

CURRICULUM VITAE
– BRYCE THEODORE BOLIN –

NASA Goddard Space Flight Center
Planetary Systems Laboratory
8800 Greenbelt Road
Mail Stop: 693, Building 34, Room W389
Greenbelt, MD 20771

bolin.astro@gmail.com
+1 (626) 905-4371
<https://www.bolinastro.com/>

EDUCATION

Université Côte d’Azur – Ph.D. in Sciences de la Planete et de l’Univers, May 2018
l’Ecole Doctorale Sciences Fondamentales et Appliquées, ED.SFA (ED 364)
Thesis topic: Identifying asteroid families older than 2 billion years
Supervisors: Marco Delbo (marco.delbo@oca.edu) and Alessandro Morbidelli (morby@oca.eu)

University of Central Florida – M.S. in Physics, May 2011
Department of Physics, College of Sciences

University of Florida – B.S. in Physics, May 2009
Department of Physics, College of Liberal Arts & Sciences

RESEARCH INTERESTS & SKILLS

Research Interests

Application of data science methods for the discovery and characterization of asteroids and comets
Measuring the physical properties of asteroids and comets from optical and near-infrared observations
Formation of planetesimals and their implication in the formation of planetary systems
Dynamics of Solar System small body populations, asteroids and comets

Skills

Extensive programming experience in **Python**
Proficiency in **C, Fortran, IDL, Perl, IRAF, MySQL**, N-body integrators **SWIFT** and **REBOUND**

EMPLOYMENT HISTORY

2022 – present **NASA Postdoctoral Program Fellow**, NASA Goddard Space Flight Center
2019 – 2022 **Postdoctoral Scholar**, Div. of Phy., Math. and Astro., Cal. Inst. of Tech.
2018 – 2019 **Postdoctoral Fellow**, B612 Asteroid Institute/University of Washington
2014 – 2018 **Doctorant en astrophysique**, Université Côte d’Azur
2013 **Adjunct Instructor**, Honolulu Community College
2012 – 2014 **NEO Research Analyst**, Institute for Astronomy, Univ. of Hawai‘i at Mānoa
2011 – present **Adjunct Instructor**, Valencia College
2009 – 2011 **Graduate Teaching Assistant**, University of Central Florida

GRANTS, AWARDS AND HONORS

Total amount awarded: 1.52MM USD (as **PI:** 633.42K USD | as **co-I:** 891.01K USD)

2022 - **James Webb Space Telescope Cycle 1**, Director’s Discretionary time - 2747, PI (\$100,000)
“The Volatile Content of Oort Cloud Comet C/2014 UN271”

2022 - **NASA Postdoctoral Program Fellowship**, PI (\$252,000)
“Prospecting for the Solar System’s Original Planetesimals”

2022 - **Hubble Space Telescope Cycle 29**, Guest Observer - 16878, PI (\$88,911)
“Determining the coma contents of the incoming Oort Cloud comet C/2014 UN271”

- 2021 - **Asteroid (42177) 2001 CL₂₂**, named Bolin
- 2021 - **JPL/Caltech Presidents and Directors Research and Development Fund**, co-I (\$200,000)
 “Synthetic tracking follow-up of Zwicky Transient Facility Near-Earth Object candidates”
- 2021 - **Jet Propulsion Laboratory HBCU/MSI partnership**, co-I (\$50,000)
 “Follow-up of Near-Earth Objects”
- 2021 - **NASA Yearly Opportunities for Research in Planetary Defense**, co-I (\$641,005)
 “NEO Discovery and Study with the Zwicky Transient Facility (ZTF)”
- 2020 - **Hubble Space Telescope Cycle 27**, Guest Observer - 16077, PI (\$49,117)
 “Determining the cause of activity of the first active Trojan, 2019 LD2”
- 2020 - **Hubble Space Telescope Cycle 27**, Guest Observer - 16040, PI (\$94,943)
 “Constraining the coma volatile content of interstellar comet 2I/Borisov”
- 2019 - **NASA Small Bodies Assessment Group Early Career Travel Award** (\$1,000)
- 2016 - **Europlanet Travel Bursary** (€450)
- 2014 - **Contrat Doctoral de l’Université Côte d’Azur** (€45,000)

ADVISING & TEACHING

Advising and Mentoring

Students co-supervised:

- Mehul Ghosal**, undergraduate student at the University of Hawai‘i at Mānoa, with Dr. Robert Jedicke on rotational lightcurves of meter-scale near-Earth asteroids, 2021 - present.
- Vishwajeet Swain**, graduate student at the Indian Institute of Technology, Bombay, with Prof. Varun Bhalerao on observations of small Solar System bodies with the Zwicky Transient Facility, 2021 - present.
- Kritti Sharma**, undergraduate student at the Indian Institute of Technology, Bombay, with Prof. Varun Bhalerao on observations of near-Earth asteroids with the Zwicky Transient Facility, 2020 - 2022. Now a graduate student in astronomy at Caltech.
- Josiah Purdum**, master’s student at San Diego State University with, Prof. Robert Quimby on observations of active asteroid Gault, 2019 - 2022. Now a Telescope Operations Engineer at the California Institute of Technology.
- Kunal Deshmukh**, undergraduate student at the Indian Institute of Technology, Bombay with, Prof. Varun Bhalerao on observations of near-Earth asteroids with the Zwicky Transient Facility, 2019 - 2021. Now a graduate student in astronomy at Texas Tech University.
- Christina Lindberg**, postgraduate at the University of Washington, with Dr. Daniela Huppenkothen on Gaussian processes analysis of asteroid lightcurves, 2018 - 2021. Now a Graduate Student in Astronomy at Johns Hopkins University.
- Bryce Kalmbach**, graduate student at the University of Washington, with Prof. Andrew J. Connolly on Kuiper Belt object detection, 2018 - 2019. Now a Postdoctoral Researcher in Astronomy at the University of Washington.
- Allison Bratcher**, undergraduate student at the University of Central Florida, with Prof. Josh Colwell on UVIS stellar occultation research, 2011. Now a Data Scientist at Cromulence.

Classroom Experience

- PH PH556**, Guest Lecturer, *Introduction to Astrophysics*, Undergraduate and Graduate Level Course, Department of Physics, Indian Institute of Technology Bombay, Spring 2021
- PHYS 51V**, Course Instructor, *Introductory Applied Physics*, Undergraduate Level Course, Department of Natural Sciences, Honolulu Community College, Spring 2013
- AST 1002**, Course Instructor, *Introduction to Astronomy*, Undergraduate Level Course, Department of Sciences, Valencia College, Summer 2011 - present

PHY 2049L, Laboratory Instructor, *Physics for Engineers II Lab*, Undergraduate Level Course, Department of Physics, University of Central Florida, Fall 2010 - Spring 2011

PHY 2049HL, Laboratory Instructor, *Honors Physics for Engineers II Lab*, Honors College Undergraduate Level Course, Department of Physics, University of Central Florida, Spring 2011

PHY 2060L, Laboratory Instructor, *General Physics Lab*, Undergraduate Level Course, Department of Physics, University of Central Florida, Spring 2010 - Summer 2010

SERVICE & OUTREACH

Leadership

Keck Wide-Field Imager Scientific Advisory Committee member (2021 - present)

Zwicky Transient Facility Solar System Working Group Lead (2020 - present)

LSST Solar System Science Collaboration Inner Solar System Working Group Lead (2019 - 2021)

Professional Service

Grant reviewer for for the Israeli Ministry of Innovation, Science and Technology (2022)

Grant reviewer for for the National Science Center, Poland (2021 - present)

Grant reviewer for the National Research, Development and Innovation Office, Hungary (2020)

HST General Observer mid-Cycle and Director's Discretionary time reviewer (2019 - present)

Gemini Fast Turnaround program reviewer (2019 - present)

Grant reviewer for the Austrian Science Fund (2019)

Referee for the *Astronomical Journal*, *Astronomy & Astrophysics*, *Astrophysical Journal Letters*, *Icarus*, *Monthly Notices of the Royal Astronomical Society*, *Nature Astronomy*, *Planetary Science Journal* and *Planetary and Space Science* (2016 - present)

Outreach

Public Outreach Volunteer:

Star Party, Sir Isaac Brock Public School, London, Ontario (Fall 2022)

Guest Lecture, Indian Institute of Technology Bombay, Mumbai, India (Spring 2021)

Conference for Undergraduate Women in Physics, University of Wash., Seattle, WA (January 2019)

B612 Foundation Quarterly Webinar, Mountain View, CA (May 2018)

La Nuit Coupoles Ouvertes, Caussols, France (October 2017)

Asteroid Day Luxembourg, Luxembourg City, Luxembourg (June 2017)

La Nuit Coupoles Ouvertes, Caussols, France (June 2015)

Honolulu Zoo Educational Star Party, Honolulu, HI (July 2013)

Institute for Astronomy Open House, Honolulu, HI (April 2013)

Institute for Astronomy Comet Pan-STARRS viewing, Honolulu, HI (March 2013)

Holy Nativity School Star Party, Honolulu, HI (February 2013)

Bernice Pauahi Bishop Museum Star Party, Honolulu, HI (January 2013)

Event Volunteer:

20th Meeting of the NASA Small Bodies Assessment Group (January 2019)

Division of Planetary Sciences (October 2017)

Division of Planetary Sciences (October 2016)

Division of Planetary Sciences (October 2013)

Division of Planetary Sciences (October 2012)

Volunteer Judge, Hawai'i State Science Fair (April 2012)

The Next-Generation Suborbital Researchers Conference (February 2011)

SELECTED PRESS RELEASES

5. "First inter-Venusian Asteroid Hints at a New Population", *Sky & Telescope*, August 25, 2022, [Link].

4. “Comet Makes a Pit Stop Near Jupiter’s Asteroids”, NASA News Releases, February 25, 2021, [Link].
3. “Tiny Asteroid Buzzes by Earth the Closest Flyby on Record ”, NASA News Releases, August 18, 2020, [Link].
2. “It Came From Outside Our Solar System and Now Its Breaking Up”, The New York Times, April 7, 2020, [Link].
1. “Alien comets may be common, object from beyond Solar System suggests”, Science, October 29, 2019, [Link].

INVITED CONFERENCE TALKS

1. “Prospecting for the Solar System’s Original Planetesimals”, 20th Meeting of the NASA Small Bodies Assessment Group, Lunar and Planetary Institute, January 29-31, 2019

INVITED COLLOQUIA & SEMINARS

20. Institute for Astronomy, University of Hawai‘i at Mānoa, Astrocoffee, Honolulu, Hawai‘i, September 16, 2022
19. Lawrence Livermore National Laboratory, Space Science Institute Seminar, Livermore, California, April 5, 2022
18. Harvard & Smithsonian, Center for Astrophysics, Stars and Planets Seminar, Cambridge, Massachusetts, February 9, 2022
17. Observatoire de la Côte d’Azur, Planetary Science Seminar, Nice, France, September 16, 2021
16. National Optical-Infrared Astronomy Research Laboratory, Friday Scientific Lunch Talk, Tucson, Arizona, September 3, 2021
15. Institute for Astronomy, University of Hawai‘i at Mānoa, Astronomy Colloquium, Honolulu, Hawai‘i, April 14, 2021
14. IPAC/California Institute of Technology, IPAC Seminar, Pasadena, California, February 17, 2021
13. California Institute of Technology, Division of Geological and Planetary Sciences Seminar, Pasadena, California, January 26, 2021
12. Jet Propulsion Laboratory, Astrophysics Seminar, Pasadena, California, November 19, 2020
11. Observatoire de la Côte d’Azur, Planetary Science Seminar, Nice, France, September 10, 2020
10. California Institute of Technology, IPAC, Greater IPAC Science Symposium, Pasadena, California, August 24, 2020
9. California Institute of Technology, Division of Geological and Planetary Sciences Seminar, Pasadena, California, November 12, 2019
8. San Diego State University, Astronomy Colloquium, San Diego, California, October 4, 2019
7. University of California, Los Angeles, Planetary Science Seminar, Los Angeles, California, October 3, 2019
6. Observatoire de la Côte d’Azur, Planetary Science Seminar, Nice, France, March 21, 2019

5. University of Washington, Department of Astronomy Colloquium, Seattle, Washington, October 4, 2018
4. University of Washington, DIRAC seminar, Seattle, Washington, March 24, 2017
3. University of Helsinki, Department of Physics Seminar, Helsinki, Finland, January 15, 2016
2. Observatoire de la Côte d'Azur, Planetary Science Seminar, Nice, France, May 21, 2015
1. Observatoire de la Côte d'Azur, Planetary Science Seminar, Nice, France, October 14, 2014

CONTRIBUTED TALKS

24. *(594913) 'Ayló'chaxnim*, a kilometer-scale asteroid inside Venus' orbit, American Astronomical Society, DPS meeting 54, London, Ontario, October 4, 2022
23. *ZTF Solar System Working Group Overview*, ZTF Spring Meeting, Paris, France, May 13, 2022
22. *Establishing the Population of Asteroids Located Entirely within the Orbit of Venus*, The 2021 Greater IPAC Technology Symposium, Pasadena, California, October 13, 2021
21. *Establishing the population of asteroids located wholly inside the orbit of Venus*, American Astronomical Society, DPS meeting 53, virtual, October 4, 2021
20. *Establishing the Population of Asteroids Located Entirely within the Orbit of Venus*, The 2021 Greater IPAC Science Symposium, Pasadena, California, August 2, 2021
19. *Discovery and characterization of the first inner-Venus Asteroid 2020 AV₂*, American Astronomical Society, DPS meeting 52, Spokane, Washington, October 27, 2020
18. *Science highlights from ZTF: exotic asteroids*, Celebrating ZTF-I & Soft Launch of ZTF-II, Pasadena, California, October 23, 2020
17. *Discovery and characterization of the first inner-Venus Asteroid 2020 AV₂*, Europlanet Science Congress, September 25, 2020
16. *Keck Time-resolved Spectrophotometry of Temporarily-Captured Minimoons 2020 CD₃*, Europlanet Science Congress, September 25, 2020
15. *VISIR Characterization of the Nucleus, Morphology, Activity, Spin-Pole Orientation & Rotation of Interstellar Comet 2I/Borisov by Earth- and Space-based Facilities*, Europlanet Science Congress, September 25, 2020
14. *Observations of Solar System Bodies by the Zwicky Transient Facility*, ZTF Collaboration Meeting, March 23, 2020
13. *Active Asteroid (6478) Gault*, American Astronomical Society, DPS meeting 51, Geneva, Switzerland, September 17, 2019
12. *Active Asteroid (6478) Gault*, The Main Belt: A Gateway to the Formation and Early Evolution of the Solar System, Villasimius, Sardinia, June 5, 2019
11. *Prospecting for the Solar System's Original Planetesimals*, Brainstorming Meeting on Planet Formation, Frejus, France, March 18, 2019
10. *The Galactic Orbit of 1I/2017 U1 'Oumuamua*, American Astronomical Society, DPS meeting 50, Knoxville, Tennessee, October 24, 2018

9. *Identification of asteroid families older than 2 billion years*, A Century of Asteroid Families, IAU Focus Meeting, Vienna, Austria, August 29, 2018
8. *APO Time Resolved Color Photometry of Highly-Elongated Interstellar Object 1I/'Oumuamua*, LSST@Europe3, Lyon, France, June 14, 2018
7. *APO Time Resolved Color Photometry of Highly-Elongated Interstellar Object 1I/'Oumuamua*, 18th Meeting of the NASA Small Bodies Assessment Group, NASA Ames, Mountain View, California, January 17-18, 2018
6. *Identifying asteroid families >2 Gyrs*, American Astronomical Society, DPS meeting 49, Provo, Utah, October 16, 2017
5. *Size-dependent modification of Asteroid Family Yarkovsky V-shapes*, Asteroids, Comets, Meteors 2017, Montevideo, Uruguay, April 12, 2017
4. *Yarkovsky V-shape identification of asteroid families*, American Astronomical Society, DPS meeting 48, Pasadena, California, October 18, 2016
3. *The search for ancient asteroid families*, Journées Doctorales de la Physique Niçoise, Saint-Étienne de Tinée, France, March 22, 2016
2. *Minimoon Discovery with Ground-based Radar Facilities*, American Astronomical Society, DPS meeting 45, Denver, Colorado, October 8, 2013
1. *The Detectability of Earths Temporarily Captured Orbiters*, American Astronomical Society, DPS meeting 44, Reno, Nevada, October 17, 2012

POSTERS

5. *Impact Probability Evolution of Virtual Impacting Asteroids*, American Astronomical Society, AAS meeting 233, id.263.02, Seattle, Washington, January 6, 2019
4. *Multiwavelength phase curves for asteroid families in the SDSS Moving Object Catalogue*, A Century of Asteroid Families, IAU Focus Meeting, Vienna, Austria, August 28, 2018
3. **Bolin, B.T.**, Delbo', M., Alí-Lagoa, V., Morbidelli, A. et al., 2015, *A new method to identify asteroid families older than 2 Ga*, IAU General Assembly, Honolulu, Hawai'i, August 3, 2015
2. *Detecting Earth's Minimoons*, Asteroids, Comets and Meteors, Niigata, Japan, May 16, 2012
1. *Cassini UVIS Observations of Saturn's Faint, Narrow Ringlets*, EPSC-DPS Joint Meeting 2011, Nantes, France, October 7, 2011

OBSERVING EXPERIENCE

- 0.9-meter *Spitzer Space Telescope* (IRAC): 4.8 h
- 2.2-meter University of Hawai'i (Tek 2048), Maunakea, HI: 12 nights
- 2.4-meter *Hubble Space Telescope* (WFC3): 21 orbits
- 3.2-meter NASA Infrared Telescope Facility (SpeX), Maunakea, HI: 4 nights
- 3.5-meter Astrophysical Research Consortium (ARTIC, NICFPs, DIS), Sunspot, NM: 14 nights
- 3.6-meter Canada France Hawai'i Telescope (MegaCam), Maunakea, HI: 40 hours queue time
- 5.1-meter Hale Telescope (WASP, CHIMERA, DBSP, TripleSpec), Palomar, CA: 7 nights
- 6.5-meter *James Webb Space Telescope* (NIRSpec): 4.4 h

8.1-meter Gemini North (GMOS, GNIRS, NIRI), Maunakea, HI: 9.6 h band 1/ 7.5 h band 2,3 queue time
 8.1-meter Gemini South (GMOS, F2), Cerro Pachón, Chile: 10.4 h band 1/ 7 h band 2,3 queue time
 10.0-meter Keck I (LRIS, MOSFIRE), Maunakea, HI: 1.5 nights
 10.0-meter Keck II (NIRES), Maunakea, HI: 1.0 night

PUBLICATIONS

Total publications: 41 (**1st- and 2nd-authored:** 15 | **co-author:** 26 | **citations:** 3312 | **h-index:** 23)

FIRST- AND SECOND-AUTHORED PUBLICATIONS

15. **Bolin, B.T.**, Granvik, M., Ahumada, T., van Dokkum, P., et al. 2022, *Preliminary Zwicky Transient Facility survey completeness estimates of the 'Ayló'chaxnim asteroid population*, Icarus, under review.
14. **Bolin, B.T.**, Ahumada, T., van Dokkum, P., Fremling, C. et al. 2022, *The discovery and characterization of (594913) 'Ayló'chaxnim, a kilometre sized asteroid inside the orbit of Venus*, MNRAS, 517, 1, L49-L54.
13. Duev, D.A., **Bolin, B.T.**, Graham, M.J., Kelley, M.S.P. et al., 2021, *Tails: Chasing Comets with the Zwicky Transient Facility and Deep Learning.*, AJ, 161, 218
12. Purdum, J.N.[†], Lin, Z.-Y.* , **Bolin, B.T.***, Sharma, K. et al. 2021, *APO, GROWTH, P200 and ZTF Time-series and Phasecurve Photometry of Episodically-Active Asteroid (6478) Gault in a Quiescent State*, ApJL, 911, 2, L35.
11. **Bolin, B.T.**, Fernandez, Y.R., Lisse, C.M., Holt, T.R. et al. 2021, *Initial Visible and Near-IR Characterization of P/2019 LD₂ (ATLAS), an Active Transitioning Centaur Among the Trojans, with Hubble, Spitzer, Keck, APO and GROWTH Imaging and Spectroscopy*, AJ, 161, 3, 116.
10. **Bolin, B.T.**, Fremling, C., Holt, T.R., Hankins, M.J. et al., 2020, *Characterization of Temporarily Captured Minimoons 2020 CD₃ by Keck Time-resolved Spectrophotometry*, ApJL, 900, 2, L45.
9. **Bolin, B.T.** & Lisse, C.M. 2020, *Constraints on the spin-pole orientation, jet morphology, and rotation of interstellar comet 2I/Borisov with deep HST imaging*, MNRAS, 497, 4, p. 4031-4041.
8. **Bolin, B.T.**, Lisse, C.M., Kasliwal, M.M., Quimby, R. et al. 2020, *Characterization of the Nucleus, Morphology, and Activity of Interstellar Comet 2I/Borisov by Optical and Near-infrared GROWTH, Apache Point, IRTF, ZTF, and Keck Observations*, AJ, 160, 1, 16 pp.
7. **Bolin, B.T.**, Morbidelli, A., and Walsh, K., 2018, *Size-dependent modification of Asteroid Family Yarkovsky V-shapes*, A&A, V. 611, A82, 27 pp.
6. **Bolin, B.T.**, Walsh, K., Morbidelli, A., and Delbo', M., 2018, *Initial velocity V-shapes of Young Asteroid Families in the Main Belt*, MNRAS, V. 473, p. 3949-3968
5. Jedicke, R., **Bolin, B.T.**, Bottke, W., Monique, C. et al., 2018, *Earth's Minimoons: Opportunities for Science and Technology.*, FrASS, V. 5, 13 pp.
4. **Bolin, B.T.**, Weaver, H.A., Fernandez, Y.R., Lisse, C.M. et al., 2018, *APO Time Resolved Color Photometry of Highly-Elongated Interstellar Object 1I/'Oumuamua*, ApJL, V. 852, 10 pp.
3. **Bolin, B.T.**, Delbo', M., Morbidelli, A. and Walsh, K., 2017, *Yarkovsky V-shape identification of asteroid families*, Icarus, V. 282, p. 290-312
2. Jedicke, R., **Bolin, B.T.**, Granvik, M. and Beshore, E., 2016, *A fast method for quantifying observational selection effects in asteroid surveys*, Icarus, V. 266, p. 173-188

1. **Bolin, B.T.**, Jedicke, R., Granvik, M. et al., 2014, *Detecting Earth's temporarily-captured natural satellites-Minimoons*, Icarus, V. 241, p. 280-297

OTHER CO-AUTHORED PUBLICATIONS

26. Nesvorny, D., Diunno, R., Bottke, W.F., Jedicke, R. & 10 coauthors including **Bolin, B.T.** 2022, *Debiasing the orbital distribution of the near-Earth object population using nested sampling*, Icarus, under review.
25. Lin, Z.-Y., Cheng, C.-C., Chang, C.-K., Tseng, W.-L. & 7 coauthors including **Bolin, B.T.** 2022, *Asteroid phase function parameters and taxonomic constraints from the Zwicky Transient Facility*, PSJ, under review.
24. Schwamb, M.E., Jones, R.L., Yoachim, P., Volk, K. & 30 coauthors including **Bolin, B.T.** 2022, *Tuning the Legacy Survey of Space and Time (LSST) Observing Strategy for Solar System Science*, AJ, under review.
23. Farnocchia, D., Reddy, V., Bauer, J.M., Warner, E.M. & 68 coauthors including **Bolin, B.T.** 2022, *International Asteroid Warning Network Timing Campaign: 2019 XS*, PSJ, 3, 7, 156 pp.
22. Chang, C.-K., Yeh, T.-S., Tan, H.-J., Ip, W.-H. & 10 coauthors including **Bolin, B.T.** 2022, *The Large Superfast Rotators Discovered by the Zwicky Transient Facility*, ApJL, 932, 1, L5.
21. Lindberg, C.W.[†], Huppenkothen, D., Jones, R.L., Jones, R.L., **Bolin, B.T.**, et al., 2021, *Characterizing Sparse Asteroid Light Curves with Gaussian Processes*, AJ, 163, 1, 29 pp.
20. Anand, S., Coughlin, M.W., Kasliwal, M.M., Bulla, M. & 43 coauthors including **Bolin, B.T.**, 2020, *Optical follow-up of the neutron star-black hole mergers S200105ae and S200115j*, Nature Astronomy, Advanced Online Publication.
19. Morbidelli, A., Delbo, M., Granvik, M., Bottke, W. F. & 4 coauthors including **Bolin, B.T.** 2020, *Debiased albedo distribution for Near Earth Objects*, Icarus, 340, 1, 113631.
18. Ye, Q., Kelly, M.S.P., **Bolin, B.T.**, Bodewits, Dennis et al., 2019, *Pre-discovery Activity of New Interstellar Comet 2I/Borisov beyond 5 au*, AJ, 159, 9 pp.
17. Ye, Q., Masci, F.J., Lin, H.W., **Bolin, B.T.** et al., 2019, *Towards Efficient Detection of Small Near-Earth Asteroids Using the Zwicky Transient Facility (ZTF)*, PASP, 131, 078002.
16. Graham, M.J., Kulkarni, S.R., Bellm, E.C., Adams, S.M. & 112 coauthors including **Bolin, B.T.**, 2019, *The Zwicky Transient Facility: Science Objectives*, PASP, 131, 078001.
15. Ye, Q., Kelly, M.S.P., Bodewits, D., **Bolin, B.T.** et al., 2019, *Multiple Outbursts of Asteroid (6478) Gault*, ApJL, V. 874, 8 pp.
14. Whidden, P.J., Kalmbach, B.[†], Connolly, A.J., Jones, R.L. & 10 coauthors including **Bolin, B.T.**, 2019, *Fast algorithms for slow moving asteroids: constraints on the distribution of Kuiper Belt Objects*, AJ, V. 157, 15 pp.
13. Bellm, E.C., Kulkarni, S.R., Graham, M.J., Dekany, R. & 111 coauthors including **Bolin, B.T.**, 2019, *The Zwicky Transient Facility: System Overview, Performance, and First Results*, PASP, V. 131, 19 pp.

*These authors contributed equally to this work.

[†]Student advisee.

12. Granvik, M., Morbidelli, A., Jedicke, R., **Bolin, B.T.** et al., 2018, *Debiased orbit and absolute-magnitude distributions for near-Earth objects*, Icarus, V. 312, p. 181-207
11. Hanuš, J., Delbo', M., Alí-Lagoa, V., **Bolin, B.T.** et al., 2018, *Spin states of asteroids in the Eos collisional family*, Icarus, V. 299, p. 84-96
10. Delbo', M., Walsh, K., **Bolin, B.T.**, Avdellidou, C. et al., 2017, *Identification of a primordial asteroid family constrains the original planetesimal population*, Science, V. 357, 3 pp.
9. Moreno, F., Pozuelos, F. J., Novaković, B., Licandro, J. & 19 coauthors including **Bolin, B.T.**, 2018, *The Splitting of Double-component Active Asteroid P/2016 J1 (PANSTARRS)*, ApJL, V. 837, 6 pp.
8. Vokrouhlický, D., Pravec, P., Durech, J., **Bolin, B.T.** et al., 2018, *The young Datura asteroid family. Spins, shapes, and population estimate*, A&A, V. 598, 19 pp.
7. Hanuš, J., Delbo', M., Vokrouhlický, Pravec, P. & 14 coauthors including **Bolin, B.T.**, 2016, *Near-Earth asteroid (3200) Phaethon: Characterization of its orbit, spin state, and thermophysical parameters*, A&A, V. 592, 15 pp.
6. Granvik, M., Morbidelli, A., Jedicke, R., **Bolin, B.T.** et al., 2016 *Super-catastrophic disruption of asteroids at small perihelion distances*, Nature, V. 530, Issue 7590, p. 303-306
5. Vereš, P., Jedicke, R., Fitzsimmons, A., Denneau, L. & 13 coauthors including **Bolin, B.T.**, 2015, *Absolute magnitudes and slope parameters for 250,000 asteroids observed by Pan-STARRS PS1 - Preliminary results*, Icarus, V. 261, p. 34-47
4. Hsieh, H.H., Denneau, L., Wainscoat, R., Schörghofer, N. & 16 coauthors including **Bolin, B.T.**, 2015, *The main-belt comets: The Pan-STARRS1 perspective*, Icarus, V. 248, p. 289-312
3. Hsieh, H.H., Olivier, H., Novaković, R., & 14 coauthors including **Bolin, B.T.**, 2015, *Sublimation-Driven Activity in Main-Belt Comet 313p/Gibbs*, ApJL, V. 800, 7 pp.
2. Denneau, L., Jedicke, R., Grav, T., Granvik, M. & 40 coauthors including **Bolin, B.T.**, 2013, *The Pan-STARRS Moving Object Processing System*, PASP, V. 125, 39 pp.
1. Granvik, M., Jedicke, R., **Bolin, B.T.**, Monique, C. et al., 2013, *Earth's Temporarily-Captured Natural Satellites - The First Step towards Utilization of Asteroid Resources*, Asteroids: Prospective Energy and Material Resources, p. 289-312

SELECTED NON-REFERRED PUBLICATIONS

6. **Bolin, B.T.**, Masci, F.J., Ip, W.-H., and Helou, G. et al. 2022, *Comet C/2022 E3 (ZTF)*, Minor Planet Electronic Circular, 2022-F13.
5. **Bolin, B.T.**, Bhalariao, V., Copperwheat, C.M., and Deshmukh, K.P. et al. 2020, *2020 QG*, Minor Planet Electronic Circular, 2020-Q51.
4. **Bolin, B.T.**, Bodewits, D., Lisse, C.M., and Fernandez, Y.R. et al. 2020, *Possible fragmentation of interstellar comet 2I/Borisov*, The Astronomer's Telegram, 13613.
3. **Bolin, B.T.**, Masci, F.J., Ye, Q.-Z., and Pettarin, E. et al. 2020, *2020 AV₂*, Minor Planet Electronic Circular, 2020-A99.
2. Hill, R.E., **Bolin, B.T.**, Kleyna, J., and Denneau, L. et al. 2013, *Comet P/2013 R3 (Catalina-Panstarrs)*, Central Bureau Electronic Telegrams, 3658.

1. **Bolin, B.T.**, Denneau, L., Micheli, M., and Wainscoat, R. et al. 2013, *Comet P/2013 P5 (Panstarrs)*, Central Bureau Electronic Telegrams, 3639.

LANGUAGES

English: primary language

French: proficient (reading, writing), intermediate (speaking, listening)

REFERENCES

| | | |
|--|------------------------------------|--------------------|
| Alessandro Morbidelli, <i>Astronomer</i> | Observatoire de la Côte d'Azur, Fr | morby@oca.eu |
| Robert Jedicke, <i>Specialist</i> | Institute for Astronomy, USA | jedicke@hawaii.edu |
| Yanga Fernández, <i>Professor</i> | University of Central Florida | yan@ucf.edu |