

Theodore R. Kareta | Curriculum Vitae (last updated: August, 2019)

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Education	
Lunar and Planetary Laboratory, University of Arizona , Tucson, AZ Graduate Student, Planetary Sciences Advisors: <i>Prof. Walter Harris and Prof. Vishnu Reddy</i>	2017 - Present
University of Massachusetts Amherst , Amherst, MA B.S., Physics and B.S., Astronomy, Commonwealth Honors College, Cum Laude Honors Thesis: <i>An On-The-Fly Regridding Program for the SEQUOIA Instrument</i>	2013 - 2017
Research Interests and Skills	
Small bodies, time domain studies, image processing, telescopic observations, orbital dynamics. Visible and Near-Infrared imaging and reflectance spectroscopy, analysis of spacecraft imagery.	
Selected Research Projects	
Observations of and Laboratory Work relevant to Comet-Asteroid Transition Objects Using visible and near-infrared imaging and spectroscopy to understand the surface properties and activity of transition objects using telescopes between 0.61 and 11.8 meters in aperture. Construction and utilization of high temperature heating facility for near-sun object simulations.	2017 - Present
Analysis of Visible and Near-Infrared Observations of the centaur 176P/Echeclus Constraining outburst mechanisms and processes through analysis of near-infrared spectroscopy and visible-wavelength imaging of 174P/Echeclus from its December 2017 outburst.	2018 - Present
Publications (Refereed, first authored first)	
Rotationally-Resolved Spectroscopic Characterization of Near-Earth Object (3200) Phaethon Kareta, T. <i>et al</i> , <i>Astronomical Journal</i> , 156, 6 (2018)	November, 2018
Physical Characterization of Active Asteroid (6478) Gault Sanchez, J.A. <i>et al</i> (<i>includes T. Kareta</i>), to appear in <i>Astrophysical Journal Letters</i>	Fall, 2019
Near-Earth asteroid 2012 TC4 campaign: Results from global planetary defense exercise Reddy, V. <i>et al</i> (<i>includes T. Kareta</i>), <i>Icarus</i> , 326, p. 133-150. (2019)	July, 2019
The operational environment and rotational acceleration of asteroid (101955) Bennu from OSIRIS-REx observations Hergenrother, C. <i>et al</i> (<i>includes T. Kareta</i>), <i>Nature Communications</i> , 10, 1291	March, 2019
Properties of rubble-pile asteroid (101955) Bennu from OSIRIS-REx imaging and thermal analysis Dellagiustina, D.N. <i>et al</i> (<i>includes T. Kareta</i>), <i>Nature Astronomy</i> , 3, 341-351	March, 2019
Surface Composition and Meteorite Analogs of the Three Largest S-class Asteroids: (3) Juno, (7) Iris, and (25) Phocaea Noonan, J.W. <i>et al</i> (<i>includes T. Kareta</i>), in review at <i>Icarus</i> .	

Observing Experience	
NASA Infrared Telescope Facility (Mauna Kea, HI) (7 nights total, onsite and remote.) Gemini South (Cerro Pachon, Chile) (½ night PI, incl. preparation of queue observations) <i>PI'd Proposal: "Unraveling the History of the Quadrantid Meteor Shower with Gemini S."</i> MMT Observatory (Mount Hopkins, AZ) (1 night, incl. preparation of queue observations.) WIYN 0.9m Telescope (Kitt Peak, AZ) (2 nights PI, 6 nights total onsite.) <i>PI'd Proposal: "Time-resolved photometry of Comets 41P and C/2015 V2"</i> RAPTORS (Tucson, AZ) (Multiple nights, coordinator of campaigns for 29P/S-W and 2005 UD.)	2017, 2018 2019 2018 2016, 2017 2017, 2018
Invited Talks	
International Symposium on Dust and Parent Bodies (IDP 2019): <i>"Spectroscopic Characterization of (3200) Phaethon and (155140) 2005 UD"</i> Lowell Observatory, Flagstaff, AZ: <i>"Phaethon, 67P, and the Evolution of Small Bodies"</i>	February, 2019 March, 2018
Awards & Press	
Press Conference Presenter at DPS 50 (covered in USA Today, Space.com, & more.) Morton and Helen Sternheim Undergraduate Award for Educational Outreach (UMass) Dean's List (UMass, 6 semesters) John and Abigail Adams Scholarship (UMass, 7 semesters)	October, 2018 2017 2014 - 2017 2014 - 2017
Students Advised	
Zoe Torralba (High School Student, Tucson, AZ) Vivian Morrison (Undergraduate at the University of Arizona)	Summer 2019 2018 - 2019
Professional Membership and Service	
American Astronomical Society (Junior Member, 2016 - Present) <ul style="list-style-type: none"> Division of Planetary Sciences (2018 - Present) Reviewer for: <i>Icarus</i> , <i>Planetary and Space Science</i> .	
Extra-Curricular Activities	
LPL Journal Club Graduate Student Co-Lead (2018 - Present) Lunar and Planetary Laboratory Conference Organizers (2018 - Present, Lead 2019) LPL Outreach Volunteer (2018 - Present) Five College Astronomy Club (President 2016-2017, Observatory Co-Director 2016-2017) <ul style="list-style-type: none"> Developed and started a mentorship program for minority astronomy majors. Hosted weekly public observing events with attendance between 30 and 300 people. Society of Physics Students, UMass Amherst (Secretary 2015-2016, Treasurer 2016-2017) <ul style="list-style-type: none"> Created and hosted semesterly meetings on how to apply for summer research programs, how to succeed in classes, and other topics for undergraduate science students. 	
Skills	
Programming Languages: Python (5 years), C (2 years), IDL (4 years), MATLAB (1 year) Specific Programs and Tools: ISIS3, SPICE, spextool, ds9, LaTeX, Microsoft Office Suite Observing and Technical: Telescope operation (professional and amateur) and repair (amateur).	