

Olivia Harper Wilkins, Ph.D.

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— *Curriculum Vitae* —

Education

- Ph.D., Chemistry** December 2021
California Institute of Technology, Pasadena, CA
Thesis: High-Resolution Imaging of Chemistry in Extreme Interstellar Environments (Advisor: Geoffrey A. Blake)
Certificate of Practice in University Teaching, May 2019
Certificate of Interest in University Teaching, May 2018
- B.S., magna cum laude, Chemistry (with honors) and Mathematics** May 2015
Dickinson College, Carlisle, PA
Thesis: Analysis of Polycyclic Aromatic Hydrocarbon (PAH) Concentrations and Source Profiles from Sealcoated Pavements at Two Commercial Lots in Carlisle, Pennsylvania (Advisor: Amy E. Witter)
- Study Abroad, Faculty of Chemistry** Spring 2014
University of East Anglia, Norwich, England

Research Positions

- 2022–2024 NASA Postdoctoral Program (NPP) Fellow, NASA GSFC, Greenbelt, MD
2016–2021 NSF Graduate Research Fellow, California Institute of Technology, Pasadena, CA
2015–2016 Fulbright Research Fellow, Cologne Laboratory Physics Group, Cologne, Germany
2014 Summer Research Assistant, Harvard-Smithsonian Center for Astrophysics, Cambridge, MA
2013 Summer Research Assistant, National Radio Astronomy Observatory, Green Bank, WV
2012–2015 Undergraduate Research Assistant, Dickinson College, Carlisle, PA

Other Professional Experience | since 2015

- 6/2021– 1/2022 Freelance editor, Academic & Scientific Manuscripts and College & Graduate Admissions Wordvice
4/2019– 9/2019 Graduate Student Director, Caltech Project for Effective Teaching (CPET) California Institute of Technology, Pasadena, CA
7/2017– 4/2019 Co-director, Caltech Project for Effective Teaching (CPET) California Institute of Technology, Pasadena, CA

Funding

Scholarships and Fellowships (~\$390,900 since 2014)

- 2022–2024 NASA Postdoctoral Program (NPP) Fellowship
2020–2022 NRAO Student Observing Support (SOS) award
2019–2021 ARCS (Achievement Rewards for College Scientists) Scholarship
2018–2019 Kanel Scholarship for Student-Parents
2016–2021 NSF Graduate Research Fellowship
2015–2016 Fulbright U.S. Student Programs Research Fellowship to Germany
2014–2015 Barry M. Goldwater Scholarship

Other Funding

2023 American Chemical Society Science Café Mini Grant (\$500, submitted on behalf of ACS Maryland)

Other Honors

2023 Solar System Exploration Division (690) Peer Award (NASA Goddard Space Flight Center)
 2023 690 Special Thanks And Recognition (STAR) Award (NASA Goddard Space Flight Center)
 2022 AGU/SciAct Affiliate Program (1 of 10 selected for communications workshop)
 2022 CAS Future Leaders award (1 of 29 selected out of ~1000 applicants)
 2020 Caltech Chemistry & Chemical Engineering Seminar Day presentation award
 2018 POD Career Development Grant
 2015 Phi Beta Kappa Honors Society (Pennsylvania Alpha Chapter)
 2015 American Chemical Society Outstanding Chemistry Student Award
 2015 Certificate of Outstanding Achievement in German Language at Dickinson College
 2015 Kenderdine Student Travel Grant (Dickinson College)
 2014 Pi Mu Epsilon, the National Mathematics Honors Society (Pennsylvania Rho Chapter)
 2014 Wellington A. Parlin Science Award (Dickinson College)
 2014 Representative to the Molecular Frontiers Symposium in Stockholm, Sweden
 2013 Army War College Certificate of Appreciation (for writing tutoring)
 2012 Rush Citizenship Award for First-Year Students (Dickinson College)
 2012 Alpha Lambda Delta Honor Society for First-Year Students

Professional Societies | current

American Chemical Society (Member, 2014 -)
 Royal Astronomical Society (Fellow, 2019 -)
 American Astronomical Society (Member, 2020 -)
 Royal Society of Chemistry (Associate Member, 2023 -)

Observing Projects as PI

ALMA Cycle 9: 2022.1.00016.S	Observed
VLA 2020A: 20A-463 (Director's Discretionary Time)	Observed
ALMA Cycle 6: 2018.1.01259.S	Observed
Green Bank Telescope 2018B: 18B-025	Observed
ALMA Cycle 5: 2017.1.01149.S	Observed

Publications

Books and Book Chapters

- Athnos, A. +10 co-authors including **Wilkins, O. H.** (2022). Graduate Teaching Communities of Practice: Fostering a Sense of Belonging and Professional Development for Graduate Students, by Graduate Students. In *Exploring How We Teach* (S. Clem, Ed.), Utah State University.
- Wilkins, O. H.** and Blake, G. A. (2021). *Astrochemistry*. ACS In Focus. DOI: 10.1021/acsinfocus.7e5004

Peer-Reviewed Journal Articles

10. Yocum, K. M., **Wilkins, O. H.**, Bardwell, J., Milam, S. N., and Gerakines, P. A. Gas-phase Ortho-to-Para Ratio of Formaldehyde Formed at Low Temperatures in Laboratory Ices. *ApJL*, in press.
9. Chen, Y. +24 co-authors including **Wilkins, O. H.** (2023). CoCCoA: Complex Chemistry in hot Cores with ALMA: Selected oxygen-bearing species. *A&A*, 678:A137 DOI: 10.1051/0004-6361/202346491.
8. **Wilkins, O. H.** and Blake, G. A. (2023). New Interstellar Laboratories in the Molecular Ring. *Faraday Discuss.*, 245, 138-163. Part of the "Astrochemistry at High Resolution" themed collection. DOI: 10.1039/D3FD00003F
7. **Wilkins, O. H.** and Blake, G. A. (2022). Relationship between CH₃OD Abundance and Temperature in Orion KL. *JPCA*, 126(37). Part of the 10 Years of the ACS PHYS Astrochemistry Subdivision Virtual Special Issue. DOI: 10.1021/acs.jpca.2c01309
6. **Wilkins, O. H.**, Carroll, P. B., and Blake, G. A. (2022). Mapping Physical Parameters in Orion KL at High Spatial Resolution. *ApJ*, 924:4. DOI: 10.3847/1538-4357/ac3132
5. Buzard, C. +9 co-authors including **Wilkins, O. H.** (2020). Simulating the multi-epoch direct detection technique to isolate the thermal emission of the non-transiting hot Jupiter HD187123b. *AJ*, 160(1):13 pp.
4. Wehres, N., Hermanns, M., **Wilkins, O. H.**, +5 co-authors (2018). Rotational spectroscopy of the two conformers of 3-methylbutyronitrile between 2 and 400 GHz. *A&A*, 615:A140
3. **Wilkins, O. H.** and Buzard, C. F. (2018). Integrating course material and application: The progressive writing assignment applied to an astrochemistry tutorial. *Prompt: A Journal of Academic Writing Assignments*, 2(1):26
2. Müller, H. S. P., Walters, A., Wehres, N., Belloche, A., **Wilkins, O. H.**, +6 co-authors (2016). Spectroscopic study and astronomical detection of vibrationally excited *n*-propyl cyanide. *A&A*, 595:A87
1. Graninger, D., **Wilkins, O. H.**, & Öberg, K. I. (2016). Carbon Chains and Methanol toward Embedded Protostars. *ApJ*, 819:140

Non-Peer Reviewed Journal Articles

2. Deng, J. +16 equally contributing co-authors including **Wilkins, O. H.** (2023). Prioritizing Mentorship as Scientific Leaders. *ACS Central Science*, under review.
1. **Wilkins, O. H.**, Gupta, D., and Bertin, M. (2023). Highlights from *Faraday Discussion: Astrochemistry at high resolution*, Baltimore, USA, May 2023. *Chem. Commun.*, 59: 13083-13088, DOI: 10.1039/d3cc90347h. (**invited**)

Other

- 7/2023 Maryland Younger Chemists Committee Seeks Members. *The Chesapeake Chemist*, 80(6)
- 3/2023 Nearly Two Dozen New Molecules in Space Reported in 2022. *The Chesapeake Chemist*, 80(3)
- 1/2023 Reasons Early-Career Chemists should Apply to be a CAS Future Leader. *The Chesapeake Chemist*, 80(1)
- 1/2023 New Year, New Past-Chair: Thank you, Dr. Sarah Zimmermann! *The Chesapeake Chemist*, 80(1)
- 12/2022 First chemistry results from JWST. *The Chesapeake Chemist*, 79(6)
- 6/2021 How a scientist in a potato field founded the field of radio astronomy. *Massive Science*
- 3/2021 Scientists re-discover a long carbon chain molecule hiding in space. *Massive Science*
- 2/2021 Parenting in a Pandemic, in "Grad school, in students' own words". *Chemical & Engineering News*
- 2/2021 A NASA spacecraft flew by a Saturnian moon, uncovering a chemical mystery. *Massive Science*
- 5/2020 Mental Health, Graduate School, and Why We Need to Talk about It. *Caltech Letters*
- 2/2019 On young love (of radio telescopes). NRAO Blogs
- 12/2018 Two weeks as a visiting astronomer in the Quiet Zone. *Got Science Magazine*
- 3/2018 Chemical archaeology: Digging up our chemical past in interstellar space. *Caltech Letters*
- 11/2014 Carbon Chains in Young Stellar Objects. *Dickinson Science Magazine*, 1(2):22

Conference Presentations | Presenter names are underlined>.

Wilkins, O. H. and Blake, G. A. "New Interstellar Laboratories in the Molecular Ring." Astrochemistry at High Resolution Faraday Discussion, Baltimore, MD. 31 May 2023.

Wilkins, O. H., Yocum, K., Cuevas Quiñones, S., Bardwell, J., Milam, S., and Gerakines, P. "UV Photolysis of Cometary and Planetary Ices in the SubLIME Lab." 54th Annual Meeting of the Division of Planetary Sciences (DPS), London, ON, Canada. 3 October 2022.

Wilkins, O., Yocum, K., Milam, S., Gerakines, P., Thompson, W., Cruz-Diaz, and Widicus Weaver, S. "Rotational Spectroscopy as a Tool for Structure-Specific Identification of Products of UV-Photolyzed Cosmic Ice Analogues." 75th International Symposium for Molecular Spectroscopy (ISMS), Champaign, IL. 24 June 2022.

Wilkins, O. "High-Resolution Imaging of Chemistry in the Orion Kleinmann-Low Nebula." 240th Meeting of the American Astronomical Society (AAS), Pasadena, CA. 13 June 2022.

Wilkins, O., Yocum, K., Milam, S., Gerakines, P., Thompson, W., Cruz-Diaz, and Widicus Weaver, S. "Rotational Spectroscopy as a Sublime Tool for Identifying Organic Products of UV-Photolyzed Cosmic Ice Analogues." 240th Meeting of the American Astronomical Society (AAS), Pasadena, CA. 13 June 2022.

Wilkins, O. H., Carroll, P. B., and Blake, G. A. "Interstellar molecular probes at high spatial resolution: The case of $^{13}\text{CH}_3\text{OH}$ in Orion KL." 237th Meeting of the American Astronomical Society (AAS), Virtual. 13 January 2021.

Wilkins, O. H., Carroll, P. B., and Blake, G. A. "Constraining the formation of interstellar methanol using isotopologues." 258th ACS National Meeting, San Diego, CA. 21 August 2019. Water throughout the Universe (Physical Chemistry) symposium.

Wilkins, O. H., Carroll, P. B., and Blake, G. A. "Constraining the formation of complex organic molecules using isotopologues." 74th International Symposium for Molecular Spectroscopy (ISMS), Champaign, IL. 27 June 2019.

Weaver, J. E. and **Wilkins, O. H.** "Successful Models of Graduate Student Teaching Certificates and Pedagogy Courses." POD Network Conference 2018, Portland, OR. 15 November 2018.

Wilkins, O. H. "Fingerprinting the Invisible Universe." Fulbright Commission Berlin Seminar 2016 opening ceremony, Berlin, Germany. 21 March 2016. **(invited)**

Wilkins, O. H. "Organic Molecules in Low-Mass Star Formation." 45th Annual Central Pennsylvania Consortium (CPC) Astronomers' Meeting, Carlisle, PA. 25 April 2015. **(invited)**

Conference Posters | Presenter names are underlined.

Wilkins, O. H., Yocum, K., Milam, S. N., and Gerakines, P. A. "Rotational Spectroscopic Studies of NH_4CN Ice Photolysis with SubLIME." IAU-Kavli Astrochemistry VIII, Traverse City, MI. 13 July 2023.

Wilkins, O. H., Yocum, K. M., Milam, S. N., and Gerakines, P. A. "Rotational Spectroscopy is SubLIME — Site-Specific Identification of Compounds Formed on UV-Photolyzed Cosmic Ice." ACS Fall 2022, Chicago, IL. 23 August 2022. Physical Chemistry Poster Session.

Wilkins, O. H., Carroll, P.B., and Blake, G. A. "Hunting for the Origins of Oxygen-Bearing Complex Organics with Orion." Astrochemistry: Past, Present, & Future, Pasadena, CA. 11 July 2018.

Wilkins, O. H., Silva, R. M. B., Boyle, K. M., Weaver, J. E., and Horii, C. V. "Certificate Programs in University Teaching for Students, by Students." SoCal PKAL, UCLA, CA. 10 March 2018.

Boyle, K.M., Silva, R. M. B., **Wilkins, O. H.** "A New Framework for Teaching Development of Graduate Students and Postdocs at a Private Research Intensive University." SABER West 2018, Irvine, CA. 14 January 2018.

Wilkins, O. H., Silva, R. M. B., Boyle, K. M., Weaver, J. E., and Horii, C. V. "Certificate Programs in University Teaching for Students, by Students." SABER West 2018, Irvine, CA. 14 January 2018.

Wilkins, O. H., Davis, M. E., Mojarad, S. "Tweet, for science! A social media course for scientists at Caltech tackling inreach and outreach online." 253th ACS National Meeting, San Francisco, CA.
— 2 April 2017. Chemical Education Poster Session.
— 3 April 2017. Sci-Mix Poster Session.

Wilkins, O. H., Wehres, N., Müller, H.S.P., Lewen, F., Schlemmer, S., Walters, A., Vicente, R., Liu, D., Garrod, R.T., Belloche, A., Menten, K. "Fingerprinting *n*-propyl cyanide for the Cologne Database for Molecular Spectroscopy." 252th ACS National Meeting, Philadelphia, PA. 24 August 2016. Physical Chemistry Poster Session.

Wilkins, O. H., Graninger, D.M., Öberg, K.I. "Carbon Chains in Low-Mass Young Stellar Objects." 249th ACS National

Meeting, Denver, CO. 25 March 2015. Physical Chemistry Poster Session.

Invited Seminars

- “Isotopic Fractionation in Cosmic Environments.” Dickinson College, Carlisle, PA. 16 November 2023. Chemistry Department Seminar.
- “Making Space in the Lab.” Carnegie Institution of Science, Earth & Planets Laboratory, Washington, DC. 6 October 2023. Carnegie EPL Astro Seminar.
- “SubLIME: The Sublimation of Laboratory Ices Millimeter/submillimeter Experiment at NASA Goddard.” Universität zu Köln, Cologne, Germany. 5 April 2023. Cologne Laboratory Astrophysics Group seminar.
- “ALMA in the Lab: The Sublimation of Laboratory Ices Millimeter/submillimeter Experiment (SubLIME) at NASA Goddard.” National Radio Astronomy Observatory, Charlottesville, VA. 1 March 2023. Wednesday UVA/NRAO Astronomy Lunch Talks.
- “Astrochemical Perspectives from Interstellar and Terrestrial Laboratories.” Dickinson College, Carlisle, PA. 10 November 2022. Physics Colloquium.
- “Using molecules to map physical parameters in Orion KL at high spatial resolution.” American Chemical Society Astrochemistry Subdivision Astrocheminar Series, Virtual. 8 September 2021.
- “Observing our Interstellar Chemical Origins.” Occidental College, Eagle Rock, CA. 15 June 2019. Gray-Hill Seminar Series.
- “Isotopic Studies to Constrain the Formation of Oxygen-bearing Organics.” Green Bank Observatory, Green Bank, WV. 18 October 2018. Green Bank Observatory Science Lunch.
- “Observing our Interstellar Chemical Origins.” Dickinson College, Carlisle, PA. 20 September 2018. Rush Hour Interdisciplinary Science Seminar Series.
- “Fulbright Experience: Reflections with Olivia Harper Wilkins ‘15.” Dickinson College, Carlisle, PA. 14 September 2018. Dickinson College Career Center.
- “Astrochemistry: Understanding our Interstellar Origins.” Gettysburg College, Gettysburg, PA. 13 September 2018. Sceptical Chymists Lecture Series.
- “Astrochemistry: Understanding our Interstellar Origins.” Lycoming College, Williamsport, PA. 12 September 2018. Physics Colloquium.
- “Observing our Interstellar Chemical Origins.” Mount St. Mary’s University, Emmitsburg, MD. 7 September 2018. School of Natural Science and Mathematics Undergraduate Seminar Series.
- “Astrochemistry: Understanding our Interstellar Origins.” California State University Channel Islands, Camarillo, CA. 31 August 2018. Gray-Hill Seminar Series.

Community Engagement Talks

Public talks

- “Making Space in the Lab.” Astronomy on Tap DC, DC9 Club, Washington, DC. 16 October 2023.
- “A Day in the Life of an Astrochemist.” ACS Younger Chemists Committee Webinar. 3 October 2023.
- “Just Wonderful Images from a Just Wonderful Space Telescope: Advances in Planetary Science with the James Webb Space Telescope (JWST).” Northwest Branch Library, Lake Mary, FL. 13 February 2023.
- “Just Wonderful Images from a Just Wonderful Space Telescope: Advances in Planetary Science with the James Webb Space Telescope (JWST).” Eastport-Annapolis Neck Public Library, Annapolis, MD. 3 November 2022. Star Party.
- “Daring to be Unqualified.” Royal Astronomical Society, virtual chat. 18 February 2022. RAS Women Fellows - Inspiring Science Stories event for the IAU’s “Celebrate Women and Girls in Astronomy” campaign.
- “Tuning in to our Chemical Origins with Radio Astronomy.” Cerro Coso Community College, Bishop, CA. 15 August 2019. Astronomy Fall Lecture Series.
- “Tuning into the Invisible Universe with Radio Astronomy.” Palomar Observatory, Palomar Mountain, CA. 22 December 2018. Greenway Talks Series.

"Tuning into the Invisible Universe with Radio Astronomy." York College of Pennsylvania, York, PA. 20 September 2018. York County Astronomical Society Public Lecture.

Talks for elementary/middle school students

"Labs in Space and Space Labs on Earth." Bermudian Springs Middle School, Adams County, PA. 5 May 2023. Virtual Field Trip (3 iterations).

"Dr. Olivia Wilkins: scientist at NASA." Franklin Park School, Franklin Park, NJ. 8 March 2023. Virtual Women's Career Day.

"Dr. Olivia Wilkins: scientist at NASA." Miller Grove Middle School, Decatur, GA. 14 October 2022. Virtual Visit.

"Dr. Olivia Wilkins: astrochemist at NASA." Capitol Heights Elementary School, Capitol Heights, MD. 27 May 2022. Capitol Heights Career Elementary School Day.

Talks for high school students

"Let's talk science! Astrochemistry, personal life, and art." Stuyvesant High School, New York, NY. 17 June 2020. Student Union STEM Series.

"Let's talk science! Astrochemistry, personal life, and art." John F. Kennedy High School, Chicago, IL. 2 June 2020. Guest speaker series.

"The Sky is Not the Limit." Carlisle High School, Carlisle, PA. 21 February 2015. Pennsylvania Junior Academy of Sciences Competition, opening presentation.

"Out of this World Science Careers." Delone High School, McSherrystown, PA. 17 December 2014. Science Club seminar.

"Exploring the Invisible Universe." Bermudian Springs High School, York Springs, PA. 30 September 2014. Gifted Student Program seminar.

"Life in the Quiet Zone." National Radio Astronomy Observatory, Green Bank, WV. July 2013. West Virginia Governor's School for Math and Science.

Talks for primarily undergraduate audiences

"Making Space in the Lab." Anne Arundel Community College. 1 May 2023. Super Science Club. (invited)

"Exploring the Molecular Universe through Astrochemistry." Anne Arundel Community College, virtual. 10 May 2022. Super Science Club. (invited)

"Astrochemistry: An interstellar laboratory." Pasadena Community College, Pasadena, CA. 28 May 2020. Astronomy and Physics Club. (invited)

"Astrochemistry in Star-Forming Regions." Caltech/IPAC, Pasadena, CA. 1 May 2018. Leiden University Physics Undergraduate SoCal Tour.

"Organic Chemistry in Young-Stellar Objects." Dickinson College, Carlisle, PA. 23 October 2014. Physics Colloquium.

"Life in the Quiet Zone: Living in Green Bank and the Research Experience." Dickinson College, Carlisle, PA. 21 November 2013. Joint Math/CS Chat and Physics Colloquium.

Teaching Experience

Guest Lectures

"Astrochemical Perspectives from Interstellar and Terrestrial Laboratories" for Chemistry Senior Seminar at Florida Gulf Coast University. 29 September 2023.

"Cosmic Ice Analogues: An Experimental Approach" for Ice in the Solar System in the James Webb Space Telescope Era at the University of Central Florida. 14-16 February 2023.

Caltech, Division of Chemistry and Chemical Engineering

Communicating Chemistry (Instructor: Spring 2019)

- Designed tutorial course for undergraduates about science communication

- Execute course design, including syllabus writing, assignment design, and lecture preparation
 - Assignments: Tweet your science, popular writing, sketch your science, lightning talk, SciComm Showcase

Chemistry throughout the Universe (Co-instructor: Spring 2018)

- Co-designed and -taught undergraduate tutorial course chemistry in different environments in space
- Executed course design, including syllabus writing, assignment design, and lecture preparation
 - Proposal writing assignment: science justification for astrochemistry-related research project

Astrochemistry: Spectroscopy in Space (Co-instructor: Spring 2017)

- Co-designed and -taught undergraduate tutorial course about astrochemistry methods and application
- Executed course design, including syllabus writing, assignment design, and lecture preparation
 - Progressive writing assignment: three short papers about different course themes
 - Essay about progressive writing assignment published in Wilkins and Buzard (2018, *Prompt*)

Scientific Writing (Teaching Assistant: 11 terms between Fall 2016 and Fall 2021)

- Advised students in writing scientific perspectives and journal articles in office hours and via blog posts
- Facilitated peer review and provide feedback in conjunction with instructor
- Wrote prompts for assignments and course grading policy

Caltech, Division of Geological and Planetary Sciences

Cosmochemistry (Teaching Assistant: Fall 2019)

Dickinson College, Department of Chemistry Teaching Assistant (5 semesters total)

Thermodynamics and Kinetics (Fall 2014)

Accelerated General Chemistry (Fall 2013)

General Chemistry I (Fall 2012)

General Chemistry II (Spring 2012, Spring 2015)

Dickinson College, Department of Mathematics Teaching Assistant (3 semesters total)

Single-variable Calculus (Spring 2015)

Multi-variable Calculus (Fall 2013, Fall 2014)

Dickinson College, Norman M. Eberly Writing Center Writing Associate (4 semesters total)

Nano-dreams and Nano-nightmares [First-Year Seminar] (Fall 2014)

Water for a Thirsty World [First-Year Seminar] (Fall 2013)

The Culture of Science [First-Year Seminar] (Fall 2012)

Summer Institute for International Students (Summer 2012)

Dickinson College Peer Tutoring

Norman M. Eberly Writing Center Tutor (Fall 2012 – Spring 2015)

General and Organic Chemistry Peer Tutor (Spring 2013, Fall 2013, Fall 2014)

General Chemistry Pre-Exam Recitator (Fall 2013)

Calculus Evening Consultant (Fall 2013, Fall 2014, Spring 2015)

Workshops Led

“Fair Grading and Effective Feedback.” 8th Annual Teaching Conference, Caltech, Pasadena, CA. 23 September 2020.
(pre-recorded)

“Fair Grading and Effective Feedback.” 7th Annual Teaching Conference, Caltech, Pasadena, CA. 25 September 2019.
(with C. L. Ladd, given twice)

“Starting Small with Active Learning.” 6th Annual Teaching Conference, Caltech, Pasadena, CA. 26 September 2018.

(with C. V. Horii)

“Drafting a Teaching Portfolio.” 6th Annual Teaching Conference, Caltech, Pasadena, CA. 26 September 2018.

“Teaching Outside the Classroom: Considerations for Effective Mentoring.” 5th Annual Teaching Conference, Caltech, Pasadena, CA. 20 September 2017.

“Building a Teaching Portfolio: The What, Why, and How.” 5th Annual Teaching Conference, Caltech, Pasadena, CA. 20 September 2017.

“Maths in Space.” Move on Up, University of East Anglia, Norwich, U.K. 23-24 April 2014.

Discussion Panels

- 2022 Competitive & Prestigious Fellowships: Success Stories & Insider Tips from Dickinsonians
Dickinson College Advising, Internships & Career Center
- 2021 Geological and Planetary Sciences Student Panel
FUTURE Ignited Conference at Caltech
- 2021 Support Structures in Graduate School
FUTURE of Physics Conference at Caltech
- 2021 Career Panel
Goldwater Scholar Community Symposium 2021
- 2020 Graduate Life at Caltech
Caltech Graduate Student Orientation
- 2020 Support Structures in Graduate School
FUTURE of Physics Conference at Caltech
- 2020 ARCS Scholar Panel
ARCS Scholar Recognition Luncheon
- 2019 Support Structures in Graduate School
FUTURE of Physics Conference at Caltech
- 2019 RELATE Parenting Dynamics
Caltech Center for Diversity
- 2019 Graduate Life at Caltech
Caltech Graduate Student Orientation
- 2018 Reading, Writing, Research: Are You Ready for Your First Year in Grad School?
Caltech Hixon Writing Center
- 2017 Graduate Life at Caltech
Caltech Graduate Student Orientation
- 2017 Fulbright Research Fellowships
Caltech Fellowships Advising and Study Abroad Office
- 2016 Applying to the NSF GRFP
Caltech Fellowships Advising and Study Abroad Office

Service and Leadership

Journal Referee

Advances in Space Research (1)

Astronomy & Astrophysics Letters (1)

Astrophysical Journal (1)

Review Panelist

NASA ROSES Inclusion Plans (1)

NSF Astronomy and Astrophysics Research Grants (AAG) (1)

NASA Goddard Space Flight Center

2022– Coordinator, NASA CONNECTORS (CONNECTing high school students TO ResearchS)

2022– Officer, NASA Goddard Association of Postdoctoral Scholars (NGAPS+) — DEI committee

2023– Floor Warden, B34

2023– Approved Inclusion Panelist, NASA Astrophysics database of IDEA practitioners

American Astronomical Society (AAS)

2022 Volunteer, 54th Annual Meeting of the Division for Planetary Sciences (DPS)

2022 Session Chair, “Unmeltable Me, verse 1: from the Sky to the Lab” session, 54th DPS Meeting

2022 Volunteer, 240th Meeting of the AAS

2022 Chambliss Student Achievement Award Reviewer, 240th Meeting of the AAS

2022 Session Chair, “A Universe of Carbon II” session, 240th Meeting of the AAS

American Chemical Society (ACS)

2023– Chair, Maryland Younger Chemists Committee (MD-YCC)

2023– Associate, Younger Chemists Committee (YCC), Communications Subcommittee
- Meet the YCC champion

2023 Member-at-Large, Maryland Section of the ACS

2022–2023 Astrochemistry ACS Subdivision Symposium Co-Organizer, Fall 2023 National ACS Meeting

2017–2018 ACS Division of Chemical Education (CHED) Public Relations Task-force Member

2016 Southeastern PA Section of the ACS (SEPSACS) Webmaster

Caltech | select

2021–2022 Commencement Speaker Advisory Committee

2017–2021 Chemistry Graduate Studies Committee student representative

2019–2021 Caltech Diversity and Inclusion Ambassador (CDIA) program (inaugural cohort)

2018–2021 Chemistry Tutorial Program Facilitator

2016–2019 Graduate Honor Council

2019–2021 Graduate Student-Parent Advocacy Committee (founding member)

2017–2019 Teaching Conference Planning Committee

2017–2018 Chemistry Club Outreach

Dickinson College | select

2015– Admissions Volunteer Network (formerly Dickinson Admissions Volunteer Society)

2014–2015 Mathematics Majors' Committee

2014–2015 Mathematics Department Liaison to Student Senate Treasury

2013 Student Representative to Chemistry Department Meetings

2011–2013 Event Advisory Board event planning committee member (Chair, 2013)

2011–2012 Quads [Residential] Community Association

Additional | since 2018

- 2018– Letters to a Pre-Scientist pen pal to a middle schooler
- 2022 Talaria Summer Institute mentor, ATHENA by Women in STEM (WiSTEM)
- 2017–2022 Project Scientist STEM Superstar (summer academy guest speaker)
- 2022 Lewis E. Snyder Astrochemical Graduate Research Prize Committee, ISMS 75
- 2022 Goldwater Scholar Community Symposium Committee
- 2021– Mentor, Goldwater Scholar Community
- 2020 Camp Talaria remote mentor, ATHENA by Women in STEM (WiSTEM)
- 2020 Interviews with a Scientist, Polytechnic School AP Chemistry
- 2018–2020 Skype a Scientist speaker
- 2019 Science Fair Judge, Sierra Madre Middle School
- 2018 Astrochemistry: Past, Present, & Future conference local organizing committee
- 2018 Project Scientist Expedition Host

Mentees

Graduate Scholars

Joshua Bardwell, NASA Intern in the SubLIME lab at NASA GSFC (Summer 2022, Spring 2023); currently a master's student at San Diego State University

Hannah Shay, visiting Ph.D. student in the SubLIME lab (Winter 2023); currently a Ph.D. student at MIT

Undergraduate Students

Luke Mitchell, Birmingham-Southern College Panther Partnerships program; currently an undergraduate student at Birmingham-Southern College

Sara Camila Cuevas Quiñones, Summer Undergraduate Program for Planetary Research (SUPPR) intern in the SubLIME lab at NASA GSFC (Summer 2022); currently an undergraduate student at Purdue; went on to the Stanford Sustainability Undergraduate Research in Geoscience and Engineering (SURGE) Program

Izzy Muise, Caltech Summer Undergraduate Research Fellowship (SURF) program (Summer 2017); currently a Ph.D. student at UC Davis

Michelle Garcia, Goldwater Scholar Community Mentorship Program; currently a Ph.D. student at Dartmouth

High school students

Atinuke (Anne) Arigbabu, high school student participant in the NASA CONNECTORS program (October 2022-December 2023); currently a high school student in Maryland

Yamilet Mirach, Puerto Rican high school student conducting research project about Arecibo Observatory through the Talaria Summer Institute (Summer 2022); currently a high school student in Puerto Rico

Science Art

Illustrated figures or graphical abstracts for own peer-reviewed publications, including Wilkins & Blake (2022), Wilkins & Blake (2023), and Deng et al. (2023).

Commissioned to illustrate the dark core L1544 for a **grant proposal figure** (2022)

Designed and illustrated **cover art** for the *Journal of Physical Chemistry A*, Volume 126, Issue 37, based on Wilkins & Blake (2022)

Commissioned to illustrate Orion Nebula at different wavelengths for **engagement activity** in the Netherlands (2022)

Two paintings (*Hale-Bopp: Carrying Clues of Terrestrial Water's Origins* and *Dihydrogen Monoxide*) in Arts Council of Anne Arundel County What's Up? Media Exhibit 14: "Wonders of Water" (December 2021 – April 2022)

Painted space-themed mural at Simpson Memorial Library in Mechanicsburg, PA (May 2021 – May 2022)

Illustrated artwork for *Caltech Letters* (JOIDES Resolution; *Mental Health, Graduate School, and Why We Need to Talk about It*)

Skills

Computer skills: Microsoft Office (Access, Excel, Outlook, PowerPoint, Publisher, Word); \LaTeX ; Python, CASA (Common Astronomy Software Applications package); HTML; ChemDraw; Windows and Linux operating systems

Laboratory analyses and techniques: technical writing; ultrahigh vacuum (UHV) systems; spectroscopy ((sub)millimeter, infrared (IR)); handling cryogenics (liquid nitrogen); power supply management (selecting and assembling interrupted power supply (UPS) and extended battery module (EBM) systems); T-slot structural framing; gas chromatography-mass spectrometry (GC-MS); thin layer chromatography (TLC); high-pressure liquid chromatography (HPLC); distillation; extraction; titration

Scientific illustration: create illustrated summaries of scientific journal articles, seminar talks, and conference proceedings (disciplines illustrated include astrochemistry, astronomy, geology, and chemical ecology)

Summer Schools and Trainings Completed: NRAO Synthesis Imaging Workshop (Socorro NM, 2018); International Summer School in Astrobiology: From Astrochemistry to the Origin of Life (Santander, Spain, 2019); Managing Virtual Teams (Management Concepts online course, 2023); Sharing the Science (Alan Alda Center for Communicating Science virtual training, 2023); First Aid & CPR (2023)

Languages: English (native); German (intermediate); Spanish (basic)

In the Media | (last 5 years)

- C&EN talks with Olivia Wilkins, a postdoc at NASA, *Chemical & Engineering News* (17 July 2023): interview
- Dr. Olivia Wilkins, *Early Career Scientist Spotlight* (March 2023): featured Q&A on NASA Goddard Sciences and Exploration Directorate website
- Announcing the CAS Future Leaders, *Chemical & Engineering News* (15 August 2022): CAS Future Leaders profiles
- Graduate Story: Olivia Harper Wilkins '15, Astrochemist, *Dickinson Media* (21 June 2022): Alumni in Action feature
- CAS names its 2022 Future Leaders, *Chemical & Engineering News* (14 March 2022): announcement of CAS 2022 Future Leaders Program
- #SoCaltech: Olivia Harper Wilkins, SoCaltech by *Caltech Magazine* (December 2021): interviewed about writing and illustrating *Astrochemistry* book
- Ammonia May Lurk in the Ice of Saturn's Moons, a Clue to Possible Oceans, *Gizmodo* (22 January 2021): quote about the implications of the possible detection of hydrazine on Saturn's moon Rhea
- #CaltechTogether: Olivia Wilkins, SoCaltech by *Caltech Magazine* (Fall 2020): interviewed about mental health in grad school
- Astrochemistry and SciArt with Olivia Wilkins, *Chemistry Cayk Online* (10 January 2020): podcast guest
- Women in 'STEM-&Space' Answer 4 Questions to Inspire You to Believe You Can Do Anything You Dream Of, *The She-Ecosystem* (August 2019): profile featured among women in space science
- Wikipedia: Impactful science communication in higher education, *WikiEdu* (3 June 2019): quoted about experience with Wikipedia course assignment
- Is there a future for the GRE?, *Chemical & Engineering News* (29 January 2019): quote about the GRE, GRE spreadsheet project featured
- Dickinson College Alumna Examines Chemistry of Space as NSF Research Fellow, *Dickinson Media* (October 2018): story about Rush Hour seminar given in September 2018
- Let's talk about Academia and Parenthood!, *The female Scientist* (19 April 2018): quoted about experiences being a mom and grad student
- Book Review of *Pencil Me In*, *SciCom NL* (28 May 2018): extensively quoted about preparing illustrated summaries of scientific articles and research talks