

## **Maria Alexandra Matiella Novak**

Ph.D. Candidate

Department of Geological and Mining Engineering and Sciences

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### **EDUCATIONAL PREPARATION**

University of California, Los Angeles    Geology    B.S. 2001

Michigan Technological University    Geology    M.S. 2004

Michigan Technological University    Geology    Ph.D. expected Spring 2008

Research Interest: Monitoring volcanic hazards using geologic records and satellite remote-sensing techniques to mitigate hazards and to aid in preparedness. Additionally, assessing risk communication methods used in times of increased volcanic activity in order to identify successes and failures in hazard communication techniques.

Coursework: Igneous Petrology, Sedimentary Petrology, Metamorphic Petrology, Volcanic Petrology, Structural Geology, Natural Hazards, Volcanic Clouds, Remote Sensing, Math Modeling of Earth Systems, Volcanology, Volcanic Hazards, Risk Communication, Introduction to Journalism, In-Depth Journalism, Grammar and Usage in Society.

### **PROFESSIONAL APPOINTMENTS**

6-7/04; 6-7/05; 6-7/06; 6-7/07 *Geology Instructor*, Summer Youth Programs, Michigan Technological University, Houghton, Michigan.

1/05-5/05 *Teaching Assistant*, Oceanography, Michigan Technological University

8/04-12/04 *Teaching Assistant*, Intro to Geology, Michigan Technological University

1/02-6/02 *Intern*, Gas Geochemistry Group, U.S. Geological Survey Hawaiian Volcano Observatory, Hawaii National Park, Hawaii.

6/00-11/01 *Lab Assistant*, Thermal Ionization Mass Spectrometer Lab, University of California, Los Angeles.

7-9/99 *Research Assistant*, U.S. Geological Survey National Center, Reston, Virginia.

### **WORKSHOPS and CONFERENCES**

8/08 (anticipated) IAVCEI General Assembly: Reykjavik, Iceland

5/07 American Geophysical Union Joint Assembly: Acapulco, Mexico

1/06 Cities on Volcanoes 4: Quito, Ecuador

2/05 IAVCEI General Assembly: Pucon, Chile

6/04 2<sup>nd</sup> International Conference on Volcanic Ash and Aviation Safety: Alexandria, Virginia

12/03 American Geophysical Union Fall Meeting: San Francisco, California

6/03 2<sup>nd</sup> International Workshop: Remote Sensing of Volcanic Eruption Clouds: Michigan Technological University, Houghton, Michigan.

11/01 Volcanoes of the Western U.S. Field Seminar: UCLA, Cascade Volcanic Range

### **ACADEMIC AWARDS and FELLOWSHIPS**

12/05 Presenting-student Support, \$1,200: Cities on Volcanoes 4 Conference

5/04 Fellowship, \$35,000: Michigan Future Faculty Program, King-Chavez-Parks Initiative

8/02 Fellowship, \$20,000: Michigan Future Faculty Program, King-Chavez-Parks Initiative

6/01 Scholarship, \$500: UCLA Clem Nelson Summer Field Award

## **PUBLICATIONS**

Peer Reviewed:

**Matiella Novak, M.A.**, I. Matthew Watson, Hugo Delgado-Granados, William I. Rose, L. Cardenas-Gonzales, and Vince J. Realmuto. "Volcanic emissions from Popocatepetl volcano, Mexico, quantified using Moderate Resolution Imaging Spectroradiometer (MODIS) infrared data: A case study of the December 2000–January 2001 emissions". *Journal of Volcanology and Geothermal Research* (2007), doi:10.1016/j.jvolgeores.2007.09.010.

Other Publications:

**Matiella Novak, M.A.**, I.M. Watson, W.I. Rose, K. Dean and P. Webley. "Mitigating Hazards to Aircraft From Drifting Volcanic Ash Clouds Using A Combination of Remotely Sensed Data and Ash Dispersion and Transport Modeling – A Case Study of the May 10, 2003 Anatahan Eruption", in prep for the *Journal of Volcanology and Geothermal Research*.

**Matiella Novak, M. A.**, "NASA'S shifting priorities—can we influence them?" On the Faultline – Michigan Technological University Department of Geological and Mining Engineering and Sciences Winter Newsletter, 2008, p. 4.

**Matiella Novak, M.A.**, "The future of mining in Michigan." On the Faultline – Michigan Technological University Department of Geological and Mining Engineering and Sciences Winter Newsletter, 2008, p. 9.

**Matiella Novak, M.A.** "Under the Volcano." *The Michigan Tech Lode* 05 April 2006, p.1A

## **CONFERENCE PROCEEDINGS and PRESENTATIONS**

**Matiella Novak, M.A.**, I. Matthew Watson, William I. Rose, Ken Dean. "Towards improving ash monitoring; combining and comparing IR satellite data and forward trajectory models." American Geophysical Union Joint Assembly, Acapulco, Mexico, 21-25 May 2007.

**Matiella Novak, M.A.**, I. Matthew Watson, and William I. Rose. "Towards improving ash monitoring: combining and comparing IR satellite data and forward trajectory models." Fourth Conference Cities on Volcanoes, International Association of Volcanology and Chemistry of the Earth's Interior. Quito, Ecuador, 23-27 Jan. 2006.

**Matiella Novak, M.A.**, Craig Waddell, I. Matthew Watson, and William I. Rose. "Assessing risk communication during times of increased volcanic activity." Fourth Conference Cities on Volcanoes, International Association of Volcanology and Chemistry of the Earth's Interior. Quito, Ecuador, 23-27 Jan. 2006.

**Matiella, M.A.**, I. Matthew Watson, and William I. Rose. "MODIS infrared data applied to three different volcanic eruptions – an attempt to find minimum detection limits of "split-window" ash retrievals." International Association of Volcanology and Chemistry of the Earth's Interior General Assembly. Pucon, Chile, 15-18 Nov. 2004.

**Matiella, M.A.**, Hugo Delgado-Granados, William I. Rose, and I. Matthew Watson. "Observing Popocatepetl's volcanic ash clouds using MODIS infrared data." 2<sup>nd</sup> International Conference on Volcanic Ash and Aviation Safety. Alexandria, VA, 21-22 June 2004.

**Matiella, M.A.** "Observing Popocatepetl's Volcanic Clouds Using MODIS Infrared Data – A Case Study of the December 2000 – January 2001 Emissions." M.S. Thesis, Michigan Technological University, May 2004.

**Matiella, M.A.** "Results from the Vent Location Project." Hawaiian Volcano Observatory, Hawaii National Park, HI, 27 June 2002.

## **RELEVANT WEBPAGES**

<http://www.geo.mtu.edu/~mamatiel/>

<http://volcanowatcher.blogstream.com/>