

Aomawa L. Shields - Curriculum Vitae

- CONTACT** University of California, Irvine shields@uci.edu
Department of Physics and Astronomy http://faculty.sites.uci.edu/shields
4129 Frederick Reines Hall
Irvine, CA 92697-4575 USA
- INTERESTS** Climate and habitability of extrasolar planets orbiting low-mass stars. Multi-dimensional climate models. Interdisciplinary science education and communication.
- EDUCATION**
- University of Washington (UW)**, Seattle, WA
Ph.D., Astronomy and Astrobiology, 2014
“The Effect of Star-Planet Interactions on Planetary Climate”
Advisors: Victoria Meadows, Cecilia Bitz
M.Sc., Astronomy, 2011
- University of California, Los Angeles (UCLA)**, Los Angeles, CA
MFA, Acting, 2001
- Massachusetts Institute of Technology**, Cambridge, MA
Sc.B., Earth, Atmospheric, and Planetary Sciences, 1997
- Phillips Exeter Academy**, Exeter, NH
Graduated with High Honors, 1993
- APPOINTMENTS**
- UC Irvine, Department of Physics and Astronomy**, Irvine, CA
Clare Boothe Luce Associate Professor (2020-Present)
- UC Irvine, Department of Physics and Astronomy**, Irvine, CA
Clare Boothe Luce Assistant Professor (2016-2020)
- UCLA**, Los Angeles, CA
Harvard-Smithsonian Center for Astrophysics, Cambridge, MA
NSF Postdoctoral Fellow (2014-2017)
UC President’s Postdoctoral Fellow (2014-2016)
- University of Washington**, Seattle, WA
NSF Graduate Research Fellow (2011-2014)
Academic Mentor, Pre-Major in Astronomy Program (2013-2014)
NSF IGERT Trainee (2009-2011)
Research & Teaching Assistant, Department of Astronomy (2009-2014)
- California Institute of Technology**, Pasadena, CA
Scientific Analysis Associate, Spitzer Space Telescope Observatory Planning and Scheduling Team (2008-2009)
Scientific Analysis Assistant, Spitzer Science User Support Team (2005-2008)
- Skirball Cultural Center**, Los Angeles, CA
External Affairs Assistant, Outreach and Communications (2003-2005)

APPOINTMENTS
(CONT'D)

Griffith Observatory, Los Angeles, CA
Museum Guide (2001–2003)

University of Wisconsin, Madison, Madison, WI
Research Assistant (1997–1998)

Arecibo Observatory, Arecibo, Puerto Rico
Summer Research Assistant (1996)

Lowell Observatory, Flagstaff, AZ
Research Assistant (1994–1996)

MIT Center for Space Research (now Kavli Institute), Cambridge, MA
Research Assistant (1994–1995)

Jet Propulsion Laboratory, Pasadena, CA
Summer Research Assistant (1994)

FUNDING

NSF CAREER award, \$687,418, PI Shields, 2018-2023
NASA Habitable Worlds program grant, \$145,450, PI Shields, 2017-2020
Clare Boothe Luce Endowed Professorship, \$250,000, 2016-2021
Over \$420k in competitive fellowships from NSF, NASA,
and the University of California, among others.
2.5 million CPU hours of computing time from the National
Center for Atmospheric Research (NCAR).

SELECTED
FELLOWSHIPS,
AWARDS, AND
HONORS

Kavli Institute for Theoretical Physics Invited Key Participant
“Better Stars, Better Planets: Exploiting the Stellar-Exoplanetary Synergy”, 2019
NSF CAREER Award (2018-2023)
NASA Habitable Worlds Program Grant (2017-2020)
Clare Boothe Luce Professorship (2016-2021)
The Origins Project Postdoctoral Award Lectureship (2016)
Kavli Fellow (2015)
TED Fellow (2015)
Rodger Doxsey Travel Prize, American Astronomical Society 225th Meeting (2015)
NSF Astronomy and Astrophysics Postdoctoral Fellowship (2014-2017)
UC President’s Postdoctoral Program Fellowship (2014-2016)
First Place, Astrobiology Science Conference Student Poster Competition (2012)
“Audience Choice”, US FameLab Astrobiology communication competition (2012)
NSF Graduate Research Fellowship (2011-2014)
Member, Minorities Striving and Pursuing Higher Degrees of Success in Earth System
Science Professional Development Program (MS PHD’S PDP) (2011-2013)
NASA Group Achievement Award, Spitzer Science Operations Planning Team (2010)
NSF Integrative Graduate Education and Research Traineeship (2009-2011)
NASA Public Service Group Achievement Award, Spitzer Observatory Planning/Scheduling
Team (2009)

REFEREED
PUBLICATIONS

14. Rushby, A., **Shields, A. L.**, Wolf, E. T., Lague, M, Burgasser, A. *The Effect of Land Albedo on the Climate of Land-dominated Planets in the TRAPPIST-1 System*, ApJ, 904, 2.
<https://ui.adsabs.harvard.edu/abs/2020ApJ...904..124R/abstract>

REFEREED
PUBLICATIONS
(CONT'D)

13. Palubski, I., **Shields, A. L.**, and Deitrick, R. (2020) *Habitability and Water Loss Limits on Eccentric Planets Orbiting Main-sequence Stars*, ApJ, 890, 30. <https://ui.adsabs.harvard.edu/abs/2020ApJ...890...30P/abstract>
12. Rushby, A., **Shields, A. L.**, and Joshi, M. (2019) *The Effect of Land Fraction and Host Star Spectral Energy Distribution on the Planetary Albedo of Terrestrial Worlds*, ApJ, 887, 29. <https://doi.org/10.3847/1538-4357/ab4da6>
11. **Shields, A. L.**, Bitz, C.M., and Palubski, I. (2019) *Energy Budgets for Terrestrial Extrasolar Planets*, ApJL, 884, 2. <https://doi.org/10.3847/2041-8213/ab44ce>
10. **Shields, A. L.**, Carns, R.C. (2018) *Hydrohalite Salt-albedo Feedback Could Cool M-dwarf Planets*, ApJ, 867, 1. <https://doi.org/10.3847/1538-4357/aadcaa>
9. Wolf, E.T., **Shields, A. L.**, Kopparapu, R. K., Haqq-Misra, J., Toon, O. B. (2017) *Constraints on Climate and Habitability for Earth-like Exoplanets Determined from a General Circulation Model*, Astrophysical Journal, 837, 2. <https://doi.org/10.3847/1538-4357/aa5ffc>
8. **Shields, A. L.**, Barnes, R., Agol, E., Charnay, B., Bitz, C. M., Meadows, V. S. (2016) *The Effect of Orbital Configuration on the Possible Climates and Habitability of Kepler-62f*, Astrobiology, 16, 6. <https://doi.org/10.1089/ast.2015.1353>
7. **Shields, A. L.**, Bitz, C. M., Meadows, V. S., Joshi, M. M., Robinson, T. D. (2014) *Spectrum-driven Planetary Deglaciation Due to Increases in Stellar Luminosity*, Astrophysical Journal Letters, 785, 9. <https://doi.org/10.1088/2041-8205/785/1/L9>
6. **Shields, A. L.**, Meadows, V. S., Bitz, C. M., Pierrehumbert, R. T., Joshi, M. M., Robinson, T. D. (2013) *The Effect of Host Star Spectral Energy Distribution and Ice-Albedo Feedback on the Climate of Extrasolar Planets*, Astrobiology, 13, 8. <https://doi.org/10.1089/ast.2012.0961>
5. Cowan, N. B., Robinson, T., Livengood, T. A., Deming, D., Agol, E., A'Hearn, M. F., Charbonneau, D., Lisse, C. M., Meadows, V. S., Seager, S., **Shields, A. L.**, Wellnitz, D. D. (2011) *Rotational Variability of Earth's Polar Regions: Implications for Detecting Snowball Planets*, Astrophysical Journal, 731, 76. <https://doi.org/10.1088/0004-637X/731/1/76>
4. Hunter, D. A., Elmegreen, B. G., **Baker, A. L.** (1998) *The Relationship between Gas, Stars, and Star Formation in Irregular Galaxies: A Test of Simple Models*, Astrophysical Journal, 493, 595. <https://doi.org/10.1086/305158>

PUBLISHED
INVITED REVIEWS

3. **Shields, A. L.** (2019) *The Climates of Other Worlds: A Review of the Emerging Field of Exoplanet Climatology*, ApJS, 243, 2. <https://doi.org/10.3847/1538-4365/ab2fe7>
2. **Shields, A. L.**, Ballard, S., Johnson, J. (2016) *The Habitability of Planets Orbiting M-dwarf Stars*, Invited Review, Physics Reports, 663:1-38. <https://doi.org/10.1016/j.physrep.2016.10.003>

OTHER
PUBLICATIONS

1. Palubski, I. and **Shields, A. L.** (2019) Red-dwarf Habitability Recipe, August issue of Sky and Telescope, Vol. 138, Issue 2, pg. 34-40.

TEACHING & MENTORING	<p>Physics 2: “Introductory Math Methods for Physicists”, Winter 2020, UC Irvine Physics 246: “Planetary Climate and Habitability”, Winter 2019, UC Irvine Physics 20E: “Life in the Universe”, Fall 2017, Fall 2018, Fall 2019, UC Irvine</p>
TEACHING & MENTORING (CONT'D)	<p>Benjamin Banneker Institute, Harvard-Smithsonian Center for Astrophysics, (2015–16) ESS 495 NASA Space Grant Seminar: “Rocks-n-Stars”, UW (2014) Teaching Assistant, ASTR 101, 102, and 150 (“The Planets”), UW (2010–2011) Science communication workshop, Caltech, UW (2007)</p>
SERVICE & MEMBERSHIPS	<p>Reviewer, Astrophysical Journal Letters Member, Division for Planetary Sciences, American Astronomical Society, American Geophysical Union</p>
INVITED TALKS	<p>Virtual Colloquium, University of Washington, November 12, 2020 Virtual Talk and Discussion, University of Chicago, University of Chicago Exoplanet Group, September 28, 2020 Virtual Colloquium, Georgia Tech, September 21, 2020 Virtual Talk, THAI Workshop 2020, September 15, 2020 Virtual Talk, Kavli Institute for Theoretical Physics (KITP) Exostars Redux Conference: “The Star-Planet Climate Connection: Energy Budgets for Terrestrial Extrasolar Planets”, August 26, 2020 Keynote address, Conference for Undergraduate Women in Physics (CUWiP), UC Irvine, Jan 19, 2020 Colloquium, UC Irvine, Irvine, CA, November 14, 2019 Presentation, Sagan Exoplanet Summer Workshop, “Astrobiology for Astronomers”, Caltech, July 18, 2019 Presentation, Kavli Institute for Theoretical Physics (KITP) Conference: “Planet-Star Connections in the Ear of TESS and Gaia”, Santa Barbara, CA May 24, 2019 Chalk Talk, Friends of the KITP, Kavli Institute for Theoretical Physics, Santa Barbara, CA, May 15, 2019 Plenary talk, American Astronomical Society, 233rd AAS Meeting, Seattle, WA January 2019 Lecture, UC Irvine, School of Physical Sciences, Breakfast Lecture Series, May 8, 2018 Presentation, California Institute of Technology, ExSoCal2017, Pasadena, CA September 18-19, 2017 Innovator lecture, Millersville University, Lancaster, PA. May 3, 2017 Presentation, Breakthrough Discuss Conference, Stanford University, Palo Alto, CA, April 20–21, 2017 Colloquium, UCLA, April 12, 2017 Colloquium, Cal Poly Pomona, Pomona, CA, November 10, 2016 Keynote address, Benjamin Banneker Institute, Harvard-Smithsonian Center for Astrophysics, Cambridge, MA, Aug. 11, 2016 Colloquium, Carnegie Observatories, Pasadena, CA, May 24, 2016 Seminar, Center for Astrophysics and Space Sciences, UC San Diego, May 18, 2016 Public Lecture and Colloquia, Arizona State University, April 4–8, 2016 ITC Colloquium, Harvard-Smithsonian Center for Astrophysics, February 25, 2016 Seminar, Center for Astronomy and Astrophysics, Yale University, February 23, 2016 Seminar, Institute of Geophysics and Planetary Physics, UC Santa Cruz, November 20, 2015 Presentation, Kavli Frontiers of Science Symposium, Beckman Center</p>

of the National Academies, Irvine, CA, November 5, 2015
Colloquium, **University of Rochester**, October 14, 2015
AST Colloquium, **Rochester Institute of Technology**, October 12, 2015
Astrophysics Colloquium, **UC Irvine**, September 8, 2015
Diversity Speaker Series Seminar, **NRAO** (Socorro), July 6, 2015
Colloquium, **NRAO** (Socorro), July 7, 2015
Planetary Sciences Seminar, **Caltech**, May 19, 2015
Keynote presentation, **President's Postdoctoral Fellowship Program**

INVITED TALKS
(CONT'D)

Spring Retreat, April 25, 2015
TED talk, **TED Conference**, March 16, 2015
Astrophysics Colloquium, **UC Irvine**, February 24, 2015
Seminar, Institute for Planets and Exoplanets, **UCLA**, February 20, 2015
Bromery Lecture, **Johns Hopkins University**, November 6, 2014
Colloquium, **University of East Anglia (United Kingdom)**, February 7, 2014
Engage: The Science Speaker Seminar, **University of Washington**, (2013–2014)
Solar, Stellar, and Planetary Sciences seminar, **Harvard-Smithsonian Center for Astrophysics**, November 20, 2013
Planetary Science seminar, **Jet Propulsion Laboratory**, November 11, 2013
American Association of Physics Teachers Summer Meeting,
Portland, OR, July 15, 2013
Hydrohalite Salt-albedo Feedback Could Cool M-dwarf Planets
American Astronomical Society, AAS Meeting, January 7, 2019

Reaching Middle School Girls From Groups Underrepresented in the Sciences With an Innovative Approach to Astronomy and Astrobiology Teaching
Astrobiology Science Conference, Chicago, IL, June 16, 2015

The Effect of Orbital Configuration on the Possible Climates and Habitability of Kepler-62f
Astrobiology Science Conference, Chicago, IL, June 15, 2015

The Effect of Star-Planet Interactions on Planetary Climate
American Astronomical Society Meeting #225, #306.02D, Seattle, WA, January, 2015

Climate Hysteresis for Planets Orbiting Stars of Different Spectral Type
Division for Planetary Sciences Meeting #45, #103.04, Denver, CO, October 2013

The Effect of Host Star Spectral Energy Distribution and Ice-Albedo Feedback on the Climate of Extrasolar Planets
American Astronomical Society Meeting #221, #333.07, Long Beach, CA, January 2013

CONTRIBUTED
POSTER
PRESENTATIONS

Venkatesan, V. and **Shields, A. L.** *The Radiative Effects of Carbon dioxide Ice on the Climate Stability of Extrasolar Planets*, American Astronomical Society, AAS Meeting, #235, id.375.01, January 2020

Palubski, I., **Shields, A. L.**, and Deitrick, R. *Eccentricity Thresholds for Planetary Deglaciation at Varying Obliquity*, KITP Conference: “Planet-Star Connections in the Era of TESS and Gaia”, May 2019.

Rushby, A., **Shields, A. L.**, and Joshi, M. *The Effect of Land Coverage and Host Star Spectral Energy Distribution on the Planetary Albedo of Terrestrial Worlds*, KITP

Conference: “Planet-Star Connections in the Era of TESS and Gaia”, May 2019.

Palubski, I. and **Shields, A. L.** *Eccentricity Thresholds for Planetary Deglaciation at Varying Obliquity*, American Astronomical Society, AAS Meeting #233, id.247.24, January 2019

Shields, A. L., Barnes, R., Agol, E., Charnay, B., Bitz, C. M., Meadows, V. S. *The Effect of Orbital Configuration on the Possible Climates and Habitability of Kepler-62f*, Exoclines, Squamish, BC, August 2016

CONTRIBUTED
POSTER
PRESENTATIONS
(CONT'D)

Shields, A. L., Bitz, C. M., Meadows, V. S., Joshi, M. M., Robinson, T. D. *Spectrum-driven Planetary Deglaciation Due to Increases in Stellar Luminosity*, Exoclines III, Davos, Switzerland, February 2014

Shields, A. L., Meadows, V., Bitz, C., Pierrehumbert, R., Joshi, M., Robinson, T. *The Effect of Host Star Spectral Energy Distribution and Ice-Albedo Feedback on the Climate of Extrasolar Planets*, American Astronomical Society Meeting #221, #103.04, January 2013

Shields, A. L., Meadows, V. S., Bitz, C. M., Pierrehumbert, R. T., Joshi, M. M., Robinson, T. D. *The Effect of Host Star Spectral Energy Distribution on Ice Line Latitude in Terrestrial Exoplanetary Systems*, Astrobiology Science Conference, Atlanta, GA, April 2012

Shields, A. L., Abbey, W., Vance, S. *The Effect of Temperature on Fatty Acid Vesicle Formation in Simulated Deep-ocean Conditions*, American Geophysical Union, #P21B-1662, San Francisco, CA, December 2011

Shields, A. L., Meadows, V. S., Robinson, T., Crisp, D., Deming, D., A’Hearn, M. F., Charbonneau, D., Livengood, T. A., Seager, S., Barry, R. K., Hearty, T., Hewagama, T., Lisse, C. M., McFadden, L., Wellnitz, D. D., EPOXI Earthling Team. *Earth as an Extrasolar Planet: Comparing Polar and Equatorial Views of Modern Day and Snowball Earth* American Astronomical Society Meeting #217, #349.04, January 2011

Scire, E., Chan, B. H. P., Silbermann, N., **Shields, A. L.** *The Spitzer Bibliography Database: bibliographic statistics*, Proceedings of the SPIE, 7737, July 2010

Shields, A. L., Meadows, V. S., Robinson, T. D., Deming, L. D., A’Hearn, M. F., Charbonneau, D., Hewagama, T., Lisse, C., Livengood, T., McFadden, L., Seager, S., Wellnitz, D. D., EPOXI Earthling Team. *Earth as an Extrasolar Planet: Comparing Polar and Equatorial Views* Astrobiology Science Conference, LPI Contribution No. 1538, April 2010

Shields, A. L., Nolan, M. C. *Impact Simulations into Ice on Europa* American Astronomical Society Meeting #189, #19.01, January 1996

EDUCATION &
PUBLIC
OUTREACH

Founder & Director, Rising Stargirls, 2014–Present (www.risingstargirls.org)

PBS NOVA Video on my non-traditional career path, September 8, 2018

PBS NOVA episode *Treasures of the Earth: Metals*, November 9, 2016

Volunteer, UC Irvine Solar Eclipse Viewing Party, August 21, 2017

Informal talk, “STEM Sisters” program, School District of Lancaster, Lancaster, PA, May 3, 2017.
“How we’ll find life on other planets”, TED (2015), over 1.7 million views on TED.com
“Should we be looking for life elsewhere in the universe?”, TED-Ed (2016)
“The Universe and Me” workshop for middle-school girls at YWCA Pasadena-Foothill Valley, Pasadena, CA, Sept. 20-Oct 27, 2016
Astronomy/Astrobiology week-long workshop in Science Club for Girls program
“Young Leaders in STEM”, Cambridge, MA, July 21-24 2015

EDUCATION &
PUBLIC
OUTREACH
(CONT’D)

“The Climates of Other Worlds: Search for the Next Habitable Planet”, UCI Physical Sciences Breakfast Lecture, May 8, 2018
“Universe: More Than Meets the Eye” workshop for middle-school girls at Irving STEAM Magnet Middle School, Eagle Rock, CA, Feb. 25-Mar 9, 2015
E/PO event for middle-/high-school students, Winter Meeting, American Astronomical Society, Seattle, WA (2015)
UCLA Astronomy Live! *Exploring Your Universe* (2014)
Panorama Retirement Center, Lacey, WA, June 6, 2014
Pacific Science Center/KCTS 9 Science Café, “Searching for Life Around Red Dwarf Stars” (2014)
Women Fly!, Museum of Flight (2014)
Boston Children’s Museum traveling exhibit “My Sky” (2014)
Astronomy Panel, *GeekGirlCon*, Seattle, WA (2014)
Astronomy and Astrobiology daylong workshop for girls in YWCA program “Girls Without Limits” in Olympia, WA (2013)
Lakewood High School, “Ice and Climate on Extrasolar Planets”, Seattle, WA (2013)
Burlington-Edison High school job shadow program (2013)
Registered role model, Fab Fems (www.fabfems.org) (2013-Present)
Making Connections Program, University of Washington, April 6, 2013
American Astronomical Society Astronomy Ambassadors Program (2012-Present)
Planetarium Lecturer, UW (2011-2014)

SELECTED PRESS
COVERAGE

“The Limit Does Not Exist” Podcast episode 111: “Star Power,” October 30, 2020
Adler Planetarium Online Exhibit “Life on Other Worlds,” October 16, 2020
Tonya Bolden’s book “Changing the Equation: 50+ US Black Women in STEM,” March 16, 2020
“How the coolest, smallest stars could help us discover new exoplanets”
New Scientist, August 7, 2019
“Oceans, Beaches, Cosmic Shorelines: Our changing views of habitable planets”
NASA Exoplanet Exploration Program feature, June 18, 2019
“The Apollo 11 Moon Landing Anniversary is a Reminder of the Importance of Women in STEM”, Teen Vogue Magazine, June 5, 2019
“Modeling the Climates of Worlds Beyond Earth”, Earth and Space Science News, January 14, 2019
PBS NOVA Video on my non-traditional career path, September 8, 2018
“Three UCI School of Physical Sciences Faculty Earn Prestigious NSF Early Career

Awards” UCI School of Physical Sciences Communications, June 18, 2018

“UCI Astronomer Wins NASA Habitable Worlds Grant to Study Surface Reflectivity of Exoplanets?”, UCI News, October 23, 2017

“What Do You Have to Do to Get a Water Covered Planet Around Here?”
Astrobites, June 1, 2017

“Astrobiology’s Rising Star”
UC News, February 7, 2017

Guest Scientist, PBS NOVA episode *Treasures of the Earth: Metals*, November 9, 2016

“Faculty Highlight: Aomawa Shields”
Astronomy in Color, September 29, 2016

SELECTED PRESS
COVERAGE
(CONT’D)

“A Planet 1,200 Light-Years Away is a Good Prospect for a Habitable World”
UCLA Newsroom, May 26, 2016

“Why I Changed My Life: Acting, Astronomy, and a One-of-a-Kind Career”
Glamour, May 10, 2016

“The Origins Project Announces Recipient of \$10,000 Postdoctoral Lectureship Award”
The Origins Project, February 24, 2016

“Aomawa Shields: Life in Unlikely Places”
Ozy.com, February 11, 2016

“Astronomer, actor, role model: TED Fellow Aomawa Shields looks for life on other planets”, TED Blog, July 10, 2015

“NSF Fellow Pairs Art, Astronomy to Hook Girls on Science”
Education Week, March 18, 2015

“Rising Stargirls: Girls of All Colors Learning, Discovering, and Exploring”
Women in Astronomy blog/The Planetary Society blog, February 4, 2015

“The Best Bet for Alien Life May Be in Planetary Systems Very Different From Ours”
Wired Magazine, January 16, 2015

“Meet the 2015 class of TED Fellows and Senior Fellows”
TED.com, December 17, 2014

“A Warmer Planetary Haven Around Cool Stars, as Ice Warms Rather Than Cools”
University of Washington News Release, July 18, 2013

Guest Scientist, *Sci-Trek: Volcanoes*, The Discovery Channel (2009)

Guest Scientist, *Universe*, The History Channel (2007)

TV Host and Field Reporter, *Wired Science*, PBS (2007)

Aomawa L. Shields: Publications

REFEREED
PUBLICATIONS

14. Rushby, A., **Shields, A. L.**, Wolf, E. T., Lague, M, Burgasser, A. *The Effect of Land Albedo on the Climate of Land-dominated Planets in the TRAPPIST-1 System*, ApJ, 904, 2.

<https://ui.adsabs.harvard.edu/abs/2020ApJ...904..124R/abstract>

13. Palubski, I., **Shields, A. L.**, and Deitrick, R. (2020) *Habitability and Water Loss Limits on Eccentric Planets Orbiting Main-sequence Stars*, ApJ, 890, 30.

<https://ui.adsabs.harvard.edu/abs/2020ApJ...890...30P/abstract>

12. Rushby, A., **Shields, A. L.**, and Joshi, M. (2019) *The Effect of Land Fraction and Host Star Spectral Energy Distribution on the Planetary Albedo of Terrestrial Worlds*, ApJ, 887, 29. <https://doi.org/10.3847/1538-4357/ab4da6>

11. **Shields, A. L.**, Bitz, C.M. and Palubski, I. (2019) *Energy Budgets for Terrestrial Extrasolar Planets*, ApJL, 884, 2. <https://doi.org/10.3847/2041-8213/ab44ce>

10. **Shields, A.L.**, Carns, R.C. (2018) *Hydrohalite Salt-albedo Feedback Could Cool M-dwarf Planets*, ApJ, 867, 1. <https://doi.org/10.3847/1538-4357/aadcaa>

9. Wolf, E.T., **Shields, A. L.**, Kopparapu, R. K., Haqq-Misra, J., Toon, O. B.(2017) *Constraints on Climate and Habitability for Earth-like Exoplanets Determined from a General Circulation Model*, Astrophysical Journal, 837, 2.

<https://doi.org/10.3847/1538-4357/aa5ffc>

8. **Shields, A. L.**, Barnes, R., Agol, E., Charnay, B., Bitz, C. M., Meadows, V. S. (2016) *The Effect of Orbital Configuration on the Possible Climates and Habitability of Kepler-62f*, Astrobiology, 16, 6. <https://doi.org/10.1089/ast.2015.1353>

7. **Shields, A. L.**, Bitz, C. M., Meadows, V. S., Joshi, M. M., Robinson, T. D. (2014) *Spectrum-driven Planetary Deglaciation Due to Increases in Stellar Luminosity*, Astrophysical Journal Letters, 785, 9. <https://doi.org/10.1088/2041-8205/785/1/L9>

6. **Shields, A. L.**, Meadows, V. S., Bitz, C. M., Pierrehumbert, R. T., Joshi, M. M., Robinson, T. D. (2013) *The Effect of Host Star Spectral Energy Distribution and Ice-Albedo Feedback on the Climate of Extrasolar Planets*, Astrobiology, 13, 8.

<https://doi.org/10.1089/ast.2012.0961>

5. Cowan, N. B., Robinson, T., Livengood, T. A., Deming, D., Agol, E., A'Hearn, M. F., Charbonneau, D., Lisse, C. M., Meadows, V. S., Seager, S., **Shields, A. L.**, Wellnitz, D. D. (2011) *Rotational Variability of Earth's Polar Regions: Implications for Detecting Snowball Planets*, Astrophysical Journal, 731, 76.

<https://doi.org/10.1088/0004-637X/731/1/76>

4. Hunter, D. A., Elmegreen, B. G., **Baker, A. L.** (1998) *The Relationship between Gas, Stars, and Star Formation in Irregular Galaxies: A Test of Simple Models*, Astrophysical Journal, 493, 595. <https://doi.org/10.1086/305158>

PUBLISHED
INVITED REVIEWS

3. **Shields, A. L.** (2019) *The Climates of Other Worlds: A Review of the Emerging Field of Exoplanet Climatology*, ApJS, 243, 2. <https://doi.org/10.3847/1538-4365/ab2fe7>

PUBLISHED 2. **Shields, A. L.**, Ballard, S., Johnson, J. (2016) *The Habitability of Planets Orbiting*
INVITED REVIEWS *M-dwarf Stars*, Invited Review, Physics Reports, 663:1-38.
(CONT'D) <https://doi.org/10.1016/j.physrep.2016.10.003>

OTHER 1. Palubski, I. and **Shields, A. L.** (2019) Red-dwarf Habitability Recipe, August
PUBLICATIONS issue of *Sky and Telescope*, Vol. 138, Issue 2, pg. 34-40.