

# Joseph Masiero

## Curriculum Vitae

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CONTACT INFORMATION      Jet Propulsion Lab  
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Pasadena, CA 91109 USA      *WWW:* <http://science.jpl.nasa.gov/people/Masiero>

RESEARCH INTERESTS      Asteroid physical properties  
Asteroid families  
Numerical simulations of Solar system evolution  
Imaging polarimetry  
Thermal models of Solar system objects  
Polarimetric instrumentation and characterization  
Education & public outreach

EDUCATION      **University of Hawaii at Manoa**, Honolulu, HI USA  
  
Ph.D., Institute for Astronomy, September 2009  

- Thesis Topic: *“Using rotation and polarization to probe the composition and surface properties of main belt asteroids”*
- Advisor: Dr. Robert Jedicke

M.S., Institute for Astronomy, December 2006

**The Pennsylvania State University**, University Park, PA USA

B.S., Astronomy & Astrophysics, June 2004

EMPLOYMENT

Deputy Principal Investigator NEOWISE	<b>Jun 2017 to present</b>
Scientist Jet Propulsion Laboratory	<b>Oct 2012 to present</b>
NASA Postdoctoral Fellow Jet Propulsion Laboratory	<b>Oct 2009 to Sept 2012</b>
Research Assistant Institute for Astronomy University of Hawaii	<b>May 2005 to Sept 2009</b>
Teaching Assistant Dept of Physics and Astronomy University of Hawaii	<b>Aug 2004 to May 2005</b>
Research Assistant Dept of Astronomy & Astrophysics Pennsylvania State University	<b>Jan 2001 to Aug 2004</b>

MISSION TEAM MEMBERSHIPS

NEOCam Science Team Member

NEOWISE Science Team Member

ADVISING

Dave Milewski, NASA ASTAR Fellowship mentor	<b>Jan 2018 - present</b>
Erin Redwing, JPL Undergraduate Internship mentor	<b>Summer 2017</b>
Yasuhiro Hasegawa, JPL Postdoc co-mentor	<b>Fall 2015-Fall 2017</b>
Mario Cabrera, JPL Undergraduate Internship mentor	<b>Summer 2013-Spring 2014</b>
Greta Cukrov, Undergraduate Internship co-mentor	<b>Summer 2013</b>
Elizabeth Clyne, Undergraduate Internship co-mentor	<b>Spring 2013</b>
Carrie Nugent, Graduate Internship co-mentor	<b>Summer 2012-Fall 2012</b>
Mario Cabrera, CAMPARE Undergraduate Internship co-mentor	<b>Summer 2012</b>
Wenli Mo, Undergraduate Internship co-mentor	<b>Summer 2011-Spring 2012</b>
Jessica Watkins, Graduate Internship co-mentor	<b>Summer 2011</b>
Emma Hand, Undergraduate Internship co-mentor	<b>Spring 2011</b>
Erin Blauvelt, Undergraduate Internship co-mentor	<b>Spring 2011</b>
Emily DeBaun, Undergraduate Internship co-mentor	<b>Fall 2010</b>
Ashlee Wilkins, Undergraduate Internship co-mentor	<b>Summer 2010</b>
Dillon Elsbury, High School Internship co-mentor	<b>Summer 2010</b>
Tommy Gautier, High School Internship co-mentor	<b>Summer 2010</b>
Stephanie Gomillion, Undergraduate Internship co-mentor	<b>Spring 2010</b>

SUCCESSFUL  
GRANTS AND  
PROPOSALS

Co-author on the proposal for the 2015 Discovery-class mission NEOCam, the Near-Earth Object Camera. NEOCam was selected to proceed to Extended Phase-A Concept Study.

Co-author on the proposal to restart the NEOWISE space-based near-Earth object discovery and characterization survey. Mission was funded to continue survey operations through 2017.

Co-author on the proposal for the 2010 Discovery-class mission NEOCam, the Near-Earth Object Camera. NEOCam was awarded technology development funding as a result of this proposal.

Science PI for 2012 NASA Planetary Geology and Geophysics proposal: “Studying the Origin and Evolution of Main Belt Asteroid Families” - Funded at \$150K over two years.

HONORS AND  
AWARDS

- Asteroid 8255 Masiero (1981 EZ18) named in honor
- JPL Team Award: NEOCam core proposal team **2017**
- JPL Team Award: NEOWISE Mission Extension Team **2017**
- NASA Early Career Public Achievement Medal **2016**
- NASA Group Achievement Award: NEOWISE Science **2016**
- JPL Team Award: NEOCam proposal contributions **2016**
- JPL Astronomy, Physics & Space Technology Team Award: NEOWISE Science **2016**
- JPL Voyager Award: NEOWISE scientific analysis **2015**
- JPL Science Division Mariner Award: NEOWISE restart **2014**
- NASA Group Achievement Award: NEOWISE team **2012**
- Honorary Officer, NASA’s First Planetary Defense Squadron (Provisional) **2011**
- NASA Postdoctoral Program Fellowship **2009 - 2012**
- Graduated with Distinction and Honors (PSU) **2004**
- Penn State Eberly College of Science Braddock Scholar **2000 - 2004**
- Penn State Schreyer Honors College Scholar **2000 - 2004**

- Co-author on over 400 Minor Planet Electronic Circulars (MPECs) and International Astronomical Union Circulars (IAUCs) describing observations of NEOs, comets, and other interesting small Solar system bodies.
- **Masiero, J.**; et al., “*Small and Nearby NEOs Observed by NEOWISE During the First Three Years of Survey: Physical Properties*”, 2018, in prep.
- **Masiero, J.**; Mainzer, A.; Wright, E.L., “*A Family-Based Method of Quantifying NEOWISE Diameter Errors*”, 2018, AJ submitted.
- Rosser, J.; Bauer, J.; Mainzer, A.; Kramer, E.; **Masiero, J.**; et al., “*Behavioral Characteristics and CO+CO<sub>2</sub> Production Rates of Halley-Type Comets Observed by NEOWISE*”, 2018, AJ, in press, arXiv:1802.06943.
- Boyajian, T.; ...; **Masiero, J.**; et al., “*The First Post-Kepler Brightness Dips of KIC 8462852*”, 2018, ApJL in press, arXiv:1801.00732.
- Aljbaae, S.; Carruba, V.; **Masiero, J.**; Domingos, R.; Huaman, M., “*The Maria asteroid family*”, 2017, MNRAS, 471, 4820.
- **Masiero, J.**, “*Palomar Optical Spectrum of Hyperbolic Near-Earth Object A/2017 U1*”. 2017, arXiv:1710.09977.
- **Masiero, J.**; Nugent, C.; Mainzer, A.; et al., “*NEOWISE Reactivation Mission Year Three: Asteroid Diameters and Albedos*”. 2017, AJ, 145, 168.
- Bauer, J.; Grav, T.; ...; **Masiero, J.**; et al., “*Debiasing the NEOWISE Cryogenic Mission Comet Populations*”. 2017, AJ, 154, 53.
- Aljbaae, S.; Carruba, V.; **Masiero, J.**; Domingos, R.; Huaman, H., “*The Rafita Asteroid Family*”. 2017, MNRAS, 467, 1016.
- Kramer, E.; Bauer, J.; ...; **Masiero, J.**; et al., “*The Perihelion Emission of Comet C/2010 L5 (WISE)*”. 2017, ApJ, 838, 58.
- Nugent, C.; Mainzer, A.; **Masiero, J.**; Wright, E.L.; Bauer, J.; et al., “*Observed asteroid surface area in the thermal infrared*”. 2017, AJ, 153, 90.
- Nugent, C.; Mainzer, A.; Bauer, J.; Cutri, R.M.; Kramer, E.A.; Grav, T.; **Masiero, J.**; et al., “*NEOWISE Reactivation Mission Year Two: Asteroid Diameters and Albedos*”. 2016, AJ, 152, 63.
- Wright, E.L.; Mainzer, A.; **Masiero, J.**; Grav, T.; Bauer, J., “*The Albedo Distribution of Near Earth Asteroids*”. 2016, AJ, 152, 79.
- Mainzer, A.; Bauer, J.; ...; **Masiero, J.**; et al., “*NEOWISE Diameters and Albedo V1.0*”. 2016, NASA Planetary Data System, EAR-A-COMPIL-5-NEOWISEDIAM-V1.0.
- Hasegawa, Y.; Turner, N.J.; **Masiero, J.**; et al., “*Forming Chondrites in a Solar Nebula with Magnetically Induced Turbulence*”. 2016, ApJL, 802, 12.
- Kaluna, H.; **Masiero, J.**; Meech, K.; “*Space weathering trends among carbonaceous asteroids*”. 2016, Icaurs, 264, 62.
- Nugent, C.; Mainzer, A.; **Masiero, J.**; Bauer, J.; Cutri, R.M.; et al.; “*NEOWISE Reactivation Mission Year One: Preliminary Asteroid Diameters and Albedos*”. 2015, ApJ, 814, 117.
- Bauer, J.M.; Stevenson, R.; Kramer, E.; Mainzer, A.; Grav, T.; **Masiero, J.**; et al.; “*The NEOWISE-discovered comet population and the CO+CO<sub>2</sub> production rates*”. 2015, ApJ, 814, 85.
- **Masiero, J.**; Carruba, V.; Mainzer, A.; Bauer, J.M.; Nugent, C.; “*The Euphrosyne Family’s Contribution to the Low Albedo Near-Earth Asteroids*”. 2015, ApJ, 809, 179.
- Grav, T.; Bauer, J.M.; Mainzer, A.K.; **Masiero, J.**; Nugent, C.R.; Cutri, R.M.; Sonnett, S.; Kramer, E.; “*NEOWISE: Observations of the Irregular Satellites of Jupiter and Saturn*”. 2015, ApJ, 809, 3.
- Buratti, B.; Hicks, M.D.; Dalba, P.A.; Chu, D.; O’Neill, A.; Hillier, J.K.; **Masiero, J.**; Banholzer, S.; Rhoades, H.; “*Photometry of Pluto 2008-2014: Evidence of Ongoing Seasonal Volatile Transport and Activity*”. 2015, ApJL, 804, 6.
- Mainzer, A.; Grav, T.; Bauer, J.; Conrow, T.; Cutri, R.M.; Dailey, J.; Fowler, J.; Giorgini, J.; Jarrett, T.; **Masiero, J.**; et al.; “*Survey Simulations of a New Near-Earth Asteroid Detection System*”. 2015, AJ, 149,172.
- **Masiero, J.R.**; DeMeo, F.; Kasuga, T.; Parker, A.H.; “*Asteroid Family Physical Properties*”. 2015, Asteroids IV (eds. P. Michel, F. DeMeo, W.F. Bottke), University of Arizona

Press, 323.

- Sonnett, S.; Mainzer, A.; Grav, T.; **Masiero, J.**; Bauer, J.; “*Binary Candidates in the Jovian Trojan and Hilda populations from NEOWISE lightcurves*”. 2015, ApJ, 799, 191.
- Mainzer, A.; Bauer, J.; Cutri, R.; Grav, T.; **Masiero, J.**; et al.; “*Initial performance of the NEOWISE Reactivation Mission*”. 2014, ApJ, 792, 30.
- **Masiero, J.R.**; Grav, T.; Mainzer, A.K.; Nugent, C.R.; Bauer, J.M.; Stevenson, R.; Sonnett, S.; “*Main-belt Asteroids with WISE/NEOWISE: Near-Infrared Albedos*”. 2014, ApJ, 791, 121.
- Stevenson, R.; Bauer, J.; Kramer, E.; Grav, T.; Mainzer, A.; & **Masiero, J.**; “*Lingering grains of truth around comet 17P/Holmes*”. 2014, ApJ, 787, 116.
- Mainzer, A.; Bauer, J.; Grav, T.; **Masiero, J.**; et al.; “*The Population of Tiny Near-Earth Objects Observed by NEOWISE*”. 2014, ApJ, 784, 110.
- Ganguly, R.; Lynch, R.S.; Charlton, J.C.; ...; **Masiero, J.R.**; et al.; “*A census of quasar-intrinsic absorption in the Hubble Space Telescope archive: systems from high-resolution echelle spectra*”. 2013, MNRAS, 435, 1233.
- Bauer, J.M.; Grav, T.; Blauvelt, E.; Mainzer, A.K.; **Masiero, J.R.**; Stevenson, R.; et al.; “*Centaur and Scattered Disk Objects in the Thermal Infrared: Analysis of WISE/NEOWISE Observations*”. 2013, ApJ, 773, 22.
- **Masiero, J.R.**; Mainzer, A.K.; Bauer, J.M.; Grav, T.; Nugent, C.R.; Stevenson, R.; “*Asteroid Family Identification Using the Hierarchical Clustering Method and WISE/NEOWISE Physical Properties*”. 2013, ApJ, 770, 7.
- Herenz, P.; Richter, P.; Charlton, J.C.; **Masiero, J.R.**; “*The Milky Way halo as a QSO absorption-line system. New results from an HST/STIS absorption-line catalogue of Galactic high-velocity clouds*”. 2013, A&A, 550, A87.
- Mainzer, A.; Grav, T.; **Masiero, J.R.**; Bauer, J.; et al.; “*Physical Parameters of Asteroids Estimated from the WISE 3 Band Data and NEOWISE Post-Cryogenic Survey*”. 2012, ApJL, 706, 12.
- Stevenson, R.; Kramer, E.A.; Bauer, J.M.; **Masiero, J.R.**; Mainzer A.; “*Characterization of Active Main Belt Object P/2012 F5 (Gibbs): A Possible Impacted Asteroid*”. 2012, ApJ, 759, 142.
- **Masiero, J.R.**; Mainzer A.; Grav, T.; Bauer, J.; Nugent, C.; Cabrera, M.S.; “*Preliminary Analysis of WISE/NEOWISE 3-Band Cryogenic and Post-Cryogenic Observations of Main Belt Asteroids*”. 2012, ApJL, 759, 8.
- Grav, T.; Mainzer A.; Bauer, J.; **Masiero, J.R.**; Nugent, C.; “*WISE/NEOWISE Observations of the Jovian Trojan Population: Taxonomy*”. 2012, ApJ, 759, 49.
- **Masiero, J.R.**; Mainzer, A.; Grav, T.; Bauer, J.; Jedicke, R.; “*Revising the age for the Baptistina asteroid family using WISE/NEOWISE data*”. 2012, ApJ, 759, 14.
- Bauer, J.M.; Kramer, E.; Mainzer, A.K.; Stevenson, R.; Grav, T.; **Masiero, J.**; et al. “*WISE/NEOWISE Preliminary Analysis and Highlights of the 67p/Churyumov-Gerasimenko near Nucleus Environs*”. 2012, ApJ, 758, 18.
- Nugent, C.; Mainzer, A.; **Masiero, J.**; Grav, T.; Bauer, J.; “*The Yarkovsky Drift’s Influence on NEAs: Trends and Predictions with NEOWISE Measurements*”. 2012, AJ, 144, 75.
- Mainzer, A.; Grav, T.; **Masiero, J.**; Bauer, J.; et al; “*Characterizing Subpopulations within the near-Earth Objects with NEOWISE: Preliminary Results*”. 2012, ApJ, 752, 110.
- **Masiero, J.**; Mainzer, A.; Grav, T.; et al; “*A revised asteroid polarization-albedo relationship using WISE/NEOWISE data*”. 2012, ApJ, 749, 104.
- Bauer, J.M.; Mainzer, A.K.; Grav, T.; Walker, R.G.; **Masiero, J.**; et al. “*WISE/NEOWISE observations of Active Bodies in the Main Belt*”. 2012, ApJ, 747, 49.
- Mainzer, A.; **Masiero, J.**; Grav, T.; Bauer, J.; et al; “*NEOWISE Studies of Asteroids with Sloan Photometry: Preliminary Results*”. 2011, ApJ, 745, 7.
- Grav, T.; Mainzer, A.; Bauer, J.; **Masiero, J.**; et al; “*WISE/NEOWISE Observations of the Hilda Population: Preliminary Results*”. 2011, ApJ, 744, 197.
- Mainzer, A.; Grav, T.; Bauer, J.; **Masiero, J.**; et al; “*NEOWISE Observations of Near-Earth Objects: Preliminary Results*”. 2011, ApJ, 743, 156.
- Grav, T.; Mainzer, A.; Bauer, J.; **Masiero, J.**; et al; “*WISE/NEOWISE Observations of the Jovian Trojans: Preliminary Results*”. 2011, ApJ, 742, 40.
- Mainzer, A.; Grav, T.; **Masiero, J.**; Bauer, J.; et al; “*NEOWISE Studies of Spectrophoto-*

- metrically Classified Asteroids: Preliminary Results*". 2011, ApJ, 741, 90.
- **Masiero, J.**; Mainzer, A.; Grav, T.; et al; "Main Belt Asteroids with WISE/NEOWISE I: Preliminary Albedos and Diameters". 2011, ApJ, 741, 68.
  - Sonnett, S.; Kleyana, J.; Jedicke, R. & **Masiero, J.** "Limits on the Size and Orbit Distribution of Main Belt Comets". 2011, Icarus, 215, 534.
  - Bauer, J.M.; Walker, R.G.; Mainzer, A.K.; **Masiero, J.**; et al. "WISE/NEOWISE observations of comet 103P/Hartley 2". 2011, ApJ, 738, 171.
  - Mainzer, A.; Grav, T.; **Masiero, J.**; et al; "Thermal Model Calibration for Minor Planets Observed with WISE/NEOWISE: Comparison with Infrared Astronomical Satellite". 2011, ApJL, 737, 9.
  - Mainzer, A.; Grav, T.; **Masiero, J.**; et al; "Thermal Model Calibration for Minor Planets Observed with Wide-field Infrared Survey Explorer/NEOWISE". 2011, ApJ, 736, 100.
  - Mainzer, A.; Bauer, J.; Grav, T.; **Masiero, J.**; et al; "Preliminary Results from NEOWISE: An Enhancement to the Wide-field Infrared Survey Explorer for Solar System Science". 2011, ApJ, 731, 53.
  - **Masiero, J.** "Albedo heterogeneity on the surface of (1943) Anteros". 2010, Icarus, 207, 795.
  - Levesque, Emily M.; Bloom, Joshua S.; ...; **Masiero, Joseph**; ... "GRB090426: the environment of a rest-frame 0.35-s gamma-ray burst at a redshift of 2.609". 2010, MNRAS, 401, 963.
  - **Masiero, J.**; Hartzell, C.; Scheeres, D.J. "The effect of the dust size distribution on asteroid polarization". 2009, AJ, 138, 1557.
  - Price, A.; **Masiero, J.**; et al. "Polarimetry and the Long Awaited Superoutburst of BZ UMa". 2009, PASP, 121, 1205.
  - **Masiero, J.**; Jedicke, R.; Āurech, J.; Gwyn, S.; Denneau, L.; Larsen, J. "The Thousand Asteroid Light Curve Survey". 2009, Icarus, 204, 145.
  - Richter, Philipp; Charlton, Jane C.; Fangano, Alessio P. M.; Ben Bekhti, Nadya; **Masiero, Joseph R.** "A population of weak metal-line absorbers surrounding the Milky Way". 2009, ApJ, 695, 1613.
  - **Masiero, J.**; Cellino, A. "Polarization of asteroid (387) Aquitania: the newest member of a class of large inversion angle asteroids". 2009, Icarus, 199, 333.
  - Milutinovic, N.; Misawa, T.; Lynch, R. S.; **Masiero, J. R.**; Palma, C.; Charlton, J. C.; Kirkman, D.; Bockenhauer, S.; Tytler, D. "A Catalog of Absorption Lines in Eight HST/STIS E230M  $1.0 < z < 1.7$  Quasar Spectra". 2007, MNRAS, 382, 1094.
  - **Masiero, J.**; Hodapp, K.; Harrington, D.; Lin, H. "Commissioning of the Dual-Beam Imaging Polarimeter for the UH 88-inch telescope". 2007, PASP, 119, 1126.
  - Maybhate, Aparna; **Masiero, Joseph**; Hibbard, J. E.; Charlton, Jane C.; Palma, Christopher; Knierman, Karen A.; and English, Jayanne. "An HI Threshold for Star Cluster Formation in Tidal Debris". 2007, MNRAS, 381, 59.
  - Kubica, J.; Denneau, L.; Grav, T.; Heasley, J.; Jedicke, R.; **Masiero, J.**; Milani, A.; Moore, A.; Tholen, D.; Wainscoat, R.J. "Efficient intra- and inter-night linking of asteroid detections using kd-trees". 2007, Icarus, 189, 151.
  - Milutinovic, Nikola; Rigby, Jane R.; **Masiero, Joseph R.**; Lynch, Ryan S.; Palma, Chris; and Charlton, Jane C. "The Nature of Weak MgII Absorbing Structures". 2006, ApJ, 641, 190.
  - Narayanan, Anand; Charlton, Jane C.; **Masiero, Joe R.**; and Lynch, Ryan. "A Survey of Analogs to Weak MgII Absorbers in the Present". 2005, ApJ, 632, 92.
  - **Masiero, Joseph R.**; Charlton, Jane C.; Ding, J.; Churchill, Christopher W.; and Kacprzak, G. "Models of Five Absorption Line Systems Along the Line of Sight Toward PG 0117+213." 2005, ApJ, 623, 57.
  - Ganguly, Rajib; **Masiero, Joseph**; Charlton, Jane C.; and Sembach, Ken R. "An Intrinsic Absorption Complex Toward RXJ1230.8+0115: Geometry and Photoionization Conditions." 2003, ApJ, 598, 922-934.

INVITED

RESEARCH TALKS

- **8/3/17:** Las Cumbres Observatory, Invited Seminar, "Asteroid Families: Properties, Origins, and Evolution"

- 4/12/17: Invited Talk, Asteroids, Comets, Meteors 2017 Conference, “*NEOWISE and NEOCam: Present and Future NEO Surveys*”
- 11/17/16: Astronomy Department Colloquium, University of Washington, “*NEOWISE: Searching the infrared sky for asteroids and comets*”
- 10/10/16: Invited Speaker: Hotwiring the Transient Universe 5, Villanova, PA, “*NEOWISE: Mission Overview and Recent Results*”
- 09/16/16: Lunar and Planetary Institute Colloquium, “*NEOWISE: Mission Overview and Recent Results*”
- 05/20/16: Invited Speaker: Greater IPAC Technology Symposium 2016, “*NEOCam: The Near-Earth Object Camera*”
- 03/09/15: NRC Herzberg Astronomy and Astrophysics, Univ. Victoria Seminiar, “*Asteroid family physical properties*”
- 08/25/14: Invited Speaker: Small Bodies Dynamics Meeting 2014, Ubatuba, Brazil, “*Determining ages of asteroid families using new physical property data*”
- 07/01/14: Invited Speaker: Asteroids, Comets, Meteors 2014, Helsinki, Finland, “*Physical Properties of Asteroid Families*”
- 02/15/13: iPLEX lunch talk, University of California, Los Angeles, “*Asteroid Families as a Probe of the History of the Solar System*”
- 01/17/13: Invited Colloquium, University of British Columbia, “*The WISE view of the Solar System*”
- 03/09/12: NAO Lunch Talk, “*Recent Results from the NEOWISE Mid-IR Solar System Survey*”
- 03/07/12: NASA Jet Propulsion Laboratory Seminar, “*Asteroid Families: Compositions, Collisions, and the Chronology of the Solar System*”
- 10/19/10: NAO Coffee Discussion, “*WISE: The Solar System and Beyond*”
- 10/14/10: JPL Postdoc Seminar, “*WISE Observations of Main Belt Asteroids*”
- 10/22/09: UCLA Lunch Talk, “*The Thousand Asteroid Light Curve Survey*”
- 09/25/09: Ph.D. Defense, “*Light Curve Signatures of the Physical Properties of Small Asteroids*”
- 03/20/09: Southwest Research Institute Colloquium, “*The Thousand Asteroid Light Curve Survey*”
- 11/21/08: Canada-France-Hawaii Telescope Seminar, “*The Thousand Asteroid Light Curve Survey*”
- 12/14/06: Lunchtalk presentation to the US Naval Academy Physics and Astronomy Dept, “*The Thousand Asteroid Light Curve Survey*”

PUBLIC TALKS,  
ARTICLES, AND  
INTERVIEWS

- 04/07/18: Orange County Astronomers, “*Searching for our Nearest Neighbors, the Near-Earth Asteroids: Hazard, Resource, and Destination*”
- 02/03/18: Riverside Astronomical Society, “*Searching for our Nearest Neighbors, the Near-Earth Asteroids: Hazard, Resource, and Destination*”
- 01/18/18: Los Angeles Chancery Club, “*Searching for our Nearest Neighbors, the Near-Earth Asteroids: Hazard, Resource, and Destination*”
- 08/20/17: Wine Country Eclipse Festival, “*A Tour of the Solar System*”
- 02/24/17: Ventura County Astronomical Society, “*Asteroid Families: A History Told Through Collisions*”
- 12/04/16: SpacePod Interview: “*Asteroid families with Dr. Masiero*”
- 11/16/16: Seattle Astronomy Society, University of Washington, “*NEOWISE: Searching the infrared sky for asteroids and comets*”
- 01/26/16: Planetary Society Guest Blogger: “*Running Down A Comet*”
- 08/02/15: SpacePod Interview: “*Polarized light with Dr. Masiero*”
- 06/06/13: The Blue Dot Report: “*Families in the Asteroid Belt*”
- 11/05/10: St. Philip School Reverse Science Fair Day: “*A Universe of Infrared*”
- 02/12-13/08: Journey Through the Universe, Waiakea Intermediate; Hilo, HI: “*Formation of the Solar System*”
- 06/07/08: Habilitat Rehab Program; Kaneohe, HI: “*Tour of the Solar System*”
- 02/07/08: Journey Through the Universe, Kapiolani Elementary; Hilo, HI: “*Energy in the*”

*Universe”*

- **12/19/07**: Lincoln Elementary School 5th grade; Roxbury, NJ: “*Tour of the Solar System*”
- **08/04/07**: Girl Scout Science Camp; Camp Erdman, HI: “*Aliens in the Solar System?*”
- **01/23/07**: Journey Through the Universe, Waiakea Elementary; Hilo, HI: “*Tour of the Solar System*”
- **12/19/06**: Lincoln Elementary School 5th grade; Roxbury, NJ: “*Tour of the Solar System*”
- **06/17/06**: Habilitat Rehab Program; Kaneohe, HI: “*Tour of the Solar System*”
- **12/20/05**: Lincoln Elementary School 5th grade; Roxbury, NJ: “*Tour of the Solar System*”

TEACHING

Learning Works Astronomy team-teacher, Learning Works School Pasadena	<b>Fall 2013</b>
Inquiry-based photometer lab for Electro-Optics Class, Maui Community College	<b>3 &amp; 5 March 2008</b>
Teaching Assistant, Dept of Physics and Astronomy, University of Hawaii	<b>Aug 2004 to May 2005</b>
“Mission to Mars” Instructor, Action Potential Science Experience, Pennsylvania State University	<b>Jul 2004</b>
Teaching Assistant, Duke Talent Identification Program at the Pisgah Astronomical Research Institute, Rosman, NC	<b>Jun 2004</b>
Teaching Assistant, Duke Talent Identification Program at the Pisgah Astronomical Research Institute, Rosman, NC	<b>Jun 2003</b>

PROFESSIONAL  
SERVICE

IAU 2018 Focus Meeting “A Century of Asteroid Families” Organizer and SOC Chair	<b>2016-present</b>
Member of the JPL Palomar Allocation Committee	<b>Oct 2017-present</b>
Member of the NOAO Solar System TAC	<b>Oct 2014-May 2017</b>
WISE at 5 Science Organizing Committee/Local Organizing Committee	<b>2014-2015</b>
<i>Asteroids IV</i> Science Organizing Committee	<b>2013-2015</b>
NASA ROSES and NSF review panels Panel Chair for 2; Panelist for 8 others; External for 6	<b>2012-present</b>

OUTREACH

JPL Open House	
• Volunteer	<b>2010-present</b>
Learning Works visits to Caltech	
• Volunteer Presenter	<b>2012-2015</b>
Twenty Wonder Festival of the Mind	
• Volunteer	<b>2012</b>
IfA Graduate Education and Public Outreach Committee (GEPOC)	
• Volunteer	<b>2004-2009</b>
• Founder/Organizer	<b>2004-2008</b>
• see <a href="http://www.ifa.hawaii.edu/gepoc">www.ifa.hawaii.edu/gepoc</a> for more information on GEPOC	

- IfA Deep Impact Outreach Team
  - Oahu Coordinator **2005**
- Penn State Astrofest
  - Volunteer **2002-2005**
  - Volunteer Coordinator **2003**

## MEMBERSHIP

### Professional Societies:

- International Astronomical Union **from 2012**
- IAU Division III Commission 15 **2012-2015**
- AAS Division of Planetary Science **from 2007**
- Phi Beta Kappa **from 2005**
- Golden Key Honor Society **from 2002**
- National Society of Collegiate Scholars **from 2001**
- American Astronomical Society **from 2001**

## ACTIVITIES

- 2017 LA County Fair: Biscuits (1<sup>st</sup> place), French Bread (1<sup>st</sup> place)
- Penn State Schreyer Honors College, Applicant Interviewer **2013 - present**
- Arroyo Food Co-op, Board of Directors, Director **05/2011 - 04/2015**
- Bagpiper with the Celtic Pipes and Drums of Hawaii **01/2008 - 09/2009**
- Wisdom Factors International (Non-Profit), Director & Secretary **08/2007 - 09/2009**
- River of Life Mission, Volunteer **02/2007 - 09/2009**