2017, UW Oshkosh Dean's Symposium 2019
- Rensselaer School of Science Graduate Council, 2009
- Double bassist: Rensselaer Symphony, University of Idaho Symphony, Brockton Symphony Orchestra (Brockton, MA), Dunedin Sinfonia (New Zealand), Bucknell University Symphony, Bucknell University Jazz Ensemble