

Kimberly Ann Marsella

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ACADEMIC TRAINING

M.S., 1994-1997, Geology, University of Vermont, Burlington, VT *"Timing and Extent of Glaciation on southern Baffin Island, N.W.T., Canada: Determined Using Cosmogenic Isotopes ¹⁰Be and ²⁶Al"*

B.S., 1994, Geology, Bates College, Lewiston, ME *"The Evolution of a Hypersaline, Meromictic Lake Basin, eastern Cornwallis Island, N.W.T., Canada"* (cum laude and highest honors)

TEACHING EXPERIENCE

- 2005-Present Senior Teaching Associate Skidmore College--Laboratory instruction in Earth Systems Science and Field Studies in Environmental Science, Lecturer (S05); Scribner Seminar, Dangerous Earth (F05); Environmental Concerns in Perspective (S06)
- 1999-2005 Teaching Associate Skidmore College--Laboratory instruction in Earth Systems Science and Field Studies in Environmental Science; Geomorphology (GE304), lecture and laboratory (2001)
- 2002-Present Director Skidmore College, Special Programs, "Summer Science Institute for Girls"--Oversee and coordinate all programs for two, 1-week residential science institutes for girls entering 7th & 8th grade.
- 1999-Present Instructor Skidmore College, Summer Programs,--Physical Geology (Currently, Earth Systems Science), GE101, lecture and laboratory
- May 2001, Aug. 2000 Instructor University of Vermont--"Regional Geology of Colorado", a 3-week field course in Colorado State, focussed on interpreting geology in the field, including bedrock and surficial geology
- Jan.-May 1999 Assistant Instructor Bates College--Geology 310, Quaternary Geology, responsibilities included assisting in retrieval of sediment cores for analysis by students as well as some lecture and laboratory preparation (50% time).
- 1996, 1997 Instructor Governor's Science and Technology Institute of Vermont--assisted in a summer camp in geology, hydrology, and botany for exceptional Vermont high school students
- 1994-1995 Teaching Assistant University of Vermont--teaching Introductory Geology laboratories

RESEARCH EXPERIENCE

- Jan.-Sept. 1999 Research Associate Bates College--Science and Data Manager for PALE (same as position below; 50% time).
- 1998-1999 Professional Research Assistant University of Colorado, Institute for Arctic and Alpine Research (INSTAAR)--Science and Data Manager for the Paleoenvironments of Arctic Lakes and Estuaries (PALE) program; update and manage geochronological data, process ¹⁴C and ²¹⁰Pb dating requests, organize annual meeting, edit newsletter, synthesize data
- 1995-1997 Research Assistant University of Vermont-- preparing and processing samples to analyze for cosmogenic ¹⁰Be and ²⁶Al using heavy liquid density separation, ICP analysis, cation exchange techniques, and AMS analysis
- 1992-1994 Researcher Bates College--conducted fieldwork and chemical analyses as part of BS and Individual Research Grant; in collaboration with the U.S. EPA conducted a study of the petrography and chemistry of municipal waste incinerator ash using a SEM-EDS

HONORS AND AWARDS

Recipient of ES Collaborative Research Grant, Summer 2004
Recipient of Rathmann Grant to revise ES105 curriculum, Summer 2003
Recipient of Summer Technological Innovation Grant, 2001, to design interactive web site for ES105
Recipient of AT&T Technology Innovation Grant, 2000, to design interactive web site for GE304
Recipient of ESRI Software Grant, 1999, to install Arcview and Spatial Analyst on 25 computers
Recipient of National Science Foundation award to participate in GIS-Access program, 1999
Session Chair, Quaternary Glacial Events, GSA National Meeting, 1996
Recipient of AAPG Grant-in-Aide, 1995
Nominated to Sigma Xi, 1994
Received highest honors on senior thesis, 1994
Louis Jordan, Jr. Award-"most outstanding geology thesis", 1994
Recipient of Howard Hughes Individual Research Grant, 1993

COURSEWORK

University of Vermont--Environmental Isotope Geochemistry, Geomorphology, Principles of Aquatic Systems, Clastic Depositional Systems, Environmental Geology Seminar, Geographic Information Systems
Bates College--Sedimentology, Quaternary Geology, Applied Environmental Geology, Geochemistry of Natural Waters, Mineralogy, Structural Geology, Hydrology, Biology, Chemistry, Physics, Scanning Electron Microscopy, Limnology and Paleolimnology, Biodiversity of Maine

OTHER TRAINING AND SKILLS

Experienced operator: scanning electron microscope (SEM), energy dispersive spectrometer (EDS), inductively coupled plasma spectrometer (ICP), accelerator mass spectrometer (AMS), atomic absorption spectrometer (AA), magnetic susceptibility logger, and sedigraph.

INDEPENDENT STUDY & COLLABORATIVE RESEARCH STUDENTS

Conor Taff, 2005, Kayaderoserras Creek Watershed GIS Database
Christina Schull, 2004, Loughberry Lake Water Quality study
Pete Olmsted, 2003, Global Climate Change: A journalistic approach
Neil (Kip) Cross, 2003, A feasibility study of biodiesel fuel at Skidmore College
Kempton Randolph, 2002, Defining a new trail for the Saratoga Open-space Project
Jenna Ringelheim, 2002, Geographic Information Systems (GIS)
Carley Ross, 2001, Mapping the Saratoga Lake Watershed using GIS

SERVICE TO THE COLLEGE

Campus Environment Committee, 2005-present (currently serving as liaison to IPPC)
Environmental Studies Steering Committee, 2005-present
Steering Committee Member, Northeast Campus Sustainability Consortium (NECSC), 2004-present
Student Affairs Sub-committee of IPPC, Spring 2006
Faculty Representative to Facilities Council, 2003-present
ES Pre-Orientation Leader, 2002-present
Faculty Advisor, 2000-2004, Natural Foods Co-op Theme House, Scribner Village

PUBLICATIONS

Lindemann, R.H. and **Marsella, K.A.**, 2005, Saline Springs, Microbial Reefs, and Basalt Pillows: Three Natural Wonders of Saratoga: Northeastern Section of the Geological Society of America 40th Annual Meeting, Fieldtrip Guidebook, p. A1-A14.
Frey, S., Moomaw, W., Halstead, J., Robinson, C., **Marsella, K.**, and Thomas, J., 2003, Home Energy Conservation Exercise: Journal of Geoscience Education, v. 51, n. 5, p. 521-526
Marsella, K.A., Bierman, P., Davis, P.T., and Caffee, M., 2000, Cosmogenic ¹⁰Be and ²⁶Al dates for the Last Glacial Maximum on Eastern Baffin Island, Canadian Arctic: Geological Society of America Bulletin, v. 112, p. 1296-1312.
Bierman, P., **Marsella, K.**, Patterson, C., Davis, P.T., and Caffee, M., Response to discussion by Wolfe et al. on Bierman et al. (1999): Geomorphology, v. 39, n. 3-4, p. 255-261.
Davis, P.T., Bierman, P., **Marsella, K.A.**, Caffee, M., and Southon, J., 1999, Cosmogenic dating of glacial terrains in the Arctic: a test for inherited nuclides and the effectiveness of glacial erosion: Journal of Glaciology, v. 28, p. 181-188.
Bierman, P., **Marsella, K.**, Patterson, C., Davis, P.T., and Caffee, M., 1999, Mid-Pleistocene cosmogenic minimum-age limits for pre-Wisconsinan glacial surfaces: Geomorphology, v. 27, p. 25-39.

- Eighmy, T.T., Krzanowski, J., Stampfli, D., Eusden, J.D., **Marsella, K.**, Killeen, K., Gaurdenier, H., and Hogan, J., 1994, Particle petrogenesis and speciation of elements in MSW incinerator bottom ashes: *in* Goumans, J.J.R., van der Sloot, H., and Aalbers, Th.G., eds., *Environmental aspects of construction with waste materials*: Elsevier-North Holland, p. 111-136.
- Eighmy, T.T., Krzanowski, J., Domingo, D., Stampfli, D., Eusden, J.D., **Marsella, K.**, and Killeen, K., 1994, The nature of lead, cadmium and other elements in incineration residues and their stabilized products, U.S. EPA Final Report, U.S. EPA, Cincinnati, Ohio.

SELECTED ABSTRACTS

- Marsella, Kimberly A.**, 2001, Increasing student engagement in geomorphology through the use of the world wide web: Geological Society of America, Abstracts with Programs, vol. 33, no. 6, p. A-125. (National)
- Marsella, K.A.**, Bierman, P.R., Davis, P.T., and Caffee, M.W., 1998, Revised glacial chronology of the Pangnirtung Fjord Region, Cumberland Peninsula, Baffin Island: Based on ^{10}Be and ^{26}Al exposure age dating: 28th International Arctic Workshop, Arctic and Alpine Environments, Past and Present, Program with Abstracts, Institute of Arctic and Alpine Research, Univ. of Colorado, Boulder, viii, p. 111-113.
- Marsella, K.A.**, Bierman, P., Davis, P.T., and Caffee, M., 1997, Cosmogenic dating of surficial features on Baffin Island, 8th Biennial CANQUA Meeting, Montreal, 43. (International)
- Marsella, K.A.**, Bierman, P., Davis, P.T., and Caffee, M., 1996, Stage 2 "big ice" on Baffin Island: Geological Society of America, Abstracts with Programs, vol. 28, no. 7, p. A-433. (National)
- Davis, P. T., **Marsella, K. A.**, Bierman, P. R., and Caffee, M., 1996, Deglacial dynamics of Baffin Island by cosmogenic exposure dating: Geological Society of America Abstracts with Programs, v. 28, no. 7, p. A-434. (National)
- Bierman, P. R., **Marsella, K. A.**, Davis, P. T., and Caffee, M. W., 1996, Old arctic bedrock surfaces have complex exposure burial and cosmogenic exposure histories: EOS (abs).
- Davis, P. T., **Marsella, K. A.**, Bierman, P. R., and Caffee, M. W., 1996, Paired glacial boulder and bedrock cosmogenic analyses: EOS (abs).
- Marsella, K.**, Davis, P. T., Bierman, P. R., Finkel, R. C., Caffee, M., and Southon, J., 1995, Geologic test of weathering zone concept and nunatak hypothesis using cosmogenic isotope dating in Pangnirtung fjord area, Baffin Island, Nunavut Territory, Canada: Geological Society of America Abstracts with Programs, v. 27, no. 6, p. A-59. (National)
- Marsella, K.**, Davis, P.T., and Bierman, P., 1995, Timing and extent of glaciation on southern Baffin Island, NWT, Canada determined using *in-situ* produced cosmogenic isotopes ^{10}Be and ^{26}Al : International Union for Quaternary Research XIV International Congress, Abstracts with Programs, Bonn, Germany, p. 179. (International)
- Marsella, K. A.**, 1994, The evolution of a hypersaline, meromictic lake from a marine inlet, Sophia Lake, NWT, Canada: Geological Society of America, Abstracts with Programs, vol. 26, no. 23, p. A-59. (Regional)
- Retelle, M.J. and **Marsella, K.**, 1994, Late holocene evolution of a hypersaline coastal lake basin: Sophia Lake, Eastern Cornwallis Island, N.W.T., Canada: Geological Society of America, Abstracts with Programs, vol. 26, no. 7, p. A-326. (National)
- Marsella, K.A.**, 1993, Chemical and petrographic analysis of bottom ash from a municipal waste incinerator, *in* The Maine Geologist: The Newsletter of the Geological Society of Maine, v. 19, no. 2, p. 6. (Regional)