# Magdalena Rosario V. Sta. Maria

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## EDUCATION

**B.S. Physics (March 1998)** - Ateneo de Manila University, Philippines
Thesis: The Use of the Global Positioning System to Study the Ionosphere and the Troposphere
**B.S. Computer Engineering (March 1999)** - Ateneo de Manila University, Philippines
Thesis: Automated Guided Vehicle for Food and Mail Transport
**M.S. Meteorology (May 2003) –** San Jose State University, California, USA
Thesis: Dynamic and Thermal Circulations over the Tharsis Region on Mars

## WORK EXPERIENCE

**Research Assistant (June 1, 1999 – June 30, 2000)** – Regional Climate Modeling Group, Climate Studies Division, Manila Observatory, Quezon City, Philippines
Research:
Philippine Rainfall Climatology Using NCAR/NCEP and ECMWF Reanalyses
Feasibility study on the development of a wind farm in northwestern Luzon Island
**Graduate Assistant (July 24, 2000 – March 31, 2003) –** Department of Meteorology, San Jose State University, San Jose, California, USA.
Research:
Mesoscale modeling of the Martian atmosphere, specifically atmospheric circulations over the Tharsis region.
**Research Associate (April 1, 2003 – February 28, 2005)** – SETI Institute, Mountain View, California, USA
Research:
Development of state-of-the-art evaporation models and use of those models to investigate potential sites for melting on Mars
**Research Assistant (April 1, 2005 – present) –** Department of Civil and Environmental Engineering, Stanford University, Stanford, California
Research:
Modeling the feedback of large wind farms on weather and climate.

## PUBLICATIONS/PRESENTATIONS

Sta, Maria, M.R.V., M. Jacobson, 2008: Investigating Interactions between Wind Turbines and the Atmosphere. Presented, AGU 2008 Fall Meeting, San Francisco, California, Dec. 15-19, 2008.

Sta, Maria, M.R.V., M. Jacobson, 2007: New Parameterization for Wind Farm Effects on the Atmosphere. Presented, Windpower 2008, Houston, Texas, June 1-4, 2008.

Sta, Maria, M.R.V., M. Jacobson, 2007: Examining the effects of wind farms on array efficiency and regional meteorology. Presented, Windpower 2007, Los Angeles, California, June 3-6, 2007.

Sta. Maria, M. R. V., S. C. Rafkin, T. I. Michaels, 2006: Bore Waves on Mars as Simulated by the Mars Regional Climate Model. *Icarus*, **185**, 383-394.

Sta. Maria, M. R. V., F. Montmessin, R. M. Haberle, F. Forget, F. Han, 2004: Melting of Water Ice in the Martian Subsurface Near the Phoenix Landing Site: Results of a 1D Model. Presented, 36th Division of Planetary Science Meeting, 2004.

Sta. Maria, M., S. C. Rafkin, 2002: Structure and seasonal variations of martian bore wave systems. Presented, AGU 2002 Fall Meeting, San Francisco, California, 2002.

Rafkin, S. C. R., M. R. V. Sta. Maria, T. I. Michaels, 2002: Simulation of the Atmospheric Thermal Circulation of a Martian Volcano Using a Mesoscale Numerical Model. *Nature*, **419**, 697-699.

Sta. Maria, M., S. C. R. Rafkin, 2001: Simulation of Thermal Circulations Over the Slopes of Tharsis. Presented, 33rd Division of Planetary Science Meeting, 2001.

Estoque, M., M. Sta. Maria, J. Villarin, 1999: Dynamics of El Nino and La Nina over Southeast Asia. Presented, 1999 National Physics Congress, Tacloban, Leyte, Philippines.