

## EDUCATION

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

PhD Candidate, Lunar &amp; Planetary Laboratory

August 2014–present

- Thermal Alteration of Labile Elements in Carbonaceous Chondrites supporting OSIRIS-REx asteroid mission
- Comet observations and analysis to constrain dust production and volatile release
- Advisors: 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: 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 S.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
- Submitted asteroid shape model for OSIRIS-REx asteroid sample return mission to Planetary Data System

**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 asteroid 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

- **Springmann, A.**, Lauretta, D.S., Klaue, B., Goreva, Y.S., Blum, J.D., Andronikov, A., Steckloff, J.K. Thermal Mobilization of Labile Elements in Carbonaceous Chondrite Meteorites. Submitted to *Icarus*, 2018.
- Shepard, M.K., and 9 others including **Springmann, A.** A Revised Shape Model of Asteroid 216 Kleopatra. *Icarus*, 2018. doi:10.1016/j.icarus.2018.04.002
- Crowell, J., and 9 others including **Springmann, A.** Radar and Lightcurve Shape Model of Near-Earth Asteroid (1627) Ivar. *Icarus*, 2017. doi:10.1016/j.icarus.2016.11.008
- 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

## OBSERVING EXPERIENCE

- Gordon 305-m telescope/planetary radar system
  - Magellan 6.5-m Baade telescope
  - NASA 3.0-m Infrared Telescope Facility (remote observing)
  - Bok 2.28-m telescope
  - Kuiper 1.54-m telescope
  - Nickel 1.0-m telescope
  - Kagoshima University 1.0-m telescope
- Arecibo Observatory, Puerto Rico  
Las Campanas Observatory, Chile  
Mauna Kea, HI  
Kitt Peak National Observatory, AZ  
Catalina Station, Mount Bigelow, AZ  
Lick Observatory, Mount Hamilton, CA  
Kagoshima University Observatory, Japan

## AWARDS & HONORS

- University of Arizona College of Science Galileo Circle Scholarship February 2017
- 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 TALKS & PRESENTATIONS

- **UC San Diego**, Center for Astrophysics & Space Sciences, San Diego, CA November 2017
- **Dominion Radio Astrophysical Observatory**, Kaleden, BC September 2017
- **Meteor Inc.**, San Francisco, CA August 2016
- **Lucasfilm Ltd.**, San Francisco, CA June 2016
- **SETI Institute**, Mountain View, CA August 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

## SELECTED CONFERENCE PROCEEDINGS & WHITE PAPERS

- **Springmann, A.**, and 10 others. Modeling the large-grain ( $> 2$  cm) coma of comet 45P/Honda-Mrkos-Pajdušáková from Arecibo Observatory radar observations. *AAS/Division for Planetary Sciences Meeting, #50*, Knoxville, TN, 2018.
- **Springmann, A.**, and 6 others. 1994 CJ1: a binary NHATS/PHA with equal size components. *Joint ISAS-LPL Workshop on Planetary Science Enabled by Epsilon Class Missions*, Tucson, AZ, 2017.
- **Springmann, A.**, D.S. Lauretta. Thermal History of Near-Earth Asteroids: Implications for OSIRIS-REx Asteroid Sample Return. *AAS/Division for Planetary Sciences Meeting, #48*, Pasadena, CA, 2016.
- **Springmann, A.** and 10 others. Shape Model of Binary Near-Earth Asteroid (285263) 1998 QE2. *Asteroids, Comets, Meteors*, Helsinki, Finland, 2014.
- **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.Orlando, FL, 2007.

## PROFESSIONAL MEMBERSHIPS

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

## 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.*

## SERVICE

- University of Arizona Lunar & Planetary Laboratory Department Colloquium Graduate Organizer 2015–present
- Moderator for a forum of 1100+ Wellesley alumnae in academia 2011–present
- Executive Secretary for three NASA Planetary Science review panels 2014–2015