

Brett Burkett

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EDUCATION

2002 – 2008

M.S. Geology [February 1st, 2008], University at Buffalo, State University of New York

Advisor: Tracy K.P. Gregg

- Thesis: *Andean Volcanism: Nevado Hualca Hualca Volcano, Southern Perú, and El Reventador Volcano, Ecuador*

1998 – 2002

B.S. Geology with Honors, Case Western Reserve University

Advisor: Philip O. Banks

- Thesis: *Post-glacial evolution of the Chagrin River Valley, Cuyahoga and Lake Counties, Ohio*

EDUCATIONAL EMPLOYMENT

08/2008-Present

Professor, Geology and Environmental Science

Teaching lectures and laboratory courses in Introductory Earth Science (GEOL 1401) and Environmental Science (ENVR 1401) for non-science majors and Physical Geology (GEOL 1403) for science majors. Periodically offering an elective course in Natural Disasters (GEOL 1305).

09/2007-12/2007

Lecturer, Part-time

09/2006-12/2006

Buffalo State College

Responsible for course creation, lectures, and evaluation for ~45 students. GES 101: Introductory Geology (taught in '06 and '07). Introductory course in geology focusing on the basics of earth system science. GES 224: Geologic Hazards (taught in '07). Course discusses hazards and hazard prevention in various geologic settings.

08/2002-05/2004

**Teaching Assistant
University at Buffalo**

Taught a series of undergraduate labs including Introductory Environmental Geology (GLY 101) and Petrology (GLY 306) and a graduate lab in GIS (GLY 560).

Igneous and Metamorphic Petrology (GLY 306)

Taught one lab (Spring 2003) and both lab sections (Spring 2004), graded all lab and course homework, exams, quizzes. Assisted in lab setup and construction, and in field trip to Bancroft to study Canadian Shield.

Geographic Information Systems (GLY 560)

Taught both lab sections (Fall 2003). Topics included use of ArcGIS 8.0 to analyze geologic data (hydrologic analysis, georeferencing, overlays, etc).

Introductory Environmental Geology (GLY 101)

Taught two, 3-hr lab sections per week (Fall 2002). Topics included topographic maps, stream surveys, basic mineralogy and paleontology.

RESEARCH EMPLOYMENT

- 01/2009-Present** **Adjunct Curator of Geological Resources**
Heard Natural Science Museum/Wildlife Sanctuary, McKinney, TX
Responsible for cataloguing and organizing the museum collection as well as advising on geologic exhibit creation and education.
- 01/2007-09/2007** **Interdisciplinary Researcher**
Department of Industrial Engineering, University at Buffalo
One of two primary student researchers on decision-support and interoperability between emergency responders with specific focus on the October 2006 Snow Storm (Buffalo, NY) using cognitive systems engineering methods and the philosophical notion of ontology. Involved departments include industrial engineering, geology, and geography.
- Summer 2000** **Research Assistant**
Case Western Reserve University
Clay sample preparation (grinding, kiln firing) for trace element analysis.

INVITED LECTURES

- Fall 2005** **Invited Lecturer**
University at Buffalo
For Dr. Michael F. Sheridan
Geological Disaster Prevention (GLY 528) and Igneous/Metamorphic Petrology (GLY 306)
Taught nine classes in professor's absence in subjects ranging from the physics and characteristics of landslides and avalanches, calc-alkaline volcanism, and metamorphic textures and facies.
- Fall 2003 & 2004** **Invited Lecturer**
Marion Center High School, Marion Center, Pennsylvania
On Culture and Volcanic Activity in the Southern Peruvian Andes
Spoke to eight Spanish and Science classes (9th-12th grade) on topics including the effects of tourism on indigenous peoples in the Colca Valley, transportation, local trade, and volcanic activity.

FIELD EXPERIENCE

- 07/2006** **Mammoth Mountain, CA**
(2 weeks)
Stratigraphic analysis of domes, phreatic explosion pits, and potential debris avalanche deposits

- 07-08/2004**
(7 weeks) **M.S. Field Season 1**
Stratigraphic mapping of volcanic deposits at Nevado Hualca Hualca Volcano, Peru
- 07/2004**
(10 days) **Mammoth Mt., South Deadman Dome, and Mono Craters, CA**
Studying mixing and mingling processes, stratigraphy of eruptive deposits
- 05/2004**
(8 days) **Grand Junction, Colorado**
Source of stream terraces, surficial mapping
- 07-08/2003**
(4 weeks) **El Misti Volcano, Peru and Tungurahua Volcano, Ecuador**
GPS-based topographic mapping and stratigraphic investigations of volcanoclastic flow deposits
- 03/2002**
(1 week) **Bear Island, VA**
Studying igneous, sedimentary, and meta-sedimentary stratigraphy and structure (amphibolites, lamprophyric dikes, migmatites)
- 08-10/2001** **B.S. Fieldwork**
Mapping of lacustrine terraces, geomorphology of river channels and beds in the Chagrin River Valley, OH
- 07-08/2001**
(5 weeks) **Wyoming and Idaho**
Mapping of glacial moraines (Pinedale, WY), sedimentary sequences (Red Hills, WY), and large igneous/metamorphic bodies (Lost River Range, ID)
- 03/2001**
(9 days) **Smoke Hole, WV**
Stratigraphy and structure of carbonate and clastic sequences

SKILLS

Geographic information systems (ArcGIS) and GPS mapping, ENVI remote sensing software (Landsat, SPOT, SRTM, and ASTER datasets), analysis of geochemical data (in Excel, Origin), geologic field mapping in sedimentary, igneous, and metamorphic environments, stereoscopic mapping of volcanic terranes, polarizing microscopy of polished thin sections, and scanning electron microscopy of graphite coated stubs.
Moderate command (written, spoken) of Spanish language.

HONORS and AWARDS

- 2004-Present** IGERT Fellowship in Geographic Information Science (NCGIA)
- 2004** Reginald H. Pegrum Excellence in Teaching Award
- 2004** Excellence in Teaching Honorable Mention
- 2002-2004** Teaching Assistantship
- 2002-2004** Presidential Fellowship (University at Buffalo)
- Spring 2002** Magna Cum Laude, College of Arts and Sciences, (CWRU)
- Spring 2002** Departmental Honors (Department of Geology, CWRU)
- 2002** Charles S. Bacon Award for Outstanding Achievement in Geological Sciences

2002 Top Geology Graduate of Northern Ohio Award by Northern Ohio Geological Society
2001-Present Golden Key National Honor Society
1998-2002 President's Scholarship (Case Western Reserve University)

PUBLICATIONS

Burkett, B., Marin, C.V. Drury, C.G., Bisantz, A.M., and Mark, D.M. Ontology – Work Domain Analysis integration in a disaster. *Theoretical Issues in Ergonomics Science* (submitted), 9/1/2008.

PRESENTATIONS

Burkett, B. and Sheridan, M.F. The November 2002 pyroclastic flows at El Reventador, Ecuador: computer simulations using the TITAN thin-layer code. *EOS, Trans., AGU 88 (23), Jt. Assem. Suppl., Abstract V33A-06, 2007.*

Burkett, B. and Sheridan, M.F. Evaluating the updated Titan2D mass-flow model: The November 3, 2002 lithic-rich pyroclastic flows at El Reventador. *Poster, SIII-12-P, Cities on Volcanoes 4, Jan. 23-27, Quito, 2006.*

Burkett, B. Volcanism at Hualca Hualca Volcano, Southern Peru. *EOS, Trans., AGU 86 (52), Jt. Assem. Suppl., Abstract V53B-1552, 2005.*

Burkett, B. Evaluating the updated Titan2D mass-flow model: The November 3, 2002 El Reventador pyroclastic flows, Ecuador. *Poster, Conference on Spatial Information Theory, Sep. 14-18, Ellicottville, 2005.*

Delaite, G., Stinton, A.J., Sheridan, M.F., Thouret, J.C., and **Burkett, B.**, 2004, A comparison of TITAN2D and LAHARZ simulated debris flow hazards at El Misti Volcano, southern Peru. European Geophysical Union, Nice, France, April 26.

Sheridan, M.F., Stinton, A.J., **Burkett, B.**, Patra, A., Nichita, C.C., and Pitman, E.B. 2004, Application of Titan2D mass-flow model to potential hazards at Tungurahua Volcano, Ecuador, European Geophysical Union, Nice, France, April 26

Stinton, A.J., Delaite, G., **Burkett, B.**, Sheridan, M.F., and Thouret, J-C., 2004, Titan2D simulated debris flow hazards: Arequipa, Peru. International Symposium on Environmental Software Systems, Harrisonburg, VA, May 18-21.