

Eric Johnson

Professor of Geology

Contact Info

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Background

- A native of northeastern Pennsylvania.
- Undergraduate study focus in meteorology.
- Graduate study focused on metamorphic petrology, high temperature/pressure experimental geochemistry, fluid-inclusion geochemistry, and structural geology.
- Began at Hartwick in 1999.
- Previously Held Positions: Research Associate at Princeton University; Professor and Department Chair at Central Michigan University, Mt. Pleasant, MI.
- Courses emphasize problem solving using geological techniques in “real-world” scenarios.

Areas of Expertise

- Field mapping, petrologic and geochronologic studies in the Grenville-age rocks of the northwest Adirondack Mountains New York State and Oaxaca State, Mexico.
- Analogue centrifuge modeling of deformation diapir formation and magma-fault interactions.
- Study of the effects of host deformation on the composition and density of natural fluid inclusions in minerals from the Swiss Alps and Sardinia, Italy.
- Flow mechanisms in Hawaiian trachytic lavas.
- Mapping and petrologic study of the White Mountain Magma Series, New Hampshire, and the Cape Ann Plutonic Complex, Massachusetts.

Education

Ph.D. Geological Sciences – State University of New York at Binghamton (1990)

M.A. Geological Sciences – State University of New York at Binghamton (1985)

B.S. Earth and Environmental Sciences – Wilkes College, Wilkes Barre, PA (1983)

Courses taught

GEOL 107 - Introduction to Physical Geology

GEOL 202 - Meteorology

GEOL 203 - Planetology

GEOL 230 - Forensic Geology

GEOL 275 - Off-campus Field Studies: *Geology and Natural History of Hawaii* (J-Term course offered every 2-3 years)

GEOL 275 - Off-campus Field Studies: *Field Geology in the Desert Southwest* (J-Term course offered occasionally). Originally developed and still coordinates this course.

GEOL 307 - Igneous and Metamorphic Petrology

GEOL 311 - Field Geology

GEOL 408 - Structural Geology
GEOL 489 - Pre-Thesis Research
GEOL 490 - Senior Project

Distinctions (Awards, Fellowships and Grants)

Teacher Scholar Award, Hartwick College, 2004

Grant: The Petroleum Research Foundation Structures formed via salt-layer buoyancy in a transpressional regime. ACS PRF Summer Research Fellowship (P.I. - Dr. Lyle Harris INRS, Quebec).

Grant: NSF EAR 0096083 (RUI) Exhumation paths for the Adirondack Basement, NYS: An integrated Geochronologic-petrologic-microstructural study of the Dana Hill Metagabbro Body. (PI: E. L. Johnson) [1997-2001].

Grant: NSF (AFGE) Phase 1 of Project SURGES: Support for undergraduate research in geological and environmental sciences: P.I. Matty D., Matty J., Johnson E., Benison K., Low W.

Provost's Award for Outstanding Research and Creative Endeavors, Central Michigan University, 1996

Selected Publications

Peer Reviewed Publications

Konstantinovskaya, E., Harris, L., Carlier, A., Poulin, J., Handschuh, A., Thomas*, N., and **Johnson, E.** (2008). Centrifuge simulations of the interaction between folding, faulting, and diapirism during regional extension. CSPG/CSEG/CWLS Annual Convention: Back to Exploration. Quebec City, Quebec, CA. p. 771-776.

Johnson, E.L., and Selleck, B. (2006). The nature and significance of the Carthage-Colton Shear Zone and related late-to-post tectonic granites and ore deposits: Adirondack Mountains, New York: Friends of the Grenville Annual Field Conference.

Rosen, S., **Johnson, E.L.**, and Mancktelow, N.S. (2004). An optical method for the determination of <a> axis orientations in deformed aggregates of quartz. Journal of Structural Geology, v. 26: 2059-2064.

Johnson, E., Fruchey, B., and Goergen, E. (2004) Transpressive tectonics during the Ottawa Phase of the Grenville Orogeny: Evidence from the Carthage Colton Shear Zone: In: Tollo, R.P., Corriveau, L., McLelland, J., and Bartholomew, M. J., (eds.), Proterozoic Tectonic Evolution of the Grenville Orogen in North America: Geological Society of America Memoir no. 197, pp. 357-378.

Johnson, E.L. (2004) The Nature and Significance of the Carthage Colton Shear Zone: Adirondack Mountains, New York State. In: Badger, R. (ed.) New York State Geological Association Field Trip guidebook: 76th Annual Meeting and Field Conference, Geological Society of New York.

Streepey, M., **Johnson, E.L.**, Mezger, K., and Van der Pluijm, B. (2001) Early history of the Carthage Colton Shear Zone, Grenville Province, northwest Adirondack Mountains, New York: *Journal of Geology*, v. 109: 479-492.

Mancktelow, N., Grujic, D., and **Johnson, E.** (1998). An SEM study of porosity and grain boundary microstructure in quartz mylonites, Simplon Fault Zone, Central Alps. *Contributions to Mineralogy and Petrology*, v. 131, pp. 71-85.

Conference Abstracts (the last 5 years - * denotes current and former Hartwick students)

- Domino*, J., and **Johnson, E L** (2015). Formation of hybrid melts via magma mixing in the Cape Ann Plutonic Complex, Massachusetts, USA. Geological Society of America, Annual Meeting, Baltimore MD, v. 47, no. 7, p. 580.
- Coppola*, S., and **Johnson, E.L.** (2015). Soil creep rates under portions of the Hartwick College campus, Oneonta, NY: Geological Society of America, Annual Meeting, Baltimore MD, v. 47, no. 7, p. 535.
- Domino*, J., Braue*, R., and **Johnson E L** (2015). It's a stretch : High temperature deformation in the Piseco Lake Shear Zone : Geological Society of America, NE Sectional Meeting. v. 47, p.46.
- Robertson*, M., and **Johnson, E.L.** (2014). Deformation/flow mechanisms in the 6.8km long McGregor trachyte flow, Maui, Hawaii USA : Geological Society of America, Annual Meeting, Vancouver, BC, CANADA. v. 46, no. 7, p. 322.
- Pointer*, C., Griffing, D.H., and **Johnson, E.L.** (2014). A complex origin for an unusual paleosol interval within the Koloa Volcanic Series, Kauai: Geological Society of America Annual Meeting, Vancouver, BC, CANADA. v. 46, no. 7, p. 54.
- Hall*, T., and **Johnson, E.L.** (2013). Analysis of the role and timing of fluid flow during ore synthesis and vonsenite crystallization in the Jayville Iron Deposit, NW Adirondack Mountains, NYS : Geological Society of America Annual Meeting, Denver CO. v. 45, no. 7, P. 726.
- Johnson, E.L.** (2012) Formation of sillimanite-quartz-magnetite veins via incongruent pressure solution of a host granite: Implications for fluid flow along the Carthage-Colton Shear Zone : Geological Society of America, Annual Meeting, Charlotte, NC. v. 44, No. 7, p. 493.
- Johnson, E.L.**, and Harris, L.B. (2012) Centrifuge modeling of the effects of pluton emplacement on shearing and folding in transtensional shear zones: Applications to the Carthage Colton Shear Zone, Adirondack Mountains, New York State. Geological Society of America, Annual Meeting, Minneapolis, MN. v. 43, no. 5, p. 606.
- Terbush*, B. R., and **Johnson, E.L.** (2011) Strain analyses of the Shawangunk Conglomerate, Southeastern New York : Evidence for Appalachian Wide Stress Field. T21A-2311 American Geophysical Union Annual Fall Meeting, San Francisco, CA.

College Service and Professional Affiliations

College and Professional Service

Faculty Council, 2015-2016

ATP appeals committee, 2015

Coordinator of the Science Division Freedman Prize, 2009- Present

Appointments Tenure and Promotion Committee (ATP), 2009-2013

Provost Search Committee, 2008

Middle States Steering Committee, 2007-2009

Teaching and Learning Efficiency Committee (TLEC), 2005-2006

Department Chair, Geology and Environmental Sciences, Hartwick College, 2003-2009

Faculty Council, 2002-2003 and 2004-2007

Hartwick College Faculty Interviewing Committee, 2003-2004

John Christopher Hartwick Scholarship selection committee (member and chairperson), 2000-2003.

Director: Friends of the Grenville (International organization dedicated to sharing geologic information on and about the Grenville Province through an annual international field conference). As director, I am responsible for the organization of the conference and maintaining the FOG web page.

National Councilor for Council on Undergraduate Research (CUR)

National Science Foundation, Washington D.C., reviewer and panel member

Fellow: Project Kaleidoscope (PKAL)

STEM (Science Technology Engineering and Mathematics) Leadership Council: Otsego, Delaware, and Chenango Counties, **2009-2011**

Professional Affiliations

Friends of the Grenville

Geological Society of America