

# Ryan Nickerson

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## Education

*Ph.D. Candidate in Earth and Planetary Sciences*, Washington University, Saint Louis, MO, in progress.

*Advisor:* Prof. Jeffrey G. Catalano

*A.M. In Earth and Planetary Sciences*, Washington University, Saint Louis, MO, April 2014

*B.S. In Physics and Mathematics*, University of Idaho, Moscow, ID, May 2012

## Research Experience

*Sept 2012-present* Doctoral candidate at Washington University, advised by Prof. Jeffrey G. Catalano.

Laboratory experiments to help constrain environmental conditions of early Mars by studying alteration and oxidation of terrestrial analogues under Mars-relevant hydrothermal conditions.

*May 2010-Sept 2012* Undergraduate research assistant for Prof. Dan Strawn and Dr. Leslie Baker, University of Idaho. Synthesis and structural study of poorly crystalline proto-clay allophane phases with iron substitution.

*May 2010-Sept 2012* Research assistant for Dr. Gwendolyn Bart, University of Idaho. Studied Lunar regolith depths using interior features of craters as seen by the Lunar Reconnaissance Orbiter narrow angle camera.

## Publications and Select Presentations

Nickerson RD, Chemtob SM, and Catalano JG. (2015) Partitioning of iron and trace metals during isochemical hydrothermal basalt alteration: implications for interpreting clay occurrence on Mars. LPSC VLI, Abstract #2903, oral presentation. Houston, TX.

Nickerson RD, Chemtob SM, and Catalano JG. (2014) Phyllosilicate formation and trace element partitioning during isochemical hydrothermal basalt alteration. 8<sup>th</sup> International Conference on Mars, Abstract #1401, poster presentation.

Baker LL, Nickerson RD, and Strawn DG. (2014) XAFS study of Fe-substituted allophane and imogolite. *Clays and Clay Minerals*, v. 62, no. 1, p. 20-34.

Bart GD, Nickerson RD, Lawder MT, and Melosh HJ. (2011) Global survey of lunar regolith depths from LROC images. *Icarus*, v. 215, I. 2, p. 485-490.

Baker LL, Strawn DG, McDaniel PA, Nickerson RD, Bishop JL, Ming DW, and Morris RV. (2011) Poorly crystalline iron-bearing aluminosilicates and their importance on Mars. LPSC XLII, Houston, TX.

Nickerson RD, Bart GD, Lawder MT, Melosh HJ. (2011) Global lunar regolith depths revealed. LPSC XLII, Abstract #1608, poster presentation. Houston, TX.

## Teaching

Awarded annual Carl Tolman Prize for outstanding graduate teaching assistants for the year of 2014.

Mentor for high school student through Students and Teachers As Research Scientists (STARS). A local program designed to expose high school students interested in science to laboratory research. Summer 2013.