

## EDUCATION

**University of Arizona****Tucson, AZ**

Doctoral Program, Lunar &amp; Planetary Laboratory

August 2014–present

- OSIRIS-REx asteroid sample return mission; characterized near-Earth object population surface properties
- Constrained behavior of volatile elements on near-Earth asteroids and comets
- Advisors: Professors Dante S. Lauretta and Walter M. Harris

**Massachusetts Institute of Technology****Cambridge, MA**

Master of Science in Earth and Planetary Science

Received June 2011

- Thesis: *Terrestrial Magma Ocean Solidification and Formation of a Candidate D'' Layer*
- Advisors: Professor Linda T. Elkins-Tanton and Richard P. Binzel

**Wellesley College****Wellesley, MA**

Bachelor of Arts in Astrophysics

Received June 2007

- Seven semesters of coursework and research at MIT and Olin College of Engineering
- Extensive observing experience monitoring lightcurves of Koronis family asteroids for Professor Stephen M. Slivan

## SELECTED RESEARCH EXPERIENCE

**Arecibo Observatory, National Astronomy and Ionosphere Center****Arecibo, Puerto Rico**

Data Analyst and Observing Support, Planetary Radar Group

October 2012–July 2014

- Observed dozens of near-Earth asteroids and comets annually; processed data in realtime to ensure data quality
- Analyzed 10 years of Arecibo planetary radar observations of near-Earth asteroids to ensure data consistency
- Supported experiments for the Lunar Reconnaissance Mission; submitted asteroid shape model to PDS archive

**NASA Jet Propulsion Laboratory Planetary Ices Laboratory****Pasadena, CA**

Graduate Student Research Affiliate for Dr. Paul Weissman

June–August 2009

- Measured the rotation rate of asteroid/comet crossover object (4015) Wilson-Harrington
- Determined the orbits of five near-Earth asteroids with a 0.61-m telescope at JPL's Table Mountain Observatory

**NASA Jet Propulsion Laboratory Planetary Science Summer School****Pasadena, CA**

Project/Proposal Manager for a team of 18 postdoctoral researchers and graduate students

June–August 2008

- Oversaw all aspects of a Trojan/Centaur mission design (\$650 M budget); choose science objectives and instruments
- Proposal satisfied both budget and science requirements; received the highest possible rating from reviewers

## PEER REVIEWED PUBLICATIONS

- Shepard, M.K., and 14 others including **Springmann, A.** A radar survey of M- and X-class asteroids. III. Insights into their composition, hydration state, & structure. *Icarus*, 2015. doi:10.1016/j.icarus.2014.09.016
- Person, M.J. and 47 others including **Springmann, A.** The 2011 June 23 Stellar Occultation by Pluto: Airborne and Ground Observations. *The Astronomical Journal*, 2013. doi:10.1088/0004-6256/146/4/83
- **Springmann, A.**, Cheung, C.C. Host Galaxies of X-Shaped Extragalactic Radio Sources. *Department of Energy Journal of Undergraduate Research*, pp. 97-102, 2007.

## OBSERVING EXPERIENCE

- Gordon 305-m telescope/planetary radar system Arecibo Observatory, Puerto Rico
- Magellan 6.5-m Baade telescope Las Campanas Observatory, Chile
- NASA 3.0-m Infrared Telescope Facility (remote observing) Mauna Kea, HI
- Nickel 1.0-m telescope Lick Observatory, Mount Hamilton, CA
- Kagoshima University 1.0-m telescope Kagoshima University Observatory, Japan
- NASA 0.6-m Jet Propulsion Laboratory telescope Table Mountain Observatory, Wrightwood, CA
- Sawyer 0.6-m telescope Whitin Observatory, Wellesley, MA
- 0.4-m Celestron telescopes Wallace Astrophysical Observatory, Westford, MA
- Etscorn Observatory 0.4-m telescope Socorro, NM

## SKILLS

- IDL, IRAF, Java, L<sup>A</sup>T<sub>E</sub>X, Mathematica, MATLAB, Python, shell scripting, Eclipse, git, svn

## AWARDS & HONORS

- Division for Planetary Sciences/AAS Hartmann Student Travel Grant November 2015
- NASA/National Geographic FameLab national finalist: [youtu.be/z0szwfdUsJg](https://youtu.be/z0szwfdUsJg) April 2014
- NASA/National Geographic FameLab regional winner: [youtu.be/1msVEwHtOmg](https://youtu.be/1msVEwHtOmg) March 2013
- MIT Dept. of Earth, Atmospheric, and Planetary Sciences Award for Excellence in Teaching May 2009, May 2011
- MIT Presidential Fellowship Recipient 2007–2008
- Wellesley College Department of Astronomy John C. Duncan Award June 2007
- Wellesley College Election to Sigma Xi Scientific Research Society May 2007

## SELECTED INVITED TALKS & PRESENTATIONS

- **SETI Institute**, Mountain View, CA August 2015
- **Davidson Institute for Talent Development**, Reno, NV June 2015
- **Harvard-Smithsonian Center for Astrophysics**, Asteroids Talk Series, Cambridge, MA June 2015
- **Planetary Science Institute**, Tucson, AZ September 2014
- **Lowell Observatory**, Flagstaff, AZ August 2014
- **SRI International**, Monday Afternoon Technical Seminar, Menlo Park, CA July 2014
- **UC Berkeley**, Radio Astronomy Laboratory, Berkeley, CA July 2014
- **Southwest Research Institute**, Boulder, CO July 2014
- **NASA Kennedy Space Center**, Operations and Checkout Seminar Series November 2013
- **Colorado School of Mines**, Mechanical Engineering Department Seminar, Golden, CO October 2013

## SELECTED CONFERENCE PROCEEDINGS & WHITE PAPERS

- **Springmann, A.**, D.S. Lauretta, J.K. Steckloff. Thermal alteration in carbonaceous chondrites and implications for sublimation in rock comets. *AAS/Division for Planetary Sciences Meeting, #47*, National Harbor, MD, 2015.
- **Springmann, A.** and 10 others. Shape Model of Binary Near-Earth Asteroid (285263) 1998 QE2. *Asteroids, Comets, Meteors*, Helsinki, Finland, 2014.
- **Springmann, A.** and 11 others. Near-Earth Asteroids Observed with Arecibo Observatory's Planetary Radar System. *The First COSPAR Symposium*, Bangkok, Thailand, 2013.
- **Springmann, A.** and 3 others. Are the radar scattering properties of near-Earth asteroids correlated with size, shape, or spin? *Lunar and Planetary Science Conference #44, #1719*, Houston, TX, 2013.
- Rivkin, A.S. and 13 others including **Springmann, A.** *The Trojan Asteroids: Keys to Many Locks*. Planetary Decadal Survey White Paper, 2009.
- **Springmann, A.**, Kern, S.D., Binzel, R.P. Lightcurve Observations of Nix and Hydra Using the Magellan Telescopes. *AAS/Division for Planetary Sciences Meeting #39*, Orlando, FL, 2007.

## TEACHING EXPERIENCE

*Award-winning instructor with 5+ years of domestic and international classroom/experiential teaching and tutoring experience to university and high school students in observational astronomy, planetary science, physics, mathematics, computer science, and business skills.*

## PROFESSIONAL MEMBERSHIPS

Division for Planetary Sciences, American Astronomical Society; Small Bodies Assessment Group

## SERVICE

- American Astronomical Society Early Career Advisory Committee 2016–present
- University of Arizona Lunar & Planetary Laboratory Department Colloquium Graduate Organizer 2015–present
- Executive Secretary for three NASA Planetary Science review panels 2014–2015