Heather Short

Contact info:
Office: HS-132
(514) 457-6610 x5844
heather.short@johnabbott.qc.ca
*Students please contact me using MIO

Education:

- Ph.D. in Earth Sciences, May 2006, University of Maine, Orono, ME.
- M. S. in Geology, 1999, University at Albany, State University of New York, Albany, NY.
- B. A. (Honors) in Geology, 1994, Skidmore College, Saratoga Springs, NY.

Teaching Philosophy:

The Earth Sciences provide the perfect context in which to get students actively involved in their learning. I encourage students to 'think from the ground up' by giving them real data, whether it is rock samples, earthquake maps, or oxygen isotope ratios from ice cores, and asking them to make sense of it- essentially, to think like scientists.

While at John Abbott College, I have developed Earth Science-based interdisciplinary courses aimed at general science students. My main goal in these courses is to promote scientific literacy among as many students as possible so that they can better understand how the process of scientific discovery works in the context of the climate system *through geologic time*, and how humans contribute to climate change. My hope is that regardless of whether or not these students continue in a science field, they will become informed citizens who understand that uncertainty is an essential part of the collective process of 'doing science' and building scientific consensus.

Research Interests:

I am interested in the development of small-scale and microstructures in large-scale shear zones, and their use as strain and vorticity gauges. Present funding from the FQRNT is for a project entitled: "*Caractérisation pétrologique et datation radiométrique du métamorphisme régional est des failles dans la sous-province de l'Abitibi, Québec: implications tectoniques et métallogéniques*," in which I continue research on the timing of metamorphism and deformation in the Abitibi subprovince of Quebec. Specifically, I am investigating the formation and significance of shear band cleavages in a major shear zone in Val d'Or, Quebec, and to conduct Ar-Ar radiometric age dating on nearby fault rocks in order to better constrain the thermo-tectonic evolution of the area.

Academic affiliations and grants:

January 2007 - Present	Professor, Geoscience Department, John Abbott College, Ste-Anne-de-Bellevue, Quebec, Canada
May 2007 – Present	Adjunct Professor, Department of Earth & Planetary Sciences, McGill University, Montreal, Quebec, Canada.
April 2012 – March 2015	Programme de recherche pour les enseignants de collège, Fonds de recherche sur la nature et les technologies (FQRNT); to be carried out at John Abbott College.

July 2005 – July 2006	Fellow, American Association of University Women (AAUW) American Fellowship, granted for the purpose of writing my dissertation.
August 2002 – July 2003	NSF Graduate Teaching Fellow in K-12 Education, University of Maine. Participating classrooms: Second and Third Grades, Indian Island School, Penobscot Indian Reservation, Maine; Fourth Grade, Bradley, Maine, USA.

Selected Publications and Abstracts:

Short, H.A., Kuiper, Y.D**.**, Johnson, S.E., Jiang, D., (2011). Estimation of vorticity from fibrous calcite veins, central Maine, USA - Corrigendum. Journal of Structural Geology 33, p. 59.

Short, Heather, A., and Tremblay, A., (2011). Evidence for shear band initiation approximately parallel to the acute and obtuse bisectors of the irrotational lines of flow in a general shear zone. Geophysical Research Abstracts Vol. 13, EGU2011.

Short, Heather, A., (2011). Positive feedbacks: using simple systems diagrams, the Himalayas, and ice core oxygen isotope data to introduce first-year college students to the complexities of Earth's climate system. Geophysical Research Abstracts Vol. 13, EGU2011.

Short, H. A., (2010), Timing and Significance of Dextral Transpression in Central Maine: It's Early and Important. GSA Northeastern and Southeastern Joint Section Meeting, Abstracts with Programs, paper # 47-2.

Short, H. A., and Tremblay, A., (2010), Vorticity Estimation using Shear Band Cleavages as a Means to Characterize Strain Partitioning in a Major Archean General Shear Zone. GSA Northeastern and Southeastern Joint Section Meeting, Abstracts with Programs, paper # 60-2.

Pearson, Clayton W., Short, Heather, and Tremblay, Alain, (2010). Tectonic evolution of the Marbanite-Norbenite deformation zone and implications for Au mineralization in the Malartic Group, Malartic Township, Quebec. GSA Abstracts with Programs, v. 42, No. 1; 36-2, page109.

Short. H. A., and Tremblay, A., (2009), The Development of Shear Band Cleavages & C'-type Shear Bands in a General Shear Zone & Their Implications for its Kinematic History, *Eos Trans. AGU, 90 (22),* Jt. Assem. Suppl., Abstract GA31A-02.

Short, H. A., and Johnson, S. E., (2006). Determination of vorticity from fibrous calcite veins, central Maine, USA. Journal of Structural Geology 28, p. 1167-1182.