

Mark R. Salvatore

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EDUCATION

Brown University, Providence, Rhode Island

Planetary Geosciences Group, Department of Geological Sciences
Doctoral Candidate, expected defense May 2013
Advisors: Dr. John Mustard and Dr. Michael Wyatt

The Pennsylvania State University, University Park, Pennsylvania

Bachelor of Science, Physical Geography, May 2008
Schreyer Honors Scholar, Highest Distinction
Thesis: Relationships between transverse aeolian ridges and climate on Mars
Advisor: Dr. Derrick Lampkin
Honors: Student Marshal – College of Earth and Mineral Sciences, Evan Pugh Scholar Awards – Junior and Senior, President of Geography International Honor Society *Gamma Theta Upsilon* (2007-2008).

PROFESSIONAL EXPERIENCE

National Aeronautics and Space Administration, Lyndon B. Johnson Space Center, Houston, Texas. *Research Assistant, June 2008.*

Analyzed remotely sensed visible and infrared data of SW Arabia Terra and N Terra Meridiani, Mars. Analysis focused primarily on the etched terrain as mapped by Hynek et al. (2002) and Arvidson et al. (2003). This terrain exhibits attributes similar to those seen in large fluvial environments found primarily in Africa and South America.
Advisor: Dr. Justin Wilkinson, NASA-JSC

Lunar and Planetary Institute, Houston, Texas. *Research Intern, June 2007 – August 2007.*

Geologically mapped SW Arabia Terra, Mars in support of the 2009 Mars Science Laboratory (MSL) landing site selection process. The study area covers approximately 760,000 km², larger than the state of Texas, and is located immediately north of Meridiani Planum where the Mars Exploration Rover *Opportunity* has been exploring since 2004.
Advisors: Dr. Carlton Allen, NASA-JSC and Dr. Dorothy Oehler, NASA-JSC

Center for Earth and Planetary Studies, Smithsonian Institution, Washington, DC. *Research Intern, May 2006 – August 2006.*

Evaluated the properties of Martian transverse aeolian ridges (TARs) in Nirgal Vallis and Valles Marineris. Digitized Apollo 15, 16, and 17 CSM flight trajectories to accurately catalog images taken from the spacecrafts while in lunar orbit. Analyzed data from the Mars Advanced Radar for Subsurface and Ionosphere Sounding (MARSIS) instrument in search of Martian aquifers and buried impact basins.
Advisors: Dr. James Zimbelman and Dr. Thomas Watters

PUBLISHED ABSTRACTS

Salvatore, M. R., Wilkinson, M. J., Allen, C. C., and D. Z. Oehler (2008), Terrestrial megafans as an analog for ridged unit of SW Arabia Terra, Mars: Current observations and future analysis, Lunar and Planetary Science XXXIX, abstract 1455.

Wilkinson, M. J., Allen, C. C., Oehler, D. Z., and **M. R. Salvatore** (2008), A new fluvial analog for the ridge-forming unit, northern Sinus Meridiani/southwest Arabia Terra, Mars, Lunar and Planetary Science XXXIX, abstract 1392.

Salvatore, M. R., Allen, C. C., Oehler, D. Z., and M. J. Wilkinson (2007), Geomorphologic interpretation of southwest Arabia Terra, Mars: Evidence of regional, long-duration fluvial activity, AGU Fall Meeting, abstract P13B-1293.

Brewer, I., Weaver, C., and **M. Salvatore** (2007), Visualizing critical infrastructure data for stadium security at Penn State using *Improvise*, AAG Annual Meeting, session 1419.

Salvatore, M. R., and J. R. Zimelman (2006), Investigation of Martian transverse aeolian ridges, AGU Fall Meeting, abstract P31B-0129.

Speyerer, E., Robinson, M., Grunsfeld, J., Locke, S., White, M., and **M. Salvatore** (2006), Scanning Apollo flight films and reconstructing CSM trajectories, AGU Fall Meeting, abstract U41C-0825.

OUTREACH & SERVICE

Guest Speaker, Cresskill High School, Cresskill, New Jersey, May 2008.

Lecture: Global Warming and Future Impacts

Guest Speaker, Civil Air Patrol, Pennsylvania Wing, Fort Indiantown Gap, Pennsylvania, August 2006.

Lecture: Past, Present, and Future of Manned Spaceflight

Volunteer, *Mars Day!* 2006, Smithsonian Institution, Washington, DC, July 2006

PROFESSIONAL ASSOCIATIONS

American Geophysical Union (AGU), 2006 – present.

Association of American Geographers (AAG), 2007 – present.