

# Joseph Masiero

## Curriculum Vitae

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CONTACT INFORMATION	Caltech/IPAC 1200 E. California Blvd MC 100-22 Pasadena, CA 91125 USA	<i>E-mail:</i> jmasiero@ipac.caltech.edu
RESEARCH INTERESTS	Asteroid physical properties Imaging polarimetry Asteroid families Numerical simulations of Solar system evolution Thermal models of Solar system objects Polarimetric instrumentation and characterization Education & public outreach	
EDUCATION	<b>University of Hawaii at Manoa</b> , Honolulu, HI USA  Ph.D., Institute for Astronomy, September 2009 <ul style="list-style-type: none"><li>• Thesis Topic: <i>“Using rotation and polarization to probe the composition and surface properties of main belt asteroids”</i></li><li>• Advisor: Dr. Robert Jedicke</li></ul> M.S., Institute for Astronomy, December 2006  <b>The Pennsylvania State University</b> , University Park, PA USA  B.S., Astronomy & Astrophysics, June 2004	
EMPLOYMENT	Caltech/IPAC	
	Member of the Professional Staff	<b>2024 to present</b>
	Solar System Scientist	<b>2020 to present</b>
	NASA NEOWISE mission	
	Deputy Principal Investigator	<b>2017 to present</b>
	NASA Jet Propulsion Laboratory	
	Small Bodies of the Solar System Group Supervisor	<b>2019 - 2020</b>
	Scientist	<b>2012 - 2020</b>
	NASA Postdoctoral Fellow	<b>2009 - 2012</b>
	University of Hawaii	
	Research Assistant, Institute for Astronomy	<b>2005 - 2009</b>
	Teaching Assistant, Dept of Physics and Astronomy	<b>2004 - 2005</b>
	The Pennsylvania State University	
	Research Assistant, Dept of Astronomy & Astrophysics	<b>2001 - 2004</b>

MISSION TEAM  
MEMBERSHIPS

NEO Surveyor Mission Science Team Member

NEOWISE Deputy PI and Science Team Member

ADVISING AND  
MENTORSHIP

**Postdocs:** Yuna Kwon (2023-present), Yasuhiro Hasegawa (2015-2017)

**Graduate Students:** Dave Milewski (2018-2024, committee member), Denise Hung (2018-2023, committee member), Carrie Nugent (Summer 2012), Jessica Watkins (Summer 2011)

**Undergrad Research Interns:** Manaswi Kondapally (Summer 2024), Elena Selmi (Summer 2023), Bella Macias (Summer 2022), Joahan Castaneda Jaimes (Summer 2022), Jennifer Bragg (Summer 2020), Patrice Smith (Summer 2019), Nathan Blair (Summer 2018, Summer 2019), Andy Lopez Oquendo (Summer 2019), Ian Diaz-Vachier (Summer 2019), Lean Teodoro (Summer 2018), Hannah Reutershan (Summer 2018), Stephanie Spear (Summer 2018), Erin Redwing (Summer 2017), Mario Cabrera (Summer 2012, Summer 2013-Spring 2014), Greta Cukrov (Summer 2013), Elizabeth Clyne (Spring 2013), Wenli Mo (Summer 2011-Spring 2012), Emma Hand (Spring 2011), Erin Blauvelt (Spring 2011), Emily DeBaun (Fall 2010), Ashlee Wilkins (Summer 2010), Stephanie Gomillion (Spring 2010)

**High School Interns:** Dillon Elsbury (Summer 2010), Tommy Gautier (Summer 2010)

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, and selected for flight as the NEO Surveyor Mission.

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 2020.

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.

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.

HONORS AND  
AWARDS

- Asteroid 8255 Masiero (1981 EZ18) named in honor
- JPL Lew Allen Award for significant accomplishment in research: **2020**
- JPL Voyager Award: NEOWISE and NEOCam scientific analysis **2018**
- 6 JPL Team Awards **2016-2019**
- 2 NASA Group Achievement Awards **2014-2016**
- NASA Early Career Public Achievement Medal **2016**
- JPL Voyager Award: NEOWISE scientific analysis **2015**
- JPL Science Division Mariner Award: NEOWISE restart **2014**
- 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**

PUBLICATIONS

- Co-author on over 500 Minor Planet Electronic Circulars (MPECs) and International Astronomical Union Circulars (IAUCs) describing observations of NEOs, comets, and other interesting small Solar system bodies.
- Lay, O.; **Masiero, J.**; Grav, T.; et al., A.; "Asteroid Impact Hazard Warning from the Near-Earth Object Surveyor Mission", 2024, PSJ, 5, 149.

- Reddy, V.; Kelley, M.; ...; **Masiero, J.**; et al., A.; “2023 DZ2 Planetary Defense Campaign”, 2024, PSJ, 5, 141.
- **Masiero, J.**; Kwon, Y.G.; Dahlen, D.; Masci, F.; & Mainzer, A.; “The Sensitivity of NEO Surveyor to Low-perihelion Asteroids”, 2024, PSJ, 5, 113.
- Milewski, D.G.; **Masiero, J.**, Pittichová, J., et al.; “NEOWISE Observations of Distant Active Long-period Comets C/2014 B1 (Schwartz), C/2017 K2 (Pan-STARRS), and C/2010 U3 (Boattini)”, 2024, AJ, 167, 99.
- Carruba, V.; Aljbaae, S., ...; **Masiero, J.**, et al., “On the identification of the first two young asteroid families in g-type non-linear secular resonances”, 2024, MNRAS, 528, 796.
- Varakian, M.; Chanover, N.; **Masiero, J.**, et al., “3 um Phase Curves of Main-belt Asteroids from NEOWISE Photometry”, 2024, PSJ, 5, 14.
- Grav, T.; Mainzer, A.; **Masiero, J.**; et al., “The NEO Surveyor Near Earth Asteroid Known Object Model”, 2023, PSJ, 4, 228.
- **Masiero, J.**; Dahlen, D.; Mainzer, A.; et al., “Validation of Survey Simulator tool for the NEO Surveyor mission using NEOWISE data”, 2023, PSJ, 4, 225.
- Mainzer, A.; **Masiero, J.**; Abell, P.; et al., “The Near-Earth Object Surveyor Mission”, 2023, PSJ, 4, 224.
- Carruba, V.; Aljbaae, S.; ...; **Masiero, J.**; et al., “On the Identification of the First Two Young Asteroid Families in g-Type Non-Linear Secular Resonances”, 2023, MNRAS, in press.
- McFadden, K.; Mainzer, A.; **Masiero, J.**; et al., “Size and Albedo Constraints for (152830) Dinkinesh Using WISE Data”, 2023, ApJL, 957, 2.
- Kenworthy, M.; Lock, S.; ...; **Masiero, J.**; et al., “A planetary collision afterglow and transit of the resultant debris cloud”, 2023, Nature, 622, 251.
- **Masiero, J.**; Devogele, M.; Macias, I.; et al., “The Increasingly Strange Polarimetric Behavior of the Barbarian Asteroids”, 2023, PSJ, 4, 93.
- Gicquel, A.; Bauer, J.; Kramer, E.; Mainzer, A.; **Masiero, J.** “CO and CO<sub>2</sub> Productions Rates of Comets Observed by NEOWISE within Year 1 of the Reactivated Mission”, 2023, PSJ, 4, 3.
- Middei, R.; Liodakis, I.; ..., **Masiero, J.**; et al. “X-ray Polarization Observations of BL Lacertae”, 2022, ApJL, 942, 10.
- Kwon, Y.G.; **Masiero, J.**; & Markkanen, J. On the dust of tailless Oort-cloud comet C/2020 T2 (Palomar), 2022, A&A, 668, A97.
- Liodakis, I.; Marscher, A.; ..., **Masiero, J.**; et al. “Polarized Blazar X-rays imply particle acceleration in shocks”, 2022, Nature, 611, 677.
- Kasuga, T. & **Masiero, J.** “WISE/NEOWISE Multi-Epoch Imaging of the Potentially Geminid-related Asteroids: (3200) Phaethon, 2005 UD and 1999 YC”, 2022, AJ, 164, 193.
- Reddy, V.; Kelley, M.S., ...; **Masiero, J.**; et al. “Apophis Planetary Defense Campaign”, 2022, PSJ, 3, 123.
- Satpathy, A.; Mainzer, A.; **Masiero, J.**; et al. “NEOWISE Observations of the Potentially Hazardous Asteroid (99942) Apophis”, 2022, PSJ, 3, 124.
- **Masiero, J.**; Tinyanont, S.; Millar-Blanchaer, M. “Asteroid Polarimetric-Phase Behavior in the Near-Infrared: S- and C-Complex Objects”, 2022, PSJ, 2, 90.
- Hung, D.; Hanus, J.; **Masiero, J.**; Tholen, D. “Thermal Properties of 1,847 WISE-observed Asteroids”, 2022, PSJ, 3,56.
- **Masiero, J.**; Davidsson, B.; Liu, Y.; et al. “Volatility of Sodium in Carbonaceous Chondrites at Temperatures Consistent with Low-perihelion Asteroids”, 2021, PSJ, 2, 165.
- **Masiero, J.**; Mainzer, A.K.; Bauer, J.M.; et al., “Asteroid Diameters and Albedos from NEOWISE Reactivation Mission Years Six and Seven”, 2021, PSJ, 2, 162.
- **Masiero, J.**; Wright, E.L.; Mainzer, A.K., “Uncertainties on Asteroid Albedos Determined by Thermal Modeling”, 2021, PSJ, 2, 32.
- Yang, B.; Hanus, J.; ...; **Masiero, J.**; et al. “Physical and Dynamical Characterization of the Euphrosyne Asteroid Family”, 2020, A&A, 643, 38.
- **Masiero, J.**; Smith, P.; Teodoro, L.; et al. “Physical Properties of 299 NEOs Manually Recovered in Over Five Years of NEOWISE Survey Data”, 2020, PSJ, 1, 9.
- **Masiero, J.**; Mainzer, A.; Bauer, J.; et al. “Asteroid Diameters and Albedos from NEOWISE Reactivation Mission Years Four and Five”, 2020, PSJ, 1, 5.
- Williamson, B.; Sonnett, S.; ... ; **Masiero, J.**; et al., “Rotational Properties of Three Hilda

- Asteroids*”, 2020, *Minor Planet Bulletin*, 47, 66.
- **Masiero, J.**; Wright, E.L.; Mainzer, A.K., “*Thermophysical modeling of NEOWISE observations of DESTINY+ targets Phaethon and 2005 UD*”, 2019, *AJ*, 158, 97.
  - Reddy, V.; Kelley, M.S.; ...; **Masiero, J.**; et al., “*Near-Earth asteroid 2012 TC<sub>4</sub> observing campaign: Results from a global planetary defense exercise*”, 2019, *Icarus*, 326, 133.
  - Cutri, R.M.; **Masiero, J.**; Sonnett, S.; Mainzer, A. “*Mid-infrared Lightcurves of (523806) 2002 WW17*”, 2019, *Minor Planet Bulletin*, 46, 216.
  - Mainzer, A.; Bauer, J.; ...; **Masiero, J.**; et al., “*NEOWISE Diameters and Albedos V2.0*”. 2019, NASA Planetary Data System, urn:nasa:pds:neowise-diameters\_albedos::2.0.
  - **Masiero, J.**; Redwing, E.; Mainzer, A.; et al., “*Small and Nearby NEOs Observed by NEOWISE During the First Three Years of Survey: Physical Properties*”, 2018, *AJ*, 156, 60.
  - **Masiero, J.**; Mainzer, A.; Wright, E.L., “*A Family-Based Method of Quantifying NEOWISE Diameter Errors*”, 2018, *AJ*, 156, 62.
  - Rosser, J.; Bauer, J.; ...; **Masiero, J.**; et al., “*Behavioral Characteristics and CO+CO<sub>2</sub> Production Rates of Halley-Type Comets Observed by NEOWISE*”, 2018, *AJ*, 155, 164.
  - Boyajian, T.; ...; **Masiero, J.**; et al., “*The First Post-Kepler Brightness Dips of KIC 8462852*”, 2018, *ApJL*, 853, 8.
  - Aljbaae, S.; Carruba, V.; **Masiero, J.**; et al., “*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*, 154, 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.**; et al., “*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.**; et al., “*Observed asteroid surface area in the thermal infrared*”. 2017, *AJ*, 153, 90.
  - Nugent, C.; Mainzer, A.; ...; **Masiero, J.**; et al., “*NEOWISE Reactivation Mission Year Two: Asteroid Diameters and Albedos*”. 2016, *AJ*, 152, 63.
  - Wright, E.L.; Mainzer, A.; **Masiero, J.**; et al., “*The Albedo Distribution of Near Earth Asteroids*”. 2016, *AJ*, 152, 79.
  - Mainzer, A.; Bauer, J.; ...; **Masiero, J.**; et al., “*NEOWISE Diameters and Albedos 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.**; et al.; “*NEOWISE Reactivation Mission Year One: Preliminary Asteroid Diameters and Albedos*”. 2015, *ApJ*, 814, 117.
  - Bauer, J.M.; Stevenson, R.; ...; **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.; et al.; “*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.**; et al.; “*NEOWISE: Observations of the Irregular Satellites of Jupiter and Saturn*”. 2015, *ApJ*, 809, 3.
  - Buratti, B.; Hicks, M.D.; ...; **Masiero, J.**; et al.; “*Photometry of Pluto 2008-2014: Evidence of Ongoing Seasonal Volatile Transport and Activity*”. 2015, *ApJL*, 804, 6.
  - Mainzer, A.; Grav, 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.; ...; **Masiero, J.**; et al.; "Initial performance of the NEOWISE Reactivation Mission". 2014, ApJ, 792, 30.
  - **Masiero, J.R.**; Grav, T.; Mainzer, A.K.; et al.; "Main-belt Asteroids with WISE/NEOWISE: Near-Infrared Albedos". 2014, ApJ, 791, 121.
  - Stevenson, R.; Bauer, J.; ...; **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.; ...; **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.; ...; **Masiero, J.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.; et al.; "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.**; 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.; et al.; "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.; et al.; "Revising the age for the Baptistina asteroid family using WISE/NEOWISE data". 2012, ApJ, 759, 14.
  - Bauer, J.M.; Kramer, E., ...; **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.**; et al.; "The Yarkovsky Drift's Influence on NEAs: Trends and Predictions with NEOWISE Measurements". 2012, AJ, 144, 75.
  - Mainzer, A.; Grav, T.; **Masiero, 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.; ...; **Masiero, J.**; et al. "WISE/NEOWISE observations of Active Bodies in the Main Belt". 2012, ApJ, 747, 49.
  - Mainzer, A.; **Masiero, J.**; Grav, T.; 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 Spectrophotometrically 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.; Kley, 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, E. M.; Bloom, J. S.; ...; **Masiero, Joseph**; et al. “*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.; et al. “*The Thousand Asteroid Light Curve Survey*”. 2009, Icarus, 204, 145.
- Richter, P.; Charlton, J.C.; ...; **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.**; et al., “*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, J.**; Hibbard, J. E.; et al. “*An HI Threshold for Star Cluster Formation in Tidal Debris*”. 2007, MNRAS, 381, 59.
- Kubica, J.; Denneau, L.; ...; **Masiero, J.**; et al. “*Efficient intra- and inter-night linking of asteroid detections using kd-trees*”. 2007, Icarus, 189, 151.
- Milutinovic, N.; Rigby, J.R.; **Masiero, J. R.**; et al. “*The Nature of Weak MgII Absorbing Structures*”. 2006, ApJ, 641, 190.
- Narayanan, A.; Charlton, J.C.; **Masiero, J. R.**; and Lynch, Ryan. “*A Survey of Analogs to Weak MgII Absorbers in the Present*”. 2005, ApJ, 632, 92.
- **Masiero, Joseph R.**; Charlton, J.C.; Ding, J.; et al. “*Models of Five Absorption Line Systems Along the Line of Sight Toward PG 0117+213.*” 2005, ApJ, 623, 57.
- Ganguly, R.; **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

- **7/18/24**: JPL Mission Chronicles Seminar, “*From the Nearest Asteroids to the Most Powerful Galaxies: the Story of WISE and NEOWISE*”
- **7/11/24**: NASA Small Body Assessment Group Meeting, “*NEOWISE Mission Update*”
- **10/25/23**: MIT Lincoln Labs Civil Space Seminar, “*Hunting for Asteroids in the Infrared: NEOWISE and NEO Surveyor*”
- **10/24/23**: Minor Planet Center Seminar, “*NEO Surveyor*”
- **10/12/23**: NASA Community College Network Webinar, “*Finding, Tracking, and Characterizing Near-Earth Asteroids*”
- **10/10/23**: IPAC NEO Surveyor Seminar, “*Science with NEO Surveyor*”
- **7/12/23**: NASA Small Body Assessment Group Meeting, “*NEO Surveyor mission update*”
- **3/1/23**: International Symposium on Dust and Parent Bodies 2023, “*Sodium volatility as a driver of cometary activity for near-Sun objects*”
- **10/25/22**: KISS workshop: Enabling Fast Response Missions to NEOs, ISOs, and LPCs, “*Present and Future Asteroid Surveys*”

- **10/17/22:** 6th Coloquio Nacional de Polarización en Astronomía, Mexico, “*Asteroid Polarization in the Near Infrared*”
- **6/21/22:** Intro to IPAC Seminar Series, “*An Intro to NEOWISE*”
- **6/8/22:** NASA Small Body Assessment Group Meeting, “*NEOWISE mission update*”
- **3/23/22:** Institute for Astronomy, Foundation for Research and Technology Hellas (FORTH) Seminar “*Polarimetry of Asteroids in the Near-Infrared*”
- **3/1/22:** Infrared Science and Technology Integration Group (IRSTIG) Seminar, “*Hunting asteroids in the infrared: NEOWISE and NEO Surveyor*”
- **12/7/21:** Caltech DIX Planetary Science Seminar, “*Chasing asteroids in the infrared: NEOWISE and NEO Surveyor*”
- **09/29/21:** MW-Gaia Workshop on Asteroids of Comets, Finland, “*Chasing asteroids in the infrared: NEOWISE and NEO Surveyor*”
- **10/13/20:** UC Irvine Seminar, “*The infrared sky as seen by NEOWISE*”
- **8/27/20:** Greater IPAC Science Symposium, Caltech, “*Comet NEOWISE*”
- **3/25/20:** Virtual seminar for IPAC, Caltech, “*Asteroids in the Infrared: NEOWISE and NEO Surveyor*”
- **3/5/20:** Web-seminar for LIneA, Observatorio Nacional, Brazil, “*NEOWISE tools and techniques*”
- **1/7/20:** American Astronomical Society Meeting: Planets, exoplanets, and planet formation with Gemini large and long programs (LLPs) Special Session, “*Chasing Near-Earth Asteroids at the Bottom of the Sky*”
- **12/18/19:** JPL Invited Seminar, “*Hazards from Near-Earth Asteroids*”)
- **12/9/19:** Tucson Near-Earth Asteroid Workshop, “*NEOWISE Mission Update*”)
- **10/4/19:** XXIV Ciclo de Cursos Especiais, Brazilian National Observatory, “*The NEOWISE view of the Solar System*”
- **10/3/19:** XXIV Ciclo de Cursos Especiais, Brazilian National Observatory, “*Asteroid dynamics, and family age dating*”
- **10/1/19:** XXIV Ciclo de Cursos Especiais, Brazilian National Observatory, “*Determining asteroid physical properties from remote sensing*”
- **9/30/19:** XXIV Ciclo de Cursos Especiais, Brazilian National Observatory, “*An Overview of the Small Bodies of the Solar System*”
- **7/29/19:** Team Radar Meeting, LPI, “*NEOWISE and radar, Better together*”
- **6/24/19:** NASA Small Body Assessment Group Meeting, “*NEOCam update*”
- **5/29/19:** Queen’s University Belfast Seminar, “*The NEOCam Mission: Goals, Design, and Status*”
- **4/19/19:** UCLA Planetary Science Seminar, “*The NEOCam Mission: Goals, Design, and Status*”
- **8/3/17:** Las Cumbres Observatory, Invited Seminar, “*Asteroid Families: Properties, Origins, and Evolution*”
- **4/12/17:** Invited Talk, Asteroids, Comets, Meteors 2017 Conference, Montevideo, Uruguay, “*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*”
- **04/23/15:** UCLA Planetary Science Seminiar, “*Physical properties of Asteroid Families*”
- **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/Chelyabinsk*

- **01/17/13:** Invited Colloquium, University of British Columbia, “*The WISE view of the Solar System*”
- **03/09/12:** NOAO 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:** NOAO 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

- **7/12/24:** Local Group Astronomy Club (Santa Clarita), “*Hunting for Hazardous Asteroids Using Infrared Light*”
- **4/26/24:** Merry Heart Assisted Living Community, “*Hunting for Hazardous Asteroids Using Infrared Light*”
- **1/18/24:** Montecedro Retirement Community, “*Hunting for Hazardous Asteroids Using Infrared Light*”
- **3/17/22:** Pasadena City College Pi Week Talk, “*Hunting for Asteroids in the Infrared*”
- **3/12/22:** STEM Expert Guest, “*Did You Know? Comedy Show, hosted by Alex Spell*”
- **2/24/22:** UniverseUnplugged Ask the Astronomers Live, “*Do Look Up: Searching for hazardous asteroids*”
- **2/7/22:** AAS Journal Author Series, “*Discussion of paper: Asteroid Diameters and Albedos from NEOWISE Reactivation Mission Years Six and Seven*”
- **10/12/21:** Sonora Astronomical Society, “*Chasing asteroids in the Infrared: NEOWISE and NEO Surveyor*”
- **09/21/21:** UniverseUnplugged Ask the Astronomers Live, “*'Oumuamua: Space Rock or Alien Artifact?*”
- **07/15/20:** NASA Science Live Interview, “*How to spot Comet NEOWISE*”
- **July 2020:** Interviews with various news organizations, “*Comet NEOWISE*”
- **03/13/20:** ‘Imiloa Maunakea Skies talk, “*Searching for Asteroids from Space: The Near-Earth Object Surveyor mission*”
- **08/25/19:** UCLA Meteorite Gallery Public Talk, “*Before they were meteorites: the hazard from Near-Earth Objects*”
- **07/19/19:** San Diego Comic Con 2019 Panelist, “*Ripped from the Pulp: Real-World Threats to Mankind*”
- **09/21/18:** Glendale College Planetarium, “*Near Earth Asteroids*”
- **04/24/18:** Carnegie Observatories Astronomy Lecture Series, “*You Can’t Make a Solar System Without Breaking a Few Asteroids: The Tale of Asteroid Families*”
- **04/18/18:** Seattle Astronomical Society, “*Interstellar Asteroid ‘Oumuamua*”
- **04/10/18:** Penn State Astronomy Dept Friedman Lecture, “*You Can’t Make a Solar System Without Breaking a Few Asteroids: The Tale of Asteroid Families*”
- **04/06/18:** Orange County Astronomers, “*Searching for our Nearest Neighbors, the Near-Earth Asteroids: Hazard, Resource, and Destination*”
- **04/04/18:** Mt Holyoke Astronomy Class Lecture, “*Interstellar Asteroid ‘Oumuamua*”
- **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*”

PROFESSIONAL  
SERVICE

Minor Planet Center Users’ Group (MUG) Committee Member	<b>Dec 2023 to present</b>
NASA Small Bodies Assessment Group Steering Committee Planetary Defense Lead	<b>Aug 2022 to present</b>
55th DPS Annual Meeting - Virtual Organizing Committee Member	<b>May 2023 - Oct 2023</b>
54th DPS Annual Meeting - Virtual Organizing Committee Member	<b>May 2022 - Oct 2022</b>
IAU Commission F4 - Organizing Committee Member	<b>Aug 2021 to present</b>
Caltech/IPAC Hiring Committees	<b>2021-present</b>
53rd DPS Annual Meeting - Virtual Organizing Committee Chair	<b>Apr 2021 - Oct 2021</b>
Member of the NASA Keck Solar System TAC	<b>2021-2022</b>
DPS Professional Culture & Climate Subcommittee Member	<b>Nov 2020 to present</b>
IAWN Apophis Impact Exercise Spacecraft Working Group Lead	<b>Oct 2020 - Jun 2021</b>
NASA Planetary Data Ecosystem Independent Review Board Member	<b>Nov 2020 - Mar 2021</b>
IAU 2022 Focus Meeting 10 “Synergy of Small Telescopes and Large Surveys...” SOC Member	<b>2020-2022</b>
NASA Planetary Data System Reviewer	<b>2019 to present</b>

Member of the JPL/IPAC Palomar Allocation Committee	<b>Oct 2017 to present</b>
External Member for 4 TACs including: Kepler2, Taiwan, Subaru	<b>2014-2019</b>
NASA ROSES and NSF review panels Panel Chair for 3; Panelist for 11 others; External for 10	<b>2012 to present</b>
National Research Foundation of Ukraine External Grant Reviewer	<b>2020</b>
JPL Small Bodies Hiring Committee Co-Chair	<b>2019</b>
IAU 2018 Focus Meeting 1 “A Century of Asteroid Families” Organizer, SOC Chair, Proceedings Editor	<b>2016-2019</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>

#### TEACHING

ASTEROID Summer Academy Lecture on NEOWISE science results, University of Arizona	<b>July 2021</b>
NEOWISE Survey and Science lecture to Asteroid Apocalypse class, American University	<b>Nov 2020</b>
ASTEROID Fall Academy Lecture on Asteroid Family Science, University of Puerto Rico, Humacao	<b>Oct 2020</b>
ASTEROID Summer Academy Lecture on Asteroid Physical Properties, University of Arizona	<b>July 2020</b>
Planetary Science Guest Lecturer, 4-lecture series, Brazilian National Observatory ‘XXIV Cycle of Special Courses’	<b>Fall 2019</b>
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>

#### OUTREACH EVENTS

Walt Disney Elementary School Science Day • Solar Telescope Presenter	<b>2023</b>
Pasadena Unified School District, Science Festival	

• Infrared CAmera Presenter	<b>2023</b>
SETI Institute DART Impact livestream	
• NEOWISE and NEO Surveyor intersection with DART	<b>Sep 26, 2022</b>
NASA Asteroid Day Reddit AskScience AMA	
• Asteroid Expert	<b>Jun 30, 2022</b>
Walt Disney Elementary School Science Fair	
• Judge	<b>2022-2023</b>
Eliot Arts Magnet Academy	
• Infrared Camera Presentation	<b>2018-2020</b>
JPL Open House	
• Volunteer	<b>2010-present</b>
Mount Wilson Class Visits	
• Volunteer Presenter	<b>2017-2018</b>
Learning Works visits to Caltech	
• Volunteer Presenter	<b>2012-2015</b>
Twenty Wonder Festival of the Mind	
• Infrared Camera Presentation	<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	<b>2005</b>
Penn State Astrofest	
• Volunteer	<b>2002-2005</b>
• Volunteer Coordinator	<b>2003</b>

## MEMBERSHIP

### Professional Societies:

• International Astronomical Union	<b>from 2012</b>
• IAU Commission F4 “Asteroids, Comets, and TNOs”	<b>2021-present</b>
• IAU Division III Commission 15	<b>2012-2015</b>
• AAS Division of Planetary Science	<b>from 2007</b>
• American Astronomical Society	<b>from 2001</b>

## ACTIVITIES

• Glendale Woodturners Guild, Member	<b>2018-present</b>
• Penn State Schreyer Honors College, Applicant Interviewer	<b>2013 - present</b>
• LA County Fair Culinary Competition: Biscuits (1 <sup>st</sup> place)	<b>2017, 2019, 2022</b>
French Bread (1 <sup>st</sup> place)	<b>2017, 2019, 2022, 2024</b>
International Bread (1 <sup>st</sup> place)	<b>2022</b>
Focaccia (1 <sup>st</sup> place)	<b>2024</b>
• Arroyo Food Co-op, Board of Directors, Director	<b>05/2011 - 04/2015</b>
• Bagpiper with the Celtic Pipes and Drums of Hawaii	<b>01/2008 - 09/2009</b>