# Megan E. Schwamb

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### **Education**:

Ph.D., Planetary Science - California Institute of Technology June 2	Ph.D., Pla	netary Science	<ul> <li>California Institute of</li> </ul>	Technology	June 2
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Thesis: 'Beyond Sedna: Probing the Distant Solar System'

Advisor: Michael E. Brown

M.S., Astrophysics - California Institute of Technology

June 2008

B.A., Physics - University of Pennsylvania May 2006

Summa Cum Laude with Distinction in Physics

# **Employment & Positions Held:**

Lecturer, Queen's University Belfast	2019 - present
Assistant Scientist, Gemini Observatory, Northern Operations Center	2016-2019
Postdoctoral Fellow, Institute of Astronomy & Astrophysics, Academia Sinica	2013-2016
Postdoctoral Fellow, Yale University	2010-2013
Graduate Teaching Assistant, California Institute of Technology	2009
Graduate Research Assistant, California Institute of Technology	2006-2010

#### **Awards & Honors:**

AURA Science Award	2019
Carl Sagan Medal for Excellence in Public Communication in Planetary	2017
Science (American Astronomical Society, Division for Planetary Sciences)	
WIRED Innovation Fellowship	2015
Academia Sinica Postdoctoral Fellowship	2013-2015
Kavli Fellow, Kavli Frontiers of Science Japanese-American Symposium	2012
NSF Astronomy and Astrophysics Postdoctoral Fellowship	2010-2013
NASA Earth and Space Sciences Fellowship	2009
Reed Fellowship, California Institute of Technology	2006
Barry M. Goldwater Scholarship	2005
University Scholar Honors, University of Pennsylvania	2002-2006

# **Observing Experience:**

70+ nights observing experience with both small (24-inch, 48-inch, and 60-inch) telescopes and large meter class telescopes, including 3.4-m NTT, 3.5-m WIYN, Hale 5-m, 8-m Subaru, 8-m Gemini North, 10-m Keck, 10-m Caltech Submillimeter Observatory, and 15-m James Clerk Maxwell Telescope. Fully trained in performing queue observing for the Gemini North Telescope.

### **Professional Activities:** Large Synoptic Survey Telescope (LSST) Science Advisory 2018-present Committee Member Gemini Observatory LSST Transient Follow-up Focus Group Member 2018-present Large Synoptic Survey Telescope (LSST) Solar System Science 2017-present Collaboration (SSSC) Co-Chair – the SSSC is one of the eight active **LSST Science Collaborations** AAS World Wide Telescope Steering Committee Member 2017-2019 Gemini Observatory GNIRS (Near InfraRed Spectrograph) 2017-2019 instrument team member Gemini Observatory NIRI (Near InfraRed Imager and spectrograph) 2017-2019 instrument scientist and instrument team lead Outer Solar System Origins Survey (OSSOS) Light curves Working Group 2016-2017 Team Lead Member of the Large Synoptic Survey Telescope (LSST) Solar System 2016-present Science Collaboration AAS World Wide Telescope Advisory Board Member 2016-2017 Comet Hunters Project Scientist 2015-present Comet Hunters Science Team Member 2015-present Col-OSSOS (Colours of the Outer Solar System Origins Survey) 2015-present Optical Team Manager Member of the Zooniverse collaboration – the Zooniverse builds 2014-present and hosts the largest collection of online citizen science projects Member of the Colours of the Outer Solar System Origins Survey 2014-present (Col-OSSOS) collaboration Collaboration member of the Outer Solar System Origins Survey (OSSOS) 2014-present (member of Surfaces and Light Curves working groups) Planet Four Project Science Team Member 2013-present Member of Various Time Allocation Committees including Las Cumbres 2011-2018 Observatory Global Telescope (LCOGT), NASA Keck Timeshare, Taiwan Canada-France Hawaii Allocation, and Yale University Planet Hunters Project Scientist 2011-2015 Planet Hunters Science Team Member 2010-2015

M. E. Schwamb | CV

2010-2013

Member of the La Silla-QUEST Kuiper belt Survey

Co-organizer of various Seminar/Colloquia/Discussion series for Caltech Planetary Science Department, Yale Center for Astronomy & Astrophysics, ASIAA colloquium committee, Gemini North Science Coffee, and Gemini North Operations Tea

2009-2019

Member of the Palomar Distant Solar System Survey

2006-2009

#### **Research Interests:**

- Probing the Solar System's Small Body Populations in particular focusing on the Kuiper belt and Inner Oort Cloud
- Utilizing crowdsourcing/citizen science to tackle big data challenges in planetary astronomy
- Studying the seasonal winds and atmosphere/surface interactions of Mars' South Pole

### **Selected Recent Outreach Activities:**

2016-2019: Organizing Gemini Observatory blog series (http://www.gemini.edu/blog/): Get to Know Gemini, a monthly blog series to highlight the different types of jobs and people behind Gemini observatory, and Gemini's 12 Days of Solstice Advent Calendar.

Frequent contributor to the blogs, for the Planet Four projects (<a href="http://blog.planetfour.org/">http://blog.planetfour.org/</a>) previously for the Planet Hunters (<a href="http://blog.planethunters.org/">http://blog.planethunters.org/</a>) and Comet Hunters (<a href="http://www.comethunters.org/">http://blog.planethunters.org/</a>) projects, communicating to the public the progress and science resulting from these citizen projects.

Co-Founder of Astronomy On Tap (<a href="http://www.astronomyontap.org">http://www.astronomyontap.org</a>) public astronomy lecture series consisting of short talks by astronomers and planetary scientists held in local bars. Branches of this series now exist including: New York City, Washington DC, Columbus, Chicago, Seattle, Lansing, Rochester, and Austin, USA; Toronto, Canada;

Co-founder and co-curator of the curated twitter account Astrotweeps (<u>www.astrotweeps.org</u>), launched in January 2014, where each week a different astronomer or planetary scientist takes hosts the account engaging with over 7600 followers.

Coordinated the ASIAA Education and Public Outreach Office effort to translate eight astronomy-based Zooniverse citizen science projects to traditional character Chinese.

# **Relevant Formal Training:**

January 2018: Attended Introducing Current Research Into Your Classroom with Astrobites Workshop focusing on best practices utilizing science journal papers and Astrobites summaries in classroom.

January 2017: Attended New Methods for Teaching about Exoplanets Workshop, a one-day workshop focusing on best practices in implementing active learning strategies to the topic of exoplanets in the undergraduate classroom

January 3-4 2016: Attended Center for Astronomy Education's Tier I Teaching Excellence Workshop focusing on best practices in implementing active learning strategies.

# **Selected Recent Teaching Experience/Student Mentoring:**

September 2016- March 2017: Co-supervised undergraduate PIO (Public Information and Outreach) intern to develop Gemini blog series about Gemini's Large and Long Program (observing projects allocated multi-semester nights of observing time) and the Gemini PIO 12 Days of Solstice Advent Calendar.

July 2015: Served as a lecturer for the ASIAA Summer Student program

July 1- August 31, 2015: Supervised undergraduate Gauri Sharma as part of the ASIAA Summer Student program. She analyzed the prevalence of boulders in images of the HiRISE camera's seasonal monitoring campaign images.

### **Selected Recent Organized Conferences & Workshops:**

LSST and the Solar System workshops at the American Astronomical Society's Division for Planetary Sciences Meeting (Co-organizer)	2017-2018
1 <sup>st</sup> LSST Solar System Readiness Sprint (Co-organizer)	July 2018
Hack Day/Hack Together Day at the winter American Astronomical Society Meeting (Co-Founder & Co-organizer)	2013-2018
2015 East Asian Young Astronomer Meeting (Science Organizing Committee Member)	February 2015

#### **Selected Recent Invited Talks:**

Astroinformatics and Astrostatistics in the Age of Big Data Splinter Session at Winter AAS meeting, invited panelist, Seattle Washington - Expected January 7, 2019

DECam Community Science Workshop 2018, Tucson, AZ, USA - May 22, 2018

University of Auckland Astronomy Seminar, Auckland, New Zealand - October 9, 2017

Canada-France-Hawaii Telescope Seminar, Waimea, Hawaii, USA - July 24,2017

Earth & Life Science Institute Colloquium, Tokyo Institute of Technology, Japan – June 30, 2017 Invited Talk at the Small Bodies Session at AGU Meeting, San Francisco, USA - Dec 15, 2016 Our Red Planet Workshop Invited Speaker, NASA HQ/NASA Goddard – September 20, 2016 Gemini North Observatory Seminar, Hilo, Hawaii, USA - May 3, 2016

HSC Survey Collaboration Meeting, Taipei, Taiwan – Citizen Science with HSC - Jan 15, 2016 National Tsing Hua University Colloquium, Hsinchu, Taiwan – November 27, 2015

Bash Symposium 2015: New Horizons in Astronomy Talk, UT Austin USA - October 19, 2015

# **Selected Recent Funding & Grants Awarded:**

Planetary Society Grant Supporting the 2nd Solar System Science Collaboration Science Readiness Sprint, 2019, **\$1000.0** 

AURA Funding Supporting LSST Solar System Science Collaboration Activities, 2018, **\$3000.0** Large Synoptic Survey Telescope Corporation 2018 Enabling Science Grant, 'The 1st Solar System Science Collaboration Science Readiness Sprint', 2018, **\$23,149.50** 

National Science Council/Ministry of Technology & Science of Taiwan 'Citizen Science in Astronomy Workshop', (Officially Awarded to postdoctoral fellowship supervisor at ASIAA, Shiang-Yu Wang- Grant Written and Managed by M.E. Schwamb), 2013-2014, **300,000** NTD/\$10,000

Academia Sinica Postdoctoral Fellowship, 2013-2015, 1,832,480 NTD/\$60,210

American Philosophical Society Franklin Grant, "Assessing the Extrasolar Planet Inventory with Citizen Science," 2012, \$5,000

National Science Foundation Astronomy & Astrophysics Postdoctoral Fellowship, "Dwarf Planets of the Southern Hemisphere," 2010-2013, \$249,000

#### **Publications:**

Peer Reviewed Publications

- 1. C. Kiss, G. Marton, A. H. Parker, W. Grundy, A. Farkas-Takács, J. Stansberry, A. Pála, T. Müller, K. S. Noll, **M. E. Schwamb**, A. C. Barr, L. A. Young, & J. Vinkó, 2019, *The mass and density of the dwarf planet (225088) 2007 OR10*, Icarus, in press
- 2. M. Alexandersen, S. D. Benecchi, Y-T Chen, M. R. Eduardo, A. Thirouin, **M. E. Schwamb**, M. J. Lehner, S-Y. Wang, M. T. Bannister, B. J. Gladman, S. D. J. Gwyn, J. J. Kavelaars, J.-M. Petit, & K. Volk, 2019, OSSOS XII: Variability studies of Trans-Neptunian Objects using the Hyper-Suprime Camera, AJ, in press
- 3. **M. E. Schwamb**, W. C. Fraser, Michele T. Bannister, M. Marsset, R. E. Pike, J. J. Kavelaars, S. D. Benecchi, M. J. Lehner, S.-Y. Wang, A. Thirouin, A. Delsanti, N. Peixinho, K. Volk, M. Alexandersen, Y.-T. Chen, B. Gladman, S. D. J. Gwyn, and J.-M. Petit, 2019, *Col-OSSOS: The Colours of the Outer Solar System Origins Survey*, ApJS, in press
- 4. M. Marsset, W. C. Fraser, R. E Pike, M. T. Bannister, **M. E. Schwamb**, K. Volk, J. J. Kavelaars, M. Alexandersen, Y.-T Chen, B. J. Gladman, S. D. J. Gwyn, & J.-M. Petit, 2019, *Col-OSSOS: A Distinct Inclination Distribution for Each Colour Seen in the Dynamically Excited Trans-Neptunian Populations*, ApJ, 2019, 157, 3
- 5. K.-M Aye, **M. E. Schwamb**, G. Portyankina, C. J. Hansen, A. McMaster, G. R.M. Miller, B. Carstensen, C. Snyder, M. Parrish, Stuart Lynn, C. Mai, David Miller, R. J. Simpson, & A. M. Smith, 2019, *Planet Four: Probing Springtime Winds on Mars by Mapping the Southern Polar CO2 Jet Deposits*, Icarus, 319
- 6. S. D. Benecchi, C.M. Lisse, E.L. Ryan, R. P. Binzel, **M. E. Schwamb**, L. A. Young, & A. J. Verbiscier, 2018, *K2 Lightcurve: Twelves Days on Pluto-Charon*, Icarus, 314
- 7. **M. E. Schwamb,** K.-M. Aye, G. Portyankina, C. J. Hansen, C. Allen, S. Allen, F. J. Calef III, S. Duca, A. McMaster, G. R. M. Miller, 2018, *Planet Four: Terrains Discovery of Araneiforms Outside of the South Polar Layered Deposits*, Icarus, 308
- 8. M. T. Bannister, B. J. Gladman, J.J. Kavelaars, J.-M. Petit, K. Volk, Y.-T. Chen, M. Alexandersen, S. D. J. Gywn, **M. E. Schwamb**, S. Benecchi, N. Cabral, R. Dawson, A. Delsanti, W. C. Fraser, M. Granvik, S. Greenstreet, A. Guilbert-Lepoutre, W.-H. Ip, M.

- Jakubik, R. L. Jones, N. Kaib, P. Lacerda, C. Van Laerhoven, S. Lawler, M. J. Lehner, H. W. Lin, P. S. Lykawka, M. Marsset, R. Murray-Clay, R. E. Pike, P. Rousselot, C. Shankman, A. Thirouin, P. Vernazza, S.-Y. Wang, 2018, OSSOS: 800+ trans-Neptunian objects --- the complete data release, AJ, 236, 18
- 9. M. T. Bannister, **M. E. Schwamb**, W. C. Fraser, M. Marsset, A. Fitzsimmons, S. D. Benecchi, P. Lacerda, R. E. Pike, J.J. Kavelaars, A. B. Smith, S. O. Stewart, S.-Y. Wang, M. J. Lehner, 2017, *Col-OSSOS: Colors of the Interstellar Planetesimal 11/ Oumuamua*, ApJL, 851, L38
- R. E. Pike, W. C. Fraser, M. E. Schwamb, J. J. Kavelaars, M. Marsset, M. T. Bannister, M. J. Lehner, S.-Y. Wang, B. Gladman, J.-M. Petit, S. Gwyn, Y.-T. Chen, M. Alexandersen, & K. Volk, 2017, Col-OSSOS: Z Band Photometry Reveals Three Distinct TNO Surface Types, AJ, 154, 101
- 11. M. T. Bannister, C. Shankman, K. Volk, Y.-T. Chen, N. Kaib, B. J. Gladman, M. Jakubik, J.J Kavelaars, W.C Fraser, **M.E. Schwamb**, J.-M. Petit, S.-Y. Wang, S. D. J. Gwyn, M. Alexandersen, & R. E. Pike, 2017, OSSOS: V. Diffusion in the orbit of a high-perihelion distant Solar System object, AJ, 153,262
- 12. W. C. Fraser, M T. Bannister, R. E. Pike, M. Marsset, M. E. Schwamb, J. J. Kavelaars, P. Lacerda, D. Nesvorný, K. Volk, A. Delsanti, S. Benecchi, M. J. Lehner, K. Noll, B. Gladman, J.-M. Petit, S. Gwyn, Y.-T. Chen, S.-Y.Wang, M. Alexandersen, T. Burdullis, S. Sheppard & Chad Trujillo, 2017, All planetesimals born near the Kuiper belt formed as binaries, Nature Astronomy, 1, 88
- 13. M.T. Bannister, M. Alexandersen, S. D. Benecchi, Y.-T. Chen, A. Delsanti, W. C. Fraser, B. J. Gladman, M. Granvik, W. M. Grundy, A. Guilbert-Lepoutre, S. D. J. Gwyn, W.-H. Ip, M. Jakubik, R. L. Jones, N. Kaib, J. J. Kavelaars, P. Lacerda, S. Lawler, M. J. Lehner, H. W. Lin, P. S. Lykawka, M. Marsset, R. Murray-Clay, K. S. Noll, A. Parker, J.-M. Petit, R. E. Pike, P. Rousselot, M. E. Schwamb, C. Shankman, P. Veres, P. Vernazza, K. Volk, S.-Y. Wang, & R. Weryk, 2016, OSSOS: IV. Discovery of a dwarf planet candidate in the 9:2 resonance with Neptune, AJ 152, 212
- 14. M. T. Bannister, J. J. Kavelaars, J.-M. Petit, B. Gladman, S. Gwyn, Y.-T. Chen, K. Volk, M. Alexandersen, S. Benecchi, F. Bianco, A. Delsanti, W. C. Fraser M. Granvik, W. Grundy, A. Guilb-Lepoutre, A. Gulbis, D. Hestroer, W. Ip, M. Jakubik, L. Jones, N. Kaib, P. Lacerda, S. Lawler, M. Lehner, E. Lin, T. Lister, P. Lykawka, S. Monty, M. Marsset, R. Murray-Clay, K. Noll, A. H. Parker, R. Pike, P. Rousselot, D. Rusk, M. E. Schwamb, C. Shankman, B. Sicardy, P. Vernazza, & S-Y. Wang, 2016, The Outer Solar System Origins Survey: Design and First-quarter Discoveries, AJ, 152, 70B
- 15. A. C. Barr & **M. E. Schwamb**, 2016, *Interpreting the Densities of the Kuiper Belt's Dwarf Planets*, MNRAS, 460,1542
- W. C. Fraser, M. Alexandersen, M. E. Schwamb, M. Marsset, R. E. Pike, J. J. Kavelaars, M. T. Bannister, S. Benecchi, & A. Delsanti, 2016, TRIPPy: Trailed Image Photometry in Python, AJ, 151, 158
- 17. J. R. Schmitt, A. Tokovinin, J. Wang, D. A. Fischer, M. H. Kristiansen, D. M. LaCourse, R.t Gagliano, A. J. V. Tan, H. M. Schwengeler, M. R. Omohundro, A. Venner, I. Terentev, A. R.

- Schmitt, T. L. Jacobs, T. Winarski, J. Sejpka, K. J. Jek, T. S. Boyajian, J. M. Brewer, S. T. Ishikawa, C. Lintott, S. Lynn, K. Schawinski, **M. E. Schwamb**, & A. Weiksnar, 2016, *Planet Hunters X: Searching for Nearby Neighbors of 75 Planet and Eclipsing Binary Candidates from the K2 Kepler extended mission*, AJ, 151, 159
- M. Kimura, K. Isogai, T. Kato, Y. Ueda, S. Nakahira, M. Shidatsu, T. Enoto, T. Hori, D. Nogami, C. Littlefield, R. Ishioka, Y.-T. Chen, S.-K. King, C.-Y. Wen, S.-Y. Wang, M. J. Lehner, M. E. Schwamb, J.-H. Wang, Z.-W Zhang, C. Alcock, T. Axelrod, F. B. Bianco, Y.-I. B, W.-P. Chen, K. H. Cook, D.-W. Kim, T. Lee, S. L. Marshall, E. P. Pavlenko, & et al., 2015, Repetitive patterns in rapid optical variations in the nearby black-hole binary V404 Cygni, Nature, 529, 54
- 19. R. Brasser & M. E. Schwamb, 2015, Reassessing the Formation of the Inner Oort cloud in an Embedded Star Cluster II: Probing the Inner Edge, MNRAS, 446, 3788
- 20. J. R. Schmitt, E. Agol, K. M. Deck, L. A. Rogers, J. Z. Gazak, D. A. Fischer, J. Wang, M. J. Holman, K. J. Jek, C. Margossian, M. R. Omohundro, T. Winarski, J. M. Brewer, M. J. Giguere, C. Lintott, S. Lynn, M. Parrish, K. Schawinski, M. E. Schwamb, R. Simpson, & A. M. Smith, 2014, Planet Hunters VII. Discovery of a New Low-Mass, Low-Density Planet (PH3 c) Orbiting Kepler-289 with Mass Measurements of Two Additional Planets (PH3 b and d), ApJ, 795, 167
- 21. J. R. Schmitt, J. Wang, D. A. Fischer, K. J. Jek, J. C. Moriarty, T. S. Boyajian, **M. E. Schwamb**, C. Lintott, A M. Smith, M. Parrish, K. Schawinski, S. Lynn, R. Simpson, M. Omohundro, T. Winarski, S. J. Goodman, T. Jebson, & D. Lacourse, 2014, *Planet Hunters VI: An Independent Characterization of KOI-351 and Several Long Period Planet Candidates from the Kepler Archival Data*, AJ, 148, 28
- 22. **M. E. Schwamb**, M. E. Brown, & W. C. Fraser, 2014, *The Small Number of Large Kuiper belt objects*, AJ, 147, 2
- 23. A. Mao, E. Kamar, Y. Chen, E. Horvitz, **M. E. Schwamb**, C.J. Lintott, & A. M. Smith, 2013, *Volunteering vs. Work for Pay: Incfentives and Tradeoffs in Crowdsourcing*, Proceedings of the First Association for the Advancement of Artificial Intelligence Conference on Human Computation (HCOMP 2013)
- 24. J. Wang, D. A. Fischer, T. Barclay, T. S. Boyajian, J.R. Crepp, M. E. Schwamb, C. Lintott, K.J. Jek, A. M. Smith, M. Parrish, Michael, K. Schawinski, J. R. Schmitt, M.J. Giguere, J.M. Brewer, S. Lynn, Stuart; R. Simpson, A. J. Hoekstra, T. L. Jacobs, D. LaCourse, H.M. Schwengeler, M.Chopin, Mike, & R. Herszkowicz, 2013, Planet Hunters V: A Confirmed Jupiter-Size Planet in the Habitable Zone and 42 Planet Candidates from the Kepler Archive Data, ApJ, 776,10
- 25. D. Rabinowitz, **M. E. Schwamb**, E. Hadjiyska, S. Tourtellotte, & P. Rojo 2013, *The Peculiar Photometric Properties of 2010 WG9: A Slowly Rotating Trans-Neptunian Object from the Oort Cloud*, AJ, 146, 17
- 26. C. J. Lintott, **M. E. Schwamb**, T. Barclay, C. Sharzer, D.A. Fischer, J. Brewer, M. Giguere, M., S. Lynn, M. Parrish, N. Batalha, S. Bryson, J. Jenkins, D. Ragozzine, J. F. Rowe, K. Schawinski, R. Gagliano, J. Gilardi, K. J. Jek, J.-P Pääkkönen, & T. Smits, 2013, *Planet Hunters: New Kepler planet candidates from analysis of quarter 2*, AJ, 145 151

- 27. **M. E. Schwamb,** J. A. Orosz, J. A. Carter, W.F. Welsh, D. A. Fischer, G. Torres, A. W. Howard, J. R. Crepp, W. C. Keel, C. J. Lintott, N. A. Kaib, D. Terrell, R. Gagliano, K. J. Jek, M. Parrish, A. M. Smith, S. Lynn, R. J. Simpson, M. J. Giguere & K. Schawinski, 2013, *Planet Hunters: A Circumbinary Planet in a Quadruple Star System*, ApJ 768, 127
- 28. D. Rabinowitz, **M. E. Schwamb**, E. Hadjiyska, & S. Tourtellotte, 2012, *The La Silla QUEST Kuiper Belt Survey*, AJ, 144, 140
- 29. **M. E. Schwamb**, C.J. Lintott, D.A. Fischer, M. J. Giguere, S. Lynn, A. M. Smith, J, M. Brewer, M. Parrish, K. Schawinski, & R. J. Simpson, 2012. *Planet Hunters: Assessing the Kepler Inventory of Short Period Planets*, ApJ, 754, 129
- 30. R. Brasser, **M. E. Schwamb**, P. S. Lykawka, & R. Gomes, 2012, *An Oort cloud origin for the high-inclination, high-perihelion Centaurs*, MNRAS, 420, 3396
- 31. D. A. Fischer, **M. E. Schwamb**, K. Schawinski, C. Lintott, J. Brewer, M. Giguere, S. Lynn, M. Parrish, T. Sartori, R. Simpson, A. Smith, J. Spronck, N. Batalha, J. Rowe, J. Jenkins, S. Bryson, A. Prsa, P. Tenenbaum, J. Crepp, T. Morton, A. Howard, M. Beleu, Z. Kaplan, N. Vannispen, C. Sharzer, J. Defouw, A. Hajduk, J. P. Neal, A. Nemec, N. Schuepbach, & V. Zimmermann, 2012, *The First Two Planet Candidates Identified by the Public using the Kepler Public Archive Data*, MNRAS, 419, 2900
- 32. R. Brasser, M. J. Duncan, H. F. Levison, **M. E. Schwamb**, & M. E. Brown, 2012, Reassessing the formation of the inner Oort cloud in an embedded star cluster, Icarus, 217, 1
- 33. W. C. Fraser, M. E. Brown, & M. E. Schwamb, 2010, The Luminosity Function of the Hot and Cold Kuiper belt Populations, Icarus, 10, 944
- 34. **M. E. Schwamb**, M. E. Brown, D. L. Rabinowitz, & D. Ragozzine, 2010, *Properties of the Distant Kuiper Belt: Results from the Palomar Distant Solar System Survey*, ApJ, 20,1691
- 35. **M. E. Schwamb**, M. E. Brown, & D. L. Rabinowitz, 2009, A Search for Distant Solar System Bodies in the Region of Sedna, ApJL, 694, L45
- 36. M. J. Lehner, C.-Y. Wen, J.-H. Wang, S. L. Marshall, **M. E. Schwamb**, Z.-W. Zhang, F. B. Bianco, J. Giammarco, R. Porrata, C. Alcock, T. Axelrod, Y.-I. Byun, W. P. Chen, K. H. Cook, R. Dave, S.-K. King, T. Lee, H.-C. Lin, & S.-Y. Wang, 2009, *The Taiwanese-American Occultation Survey: The Multi-Telescope Robotic Observatory*, PASP, 12, 138
- 37. C. Night, R. Di Stefano, M. Schwamb, 2008, Beyond Caustic Crossings: Properties of Binary Microlensing Light Curves, ApJ, 686, 785
- 38. J.H Wang, **M.E. Schwamb**, K. Y. Huang, C. Y. Wen, Z. W. Zhang, S. Y. Wang, W. P. Chen, F. B. Bianco, R. Dave, M. J. Lehner, S. L. Marshall, R. Porrata, C. Alcock, Y. I. Byun, K. H. Cook, S. K. King, T. Lee, & Y. Urata, 2008, *The Early Optical Brightening in the GRB 071010B*, ApJL, 679,L5

Non-Peer Reviewed Publications

- 1. **M. E. Schwamb**, H. Hsieh, M. T. Bannister, D. Bodewits, S. R. Chesley, W. C. Fraser, M. Granvik, R. L. Jones, M. Jurić, M. S. P. Kelley, D. Ragozzine, D.E. Trilling, & K.Volk, 2019, A Software Roadmap for Solar System Science with the Large Synoptic Survey Telescope, RNAAS, 3,51
- M. E. Schwamb, K. Volk, H. W. Lin, M. S. P. Kelley, M. T. Bannister, H. Hsieh, R. L. Jones, M. Mommert, C. Snodgrass, D. Ragozzine, S. R. Chesley, S. S. Sheppard, M. Juric, & M. W. Buie, 2018, A Northern Ecliptic Survey for Solar System Science, LSST Cadence Optimization White Paper, arxiv: 1812.01149
- 3. **M. E. Schwamb,** H. F. Levison, & M. W. Buie, 2018, Opportunities for the Large Synoptic Survey Telescope to Find New L<sub>5</sub> Trojan and Hilda Lucy Encounter Targets, RNAAS, 2,159
- 4. **M. E. Schwamb**, R. L. Jones, S. R. Chesley, A. Fitzsimmons, W. C. Fraser, M. J. Holman, H. Hsieh, D. Ragozzine, C. A. Thomas, D. E. Trilling, M. E. Brown, M. T. Bannister, D. Bodewits, M. de Val-Borro, D. Gerdes, M. Granvik, M. S. P. Kelley, M. M. Knight, R. L. Seaman, Q.-Z. Ye, & L. A. Young, 2018, *Large Synoptic Survey Telescope Solar System Science Roadmap*, arxiv: 802.01783
- 5. **M.E. Schwamb,** 2014, *Solar System: Stranded in no-man's-land*, Nature, News & Views, 507 7493

#### References:

Prof. Chris Lintott University of Oxford (cjl@astro.ox.ac.uk)

Prof. Mario Jurić University of Washington/LSST (mjuric@astro.washington.edu)

Dr. Candy Hansen Planetary Science Institute (cjhansen@psi.edu)