Professor Sara Seager
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Citizenship: Canadian citizen
US citizen since 7/20/2010

Birthdate: 7/21/1971

Professional History

1/2011–present: Massachusetts Institute of Technology, Cambridge, MA USA

- Class of 1941 Professor Chair (1/2012–present)
- Professor of Planetary Science (7/2010–present)
- Professor of Physics (7/2010–present)
- Professor of Aeronautical and Astronautical Engineering (7/2017–present)

1/2007–12/2011: Massachusetts Institute of Technology, Cambridge, MA USA

- Ellen Swallow Richards Professorship (1/2007–12/2011)
- Associate Professor of Planetary Science (1/2007–6/2010)
- Associate Professor of Physics (7/2007–6/2010)

08/2002–12/2006: Carnegie Institution of Washington, Washington, DC, USA

- Senior Research Staff Member

09/1999–07/2002: Institute for Advanced Study, Princeton NJ

- Long Term Member (02/2001–07/2002)
- Short Term Member (09/1999–02/2001)
- Keck Fellow

Educational History

1994–1999	Ph.D. "*Extrasolar Planets Under Strong Stellar Irradiation"* Department of Astronomy, Harvard University, MA, USA
1990–1994	B.Sc. in Mathematics and Physics University of Toronto, Canada NSERC Science and Technology Fellowship (1990–1994)

Awards and Distinctions

Academic Awards and Distinctions

2024	Kavli Prize in Astrophysics
2024	Honorary PhD, Leiden University, Netherlands
2023	Honorary PhD, University of Toronto, Canada
2021	Magellanic Premium Medal, American Philosophical Society
2021	Royal Canadian Geographical Society Gold Medal
2020	Officer of the Order of Canada
2020	American Astronomical Society Legacy Fellow
2018	American Philosophical Society Member
2018	American Academy of Arts and Sciences Member
2015	Honorary PhD, University of British Columbia, Canada
2015	National Academy of Sciences Member
2013	MacArthur Fellow
2012	Raymond and Beverly Sackler Prize in the Physical Sciences
2012	American Association for the Advancement of Science Fellow
2007	Helen B. Warner Prize, American Astronomical Society
2004	Bok Prize in Astronomy, Harvard University

Other

2022-present	Royal Astronomical Society of Canada, Honorary President
2013	Royal Astronomical Society of Canada, Honorary Lifetime Member

Professional Societies

2019–present	American Institute of Aeronautics and Astronautics
1999–present	American Physical Society
1999–present	American Astronomical Society
2007–2011	American Geophysical Union

Space Science Mission Participation

Current

2021–present	Science PI for Rocket Lab Mission to Venus (target launch summer 2026)
2020–present	PI for Venus Life Finder Mission Concept Study (MIT and Breakthrough Initiatives)

Past

2016–2020	Deputy Science Director TESS, a NASA Explorer Mission, launch 2018, (Co-I 2013–2016)
2008–2020	PI ASTERIA (formerly ExoplanetSat) a 6U CubeSat telescope operated by JPL, mission operational 11/201-12/2019
2017–2019	PI of NASA-sponsored Starshade Probe Study
2015–2019	Community Co-Chair of the NASA-directed HabEx Study
2013–2016	TESS co-I, a NASA Explorer Mission, launch 2018
2013–2015	Chair of the NASA STDT for the Starshade Probe-Class Study
2011–2012	CDIO lead for REXIS (instrument on OSIRIS-Rex, a NASA New Horizons Mission, launch 2016)
2007–2011	Participating Scientist NASA/Kepler (launched 3/2009)
2008–2011	Co-I NASA/EPOXI Discovery Mission of Opportunity (formerly the NASA Deep Impact Spacecraft)

2008–2009	Deputy Mission Scientist for TESS, a NASA/SMEX proposal through Phase A
2003–2008	Support Scientist, CSA/MOST (Microvariability and Oscillations of Stars (MOST) microsatellite) (launched June 2003)
2004–2006	NASA TPF Scientific and Technology Definition Team
2002–2004	NASA TPF Scientific Working Group
2000–2001	Ball Aerospace TPF Architecture Study Team

Selected External Service

Ongoing	Referee for numerous research journals; reviewer for domestic and international proposals; write 30-50 rec/promotion letters per year
2016–2019	MIT NEROC Board of Trustees
2017–2018	Handbook of Exoplanets, Springer, Committee and Chapter Lead
2013–2015	Co-Chair, Beyond JWST Committee (AURA)
2009–2013	James Webb Space Telescope Advisory Committee (JSTAC)
2008–2012	Spitzer Science Center Oversight Committee (Spitzer Space Telescope)
2007–2010	National Academy of Sciences NRC Committee on the Origin and Evolution of Life
2006–2008	Space Telescope Science Institute (HST) Visiting Committee
2007–2008	NASA/NSF Exoplanet Task Force
2005	James Webb Space Telescope Science Assessment Team
2004–2005	National Academy of Sciences Astronomy and Astrophysics Mid Course Review
2004–2005	NSF Optical and Infrared Long-Range Planning Committee
2002–2005	Chair, NASA Astrobiology Astronomy Focus Group
2002	NASA Origins Roadmap Committee

Conference Scientific Organizing Committees

2021	• ”Breakthrough Discuss”, Virtual
2019	• ”TESS Science Conference I”, Cambridge, MA
2015	• ”ExoClimes”, Kona, HI
2013	• ”Search for Life Beyond the Solar System”, Tucson, AZ
2012	• ”Characterizing and Modeling Extrasolar Planetary Atmospheres: Theory and Observations”, Heidelberg, Germany
2011	• “Exploring Strange New Worlds: from Giant Planets to Super Earths”, Flagstaff, AZ
2010	• Third Workshop Stellar Observation Network Group (SONG), China
2009	• “Towards Other Earths”, Portugal • “Pathways Towards Habitable Planets”, Barcelona, Spain
2008	• “Characteristics and Habitability of Super Earths,” Aspen Center for Physics, • “Extrasolar Super-Earths,” Nantes, France • “Transiting Planets,” International Astronomical Union (IAU) Symposium 253, Boston
2006	• “The 4th International TPF/Darwin Workshop,” Pasadena, CA,
2005	• ”Direct Imaging of Exoplanets,” IAU Colloquium 200, France
2003	• 14th Annual Maryland Astrophysics Conference: “The Search for Other Worlds,” MD
2002	• Co-Chair for “Scientific Frontiers in Extrasolar Planet Research,” Washington DC

Selected MIT Internal Service

2024-	Aero/Astro Small Satellite Center Committee
Ongoing	Numerous PhD thesis committees in EAPS, Physics, Aero/Astro
Ongoing	Faculty promotion committees in EAPS, Physics, Aero/Astro
Ongoing	Numerous Generals Exam committees in EAPS
Ongoing	Faculty search committees in EAPS, Physics, Aero/Astro
2022	MIT BOSE Program Reviewer
2019–2022	EAPS Graduate Student Admissions Committee
2020, 2021	Eloranta Fellowships (UROP) Review Committee
2019	51 Peg Fellowship Representative
2014–2019	Commencement Committee
2010–2015	EAPS Planetary Group Chair
2010–2011	MIT 150th Committee

Supervised 18 PhD theses

Named or Prize Lectures

2024	• Marker Lecture, Penn State University, PA
	• Malmstrom Lecture, Hamline University, MN
	• Graham Lecture in Science, University of Toronto, ON, Canada
	• Terence Dickinson Memorial Keynote Speaker, Starfest, ON, Canada
2023	• Klosk Lectures, New York University, NY
2022	• Finkelstein Bold Ideas Lecture, Georgia Tech, GA
	• *Discover Science* Distinguished Lecture Series, Clemson U. NC (virtual)
	• Rayborn Physics Lecture, U. of Southern Mississippi, MS
2021	• Loeb Lectures, Harvard Physics Department, Harvard, MA
	• Stanley Miller Memorial Lecture, UC San Diego, CA (virtual)
	• Hubert Maxwell James Physics Lecture, Purdue, Indiana, IL (virtual)
2020	• Pappalardo Lecture, MIT, Cambridge, MA (virtual)
	• Rittenhouse Physics Lecture, U. Pennsylvania, PA (virtual)
2019	• Brinson Lecture, University of Chicago, IL
2018	• J. Tuzo Wilson Public Lecture, University of Toronto, ON, Canada
	• Elizabeth Laird Public Lecture, Memorial University, NL, Canada
	• Origins Prize Lecture, Harvard University, MA
	• Pickering Lecture, AIAA Space, Orlando, FL
	• Bunyan Lecture, Stanford University
	• Iben Lecture, University of Illinois, IL
	• Nier Lecture, University of Minnesota, MN
	• Mutch Lecture, Brown University, RI
2017	• MacLennan Lecture, St. Mary's U., Halifax, NS, Canada
	• Provigo Lecture, Bishop's U., Sherbrooke, PQ, Canada
2015	• Sturm Lecture, Wesleyan University, CT
	• Mohler Prize Lecture, U. Michigan
	• Sackler Lecturer, IoA Cambridge, UK
2011	• Page-Barbour Lecturer, University of Virginia, VA
	• Salpeter Lecturer, Cornell University, NY
2010	• Biermann Lecturer, Max Planck Institute for Astrophysics, Garching, Germany
	• Foster-Hewitt Lecturer, Lehigh University, PA
	• Nova Lecturer, Netherlands

2009	• John Bahcall Lecturer, NASA: STScI and GSFC
2008	• Dr. H. Lyman Hooker Distinguished Visiting Professor, McMaster University, Canada
	• *Spitzer* Distinguished Visiting Scientist, Spitzer Science Center, CA

Selected Keynote or Plenary Talks at Conferences

2022	• Latsis Symposium, Zurich
2018	• Goldschmidt Conference, Boston, MA
	• SPIE Conference, Austin, TX
	• Conference on Lasers and Electro-optics (CLEO), San Jose, CA
2015	• Canadian Association of Physicists, Alberta, Canada
	• IEEE, Big Sky, MT
2014	• The Search for Life Beyond the Solar System, Tucson, AZ
2010	• SPIE Plenary Talk, CA
2008	• New Vision 400, Beijing, China
	• COSPAR Plenary Talk, Montreal, PQ

Selected Public Talks

2020	South Africa National Science Festival		Virtual
2018	COSPAR	Pasadena	CA
2017	STARMUS	Trondheim	Norway
2015	TED	Vancouver	Canada
2014	CPSX distinguished public lecture	U. Western Ontario	ON
2013	RASC General Assembly	Lakehead University	Canada

Current Research Group Members

(EAPS = MIT Dept. of Earth, Atmospheric, and Planetary Sciences; Physics = MIT Dept. of Physics; Aero-Astro = MIT Dept. of Aeronautical and Astronautical Engineering
*= co-supervised)

Graduate Students

Name	***Dept.***	***Position***	***Topic***
Zifan Lin	EAPS	Grad Student	Exoplanet Interiors

Postdocs

Regina Moreno	EAPS	Postdoc	Venus Instrumentation
Ana Glidden	EAPS	Postdoc	Exoplanet Atmospheres
Jingcheng Huang	EAPS	Postdoc	Chemistry/Venus
Rachana Agrawal	EAPS	Postdoc	Venus Atmosphere/Engineering
Weston Buchanan	EAPS	Postdoc	Venus Atmosphere/Engineering
Iaroslav Iakubivskyi	EAPS	Postdoc	Venus Atmosphere/Engineering

Consultants

William Bains	Rufus Scientific	Consultant
Janusz Petkowski	Wroclaw U.	Biochemistry Consultant

Past Research Group Members

(EAPS = MIT Dept. of Earth, Atmospheric, and Planetary Sciences; Physics = MIT Dept. of Physics; Aero-Astro = MIT Dept. of Aeronautical and Astronautical Engineering)

Past Postdoctoral Fellows

Name	***Dept.***	***Current Position***
Jason Dittman	EAPS	Faculty
Tom Evans	Kavli	Group Lead
Maximillian Guenther	Kavli	ESA
Chelsea Huang	Kavli	Faculty
Elisabeth Matthews	Kavli	Unknown
Sukrit Ranjan	EAPS	Faculty, U. Arizona
Jenn Burt	Kavli	JPL Postdoc
Mary Knapp	EAPS	Staff at MIT Haystack Observatory
Vlada Stamenkovic	EAPS/SNS Fellow	JPL Staff
Andras Zsom	EAPS/DFG Fellow	Unknown
Nikole Lewis	EAPS/Sagan Fellow	Cornell University Faculty
Brice Demory	EAPS	Research Prof. Bern, Switzerland
Alessandra Babuscia	MIT Aero-Astro	JPL Staff
Diana Valencia	MIT EAPS Sagan Fellow	U. of Toronto Faculty
Margaret Turnbull	Carnegie NRC Fellow (2004–2006)	GSI
L. Jeremy Richardson	GSFC NRC Fellow (2004–2006)	Unknown
Kaspar von Braun	Carnegie Fellow (2002–2005)	MPIA

Past MIT PhD Students

Name	***Dept.***	***Current Position***
Maria Regina Apodaca	Aero/Astro	Postdoc MIT
Mariona Badenas	EAPS	Postdoc MIT
Ana Glidden	EAPS	Postdoc MIT
Zahra Essak	EAPS	Postdoc U. New Mexic
Jingcheng Huang	Chemistry	Postdoc MIT
Akshata Krishnamurthy	Aero-Astro	JPL
Nicholas Merle	Physics	Unknown
Tajana Schneiderman	EAPS	Postdoc
Zhuchang Zhan	EAPS	Apple
Mary Knapp	EAPS (2012-2017)	MIT Haystack Observatory Staff
Stephen Messenger	EAPS (2009-2015)	Unknown
Ben Corbin	Aero-Astro (2012-2015)	Unknown
Matthew Smith	Aero-Astro (2010-2014)	JPL Staff
Julien de Wit	EAPS (2011–2013)	MIT Faculty
Bjoern Benneke	Aero-Astro (2010–2013)	U. Montreal Faculty
Renyu Hu	EAPS (2009–2013)	JPL Staff
Leslie Rogers	Physics (2007-2012)	U. Chicago Faculty
Nikku Madhusudhan	Physics (2008–2009)	Cambridge, UK Faculty

Past Masters or Other PhD Students

Name	***Dept.***	***Current Position***
Jared Atkinson	EAPS	Accenture
Niraj Inamdar	Mech E./EAPS	Aerospace Corporation
*Jameson Nash	Aero-Astro Masters	Unknown
Rachel Bowens-Rubin	EAPS Masters	Unknown
Luyao Li	EAPS Masters	Unknown
Thomas Beatty	Physics Masters (2008–2009)	U. Arizona astronomer
Ben Hood	PhD (11/2005–1/2007)	Industry

Selected Past Undergraduate Research Students (* = Senior Thesis)

Name	***Dept. (year of position)***	***Current Position***

Zsuzsa Megyery	EAPS (2013)	Industry
Becky Jensen-Clem	Physics (2010-2012)	Professor
Sukrit Ranjan	Physics (2009)	Professor
Ana-Maria Piso	Physics/EAPS (2011)	UCLA Postdoctoral Fellow
*Sarah Gelman	EAPS (2009)	Exxon Mobil Senior Geologist
*Li Zeng	Physics (2007–2009)	Researcher/Harvard
Sonali Shukla	Carnegie Summer Intern (2005)	New York University Faculty

Selected Scientific Publications (*=Student or Postdoc in Seager's Research Group)

h-index = 99. Citation count > 41,800. Number of refereed publications > 590.

Source: NASA ADS

*Lin, Z., Cambioni, S., and **Seager, S.** (2025) Most High-density Exoplanets Are Unlikely to Be Remnant Giant Planet's Cores. *ApJ* 978, L41.

*Iakubivskyi, I., **Seager, S.**, Carr, C. E., Petkowski, J. J., Agrawal, R., Moreno, R., and Nellutla,. S. (2024). Venus cloud catcher as a proof of concept aerosol collection instrument. *Scientific Reports,* 14, 30045.

Pajusalu, M., **Seager, S.**, Huang, J., and Petkowski, J. J. (2024). A qualitative assessment of limits of active flight in low density atmospheres. *Scientific Reports* 14, 13823.

Petkowski, J. J., Seager, M. D., Bains, W. and **Seager, S.** (2024). General instability of dipeptides in concentrated sulfuric acid as relevant for the Venus cloud habitability *Scientific Reports* 14 17083

Seager, M. D., **Seager, S.**, Bains, W., Petkowski, J. J. (2024). Stability of 20 Biogenic Amino Acids in Concentrated Sulfuric Acid: Implications for the Habitability of Venus' Clouds *Astrobiology* 24, 386.

Seager, S., Petkowski, J. J., Seager, M. D., Grimes, J. H. J., Zinsli, Z., Vollmer-Snarr, H. R., … Darrow, C. (2023). Stability of Nucleic Acid Bases in Concentrated Sulfuric Acid: Implications for the Habitability of Venus' Clouds. *Proceedings of the National Academy of Sciences*, *120*(25), e2220007120. https://doi.org/10.1073/pnas.2220007120

Seager, S., Petkowski, J. J., Huang, J., Zhan, Z., Ravela, S., & Bains, W. (2023). Fully fluorinated non-carbon compounds NF₃ and SF₆ as ideal technosignature gases. *Scientific Reports*, *13*, 13576. https://doi.org/10.1038/s41598-023-39972-z

*Essack, Z., Shporer, A., Burt, J. A., **Seager**, S., Cambioni, S., Lin, Z., … Furlan, E. (2023). TOI-1075 b: A Dense, Massive, Ultra-short-period Hot Super-Earth Straddling the Radius Gap. *The Astronomical Journal*, *165*, 47. https://doi.org/10.3847/1538-3881/ac9c5b

Seager, S., Petkowski, J. J., Carr, C. E., Saikia, S. J., Agrawal, R., Buchanan, W. P., … Kaasik, L. (2022). Venus Life Finder Habitability Mission: Motivation, Science Objectives, and Instrumentation. *Aerospace*, *9*(11), 733. https://doi.org/10.3390/aerospace9110733

Baumgardner, D., Fisher, T., Newton, R., Roden, C., Zmarzly, P., **Seager**, S., … Mandy, C. (2022). Deducing the Composition of Venus Cloud Particles with the Autofluorescence Nephelometer (AFN). *Aerospace*, *9*(9), 492.

French, R., Mandy, C., Hunter, R., Mosleh, E., Sinclair, D., Beck, P., … Baumgardner, D. (2022). Rocket Lab Mission to Venus. *Aerospace*, *9*(8), 445. https://doi.org/10.3390/aerospace9080445

Seager, S., Petkowski, J. J., Carr, C. E., Grinspoon, D. H., Ehlmann, B. L., Saikia, S. J., … Baumgardner, D. (2022). Venus Life Finder Missions Motivation and Summary. *Aerospace*, *9*(7), 385. https://doi.org/10.3390/aerospace9070385

Buchanan, W. P., de Jong, M., Agrawal, R., Petkowski, J. J., Arora, A., Saikia, S. J., … Longuski, J. (2022). Aerial Platform Design Options for a Life-Finding Mission at Venus. *Aerospace*, *9*(7), 363. https://doi.org/10.3390/aerospace9070363

Agrawal, R., Buchanan, W. P., Arora, A., Girija, A. P., de Jong, M., **Seager**, S., … Longuski, J. (2022). Mission Architecture to Characterize Habitability of Venus Cloud Layers via an Aerial Platform. *Aerospace*, *9*(7), 359. https://doi.org/10.3390/aerospace9070359

Ranjan, S., **Seager**, S., Zhan, Z., Koll, D. D. B., Bains, W., Petkowski, J. J., … Lin, Z. (2022). Photochemical Runaway in Exoplanet Atmospheres: Implications for Biosignatures. *The Astrophysical Journal*, *930*(2), 131.

Bains, W., Shorttle, O., Ranjan, S., Rimmer, P. B., Petkowski, J. J., Greaves, J. S., & **Seager**, S. (2022). Only extraordinary volcanism can explain the presence of parts per billion phosphine on Venus. *Proceedings of the National Academy of Sciences*, *119*(7), e2121702119.

*Huang, J., **Seager**, S., Petkowski, J. J., Ranjan, S., & Zhan, Z. (2022). Assessment of Ammonia as a Biosignature Gas in Exoplanet Atmospheres. *Astrobiology*, *22*(2), 171–191.

Bains, W., Shorttle, O., Ranjan, S., Rimmer, P. B., Petkowski, J. J., Greaves, J. S., & **Seager**, S. (2022). Constraints on the production of phosphine by Venusian volcanoes. *Universe*, *8*(1), 54.

*Lin, Z., **Seager**, S., Ranjan, S., Kozakis, T., & Kaltenegger, L. (2022). H2-dominated Atmosphere as an Indicator of Second-generation Rocky White Dwarf Exoplanets. *The Astrophysical Journal Letters*, *925*(1), L10.

*Huang, J., **Seager**, S., Petkowski, J. J., Zhan, Z., & Ranjan, S. (2022). Methanol-A Poor Biosignature Gas in Exoplanet Atmospheres. *The Astrophysical Journal*, *933*, 6. https://doi.org/10.3847/1538-4357/ac6f60

Zhan, Z., Huang, J., **Seager**, S., Petkowski, J. J., & Ranjan, S. (2022). Organic Carbonyls Are Poor Biosignature Gases in Exoplanet Atmospheres but May Generate Significant CO. *The Astrophysical Journal*, *930*, 133. https://doi.org/10.3847/1538-4357/ac64a8

*Glidden, A., **Seager**, S., Huang, J., Petkowski, J. J., & Ranjan, S. (2022). Can Carbon Fractionation Provide Evidence for Aerial Biospheres in the Atmospheres of Temperate Sub-Neptunes? *The Astrophysical Journal*, *930*, 62. https://doi.org/10.3847/1538-4357/ac625f

Bains, W., Petkowski, J. J., Zhan, Z., & **Seager**, S. (2021). Evaluating Alternatives to Water as Solvents for Life: The Example of Sulfuric Acid. *Life*, *11*(5), 400. https://doi.org/10.3390/life11050400

Bains, W., Petkowski, J. J., **Seager**, S., Ranjan, S., Sousa-Silva, C., Rimmer, P. B., … Richards, A. M. S. (2021). Phosphine on Venus Cannot be Explained by Conventional Processes. *Astrobiology*, *21*(10), 1277–1304. Retrieved from https://ui.adsabs.harvard.edu/abs/2020arXiv200906499B

Bains, W., Petkowski, J. J., Rimmer, P. B., & **Seager**, S. (2021). Production of Ammonia Makes Venusian Clouds Habitable and Explains Observed Cloud-Level Chemical Anomalies. *Proceedings of the National Academy of Science*, *118*(52).

*Guerrero, N. M., **Seager**, S., Huang, C. X., Vanderburg, A., Garcia Soto, A., Mireles, I., … Winn, J. N. (2021). The TESS Objects of Interest Catalog from the TESS Prime Mission. *The Astrophysical Journal Supplement Series*, *254*, 39. https://doi.org/10.3847/1538-4365/abefe1

Romero-Wolf, A., Bryden, G., **Seager**, S., Kasdin, N. J., Booth, J., Greenhouse, M., … Stark, C. (2021). Starshade rendezvous: exoplanet sensitivity and observing strategy. *Journal of Astronomical Telescopes, Instruments, and Systems*, *7*, 21210. https://doi.org/10.1117/1.JATIS.7.2.021210

Peretz, E., Mather, J. C., Pabarcius, L., **Seager**, S., Shaklan, S., Hildebrandt, S., … Hall, K. (2021). Mapping the observable sky for a Remote Occulter working with ground-based telescopes. *Journal of Astronomical Telescopes, Instruments, and Systems*, *7*, 21212. https://doi.org/10.1117/1.JATIS.7.2.021212

*Zhan, Z., **Seager**, S., Petkowski, J. J., Sousa-Silva, C., Ranjan, S., Huang, J., & Bains, W. (2021). Assessment of Isoprene as a Possible Biosignature Gas in Exoplanets with Anoxic Atmospheres. *Astrobiology*, *21*, 765–792. https://doi.org/10.1089/ast.2019.2146

Seager, S., Petkowski, J. J., Günther, M. N., Bains, W., Mikal-Evans, T., & Deming, D. (2021). Possibilities for an Aerial Biosphere in Temperate Sub Neptune-Sized Exoplanet Atmospheres. *Universe*, *7*(6), 172.

Greaves, J. S., Richards, A. M. S., Bains, W., Rimmer, P. B., Sagawa, H., Clements, D. L., … Ranjan, S. (2021). Phosphine gas in the cloud decks of Venus. *Nature Astronomy*, *5*(7), 655–664.

Greaves, J. S., Bains, W., Petkowski, J. J., **Seager**, S., Sousa-Silva, C., Ranjan, S., … Currie, M. J. (2021). Addendum: Phosphine gas in the cloud deck of Venus. *Nature Astronomy*, *5*(7), 726–728.

Greaves, J. S., Richards, A. M. S., Bains, W., Rimmer, P. B., Clements, D. L., **Seager**, S., … Fraser, H. J. (2021). Reply to: No evidence of phosphine in the atmosphere of Venus from independent analyses. *Nature Astronomy*, *5*(7), 636–639.

Seager, S., Petkowski, J. J., Gao, P., Bains, W., Bryan, N. C., Ranjan, S., & Greaves, J. (2021). The Venusian Lower Atmosphere Haze as a Depot for Desiccated Microbial Life: a Proposed Life Cycle for Persistence of the Venusian Aerial Biosphere. *Astrobiology*, *21*(10), 1206–1223.

Hu, R., Damiano, M., Scheucher, M., Kite, E., **Seager**, S., & Rauer, H. (2021). Unveiling Shrouded Oceans on Temperate sub-Neptunes via Transit Signatures of Solubility Equilibria versus Gas Thermochemistry. *The Astrophysical Journal*, *921*, L8. https://doi.org/10.3847/2041-8213/ac1f92

Krishnamurthy, A., Knapp, M., Günther, M. N., Daylan, T., Demory, B.-O., **Seager**, S., … Fesq, L. (2021). Transit Search for Exoplanets around Alpha Centauri A and B with ASTERIA. *The Astronomical Journal*, *161*, 275. https://doi.org/10.3847/1538-3881/abf2c0

Seager, S., Knapp, M., Demory, B.-O., Krishnamurthy, A., Huang, C. X., Agusti, M. B., … Wohler, B. (2021). HD 219134 Revisited: Planet d Transit Upper Limit and Planet f Transit Nondetection with ASTERIA and TESS. *The Astronomical Journal*, *161*, 117. https://doi.org/10.3847/1538-3881/abcd3d

Petkowski, J. J., Bains, W., & **Seager**, S. (2020). On the Potential of Silicon as a Building Block for Life. *Life*, *10*(6), 84.

*Sousa-Silva, C., **Seager**, S., Ranjan, S., Petkowski, J. J., Zhan, Z., Hu, R., & Bains, W. (2020). Phosphine as a biosignature gas in exoplanet atmospheres. *Astrobiology*, *20*(2), 235–268.

Knapp, M., **Seager**, S., Demory, B.-O., Krishnamurthy, A., Smith, M. W., Pong, C. M., … Fesq, L. (2020). Demonstrating High-precision Photometry with a CubeSat: ASTERIA Observations of 55 Cancri e. *The Astronomical Journal*, *160*, 23. https://doi.org/10.3847/1538-3881/ab8bcc

Günther, M. N., Zhan, Z., **Seager**, S., Rimmer, P. B., Ranjan, S., Stassun, K. G., … Ting, E. B. (2020). Stellar Flares from the First TESS Data Release: Exploring a New Sample of M Dwarfs. *The Astronomical Journal*, *159*, 60. https://doi.org/10.3847/1538-3881/ab5d3a

*Badenas-Agusti, M., Günther, M. N., Daylan, T., Mikal-Evans, T., Vanderburg, A., Huang, C. X., … Twicken, J. D. (2020). HD 191939: Three Sub-Neptunes Transiting a Sun-like Star Only 54 pc Away. *The Astronomical Journal*, *160*, 113. https://doi.org/10.3847/1538-3881/aba0b5

Ranjan, S., Schwieterman, E. W., Harman, C., Fateev, A., Sousa-Silva, C., **Seager**, S., & Hu, R. (2020). Photochemistry of Anoxic Abiotic Habitable Planet Atmospheres: Impact of New H2O Cross-Sections. *ArXiv Preprint ArXiv:2004.04185*.

*Essack, Z., **Seager**, S., & Pajusalu, M. (2020). Low-albedo Surfaces of Lava Worlds. *Astrophysical Journal*, *898*(2). https://doi.org/10.3847/1538-4357/ab9cba

Seager, S., Huang, J., Petkowski, J. J., & Pajusalu, M. (2020). Laboratory studies on the viability of life in H2-dominated exoplanet atmospheres. *Nature Astronomy*. https://doi.org/10.1038/s41550-020-1069-4

*Sousa-Silva, C., Petkowski, J. J., & **Seager**, S. (2019). Molecular Simulations for the Spectroscopic Detection of Atmospheric Gases. *J Phys Chem A*, *in review*.

Bains, W., Petkowski, J. J., Sousa-Silva, C., & **Seager**, S. (2019). New environmental model for thermodynamic ecology of biological phosphine production. *Science of The Total Environment*, *658*, 521–536. https://doi.org/https://doi.org/10.1016/j.scitotenv.2018.12.086

Petkowski, J. J., Bains, W., & **Seager**, S. (2019). An apparent binary choice in biochemistry: mutual reactivity implies life chooses thiols or nitrogen-sulfur bonds, but not both. *Astrobiology*, *19*(4), 579–613.

Bains, W., Petkowski, J. J., Sousa-Silva, C., & **Seager**, S. (2019). Trivalent Phosphorus and Phosphines as Components of Biochemistry in Anoxic Environments. *Astrobiology*, *19*(7), 885–902.

Vanderspek, R., Huang, C. X., Vanderburg, A., Ricker, G. R., Latham, D. W., **Seager**, S., … Torres, G. (2019). TESS Discovery of an Ultra-short-period Planet around the Nearby M Dwarf LHS 3844. *Astrophysical Journal Letters*, *871*(2). https://doi.org/10.3847/2041-8213/aafb7a

Krishnamurthy, A., Villasenor, J., **Seager**, S., Ricker, G., & Vanderspek, R. (2019). Precision characterization of the TESS CCD detectors: Quantum efficiency, charge blooming and undershoot effects. *Acta Astronautica*, *160*. https://doi.org/10.1016/j.actaastro.2019.04.016

Pajusalu, M., Borlina, C. S., **Seager**, S., Ono, S., & Bosak, T. (2018). Open-source sensor for measuring oxygen partial pressures below 100 microbars. *PloS One*, *13*(11), e0206678.

Kempton, E. M., Bean, J. L., Louie, D. R., Deming, D., Koll, D. D. B., Mansfield, M., … Valenti, J. A. (2018). A framework for prioritizing the TESS planetary candidates most amenable to atmospheric characterization. *Publications of the Astronomical Society of the Pacific*, *130*(993). https://doi.org/10.1088/1538-3873/aadf6f

Nguyen, T., Pankratius, V., Eckman, L., & **Seager**, S. (2018). Computer-aided discovery of debris disk candidates: A case study using the Wide-Field Infrared Survey Explorer (WISE) catalog. *Astronomy and Computing*, *23*. https://doi.org/10.1016/j.ascom.2018.02.004

Atkinson, J., Durham, W. B., & **Seager**, S. (2018). The strength of ice-saturated extraterrestrial rock analogs. *Icarus*, *315*. https://doi.org/10.1016/j.icarus.2018.06.016

Seager, S. (2018). The search for habitable planets with biosignature gases framed by a "Biosignature Drake Equation." *International Journal of Astrobiology*, *17*(4). https://doi.org/10.1017/S1473550417000052

Deming, L. D., & **Seager**, S. (2017). Illusion and reality in the atmospheres of exoplanets. *Journal of Geophysical Research: Planets*, *122*(1). https://doi.org/10.1002/2016JE005155

Seager, S., Bains, W., & Petkowski, J. J. (2016). Toward a List of Molecules as Potential Biosignature Gases for the Search for Life on Exoplanets and Applications to Terrestrial Biochemistry. *Astrobiology*, *16*(6), 465–485. https://doi.org/10.1089/ast.2015.1404

*Stamenković, V., & **Seager**, S. (2016). EMERGING POSSIBILITIES and INSUPERABLE LIMITATIONS of EXOGEOPHYSICS: The EXAMPLE of PLATE TECTONICS. *Astrophysical Journal*, *825*(1). https://doi.org/10.3847/0004-637X/825/1/78

Seager, S., & Bains, W. (2015). The search for signs of life on exoplanets at the interface of chemistry and planetary science. *Science Advances*, *1*, e1500047–e1500047. https://doi.org/10.1126/sciadv.1500047

Ricker, G. R., Winn, J. N., Vanderspek, R., Latham, D. W., Bakos, G. Á., Bean, J. L., … Villasenor, J. (2015). Transiting Exoplanet Survey Satellite (TESS). *Journal of Astronomical Telescopes, Instruments, and Systems*, *1*, 14003. https://doi.org/10.1117/1.JATIS.1.1.014003

Désert, J.-M., Charbonneau, D., Torres, G., Fressin, F., Ballard, S., Bryson, S. T., … **Seager**, S. (2015). Low false positive rate of kepler candidates estimated from a combination of spitzer and follow-up observations. *Astrophysical Journal*, *804*(1). https://doi.org/10.1088/0004-637X/804/1/59

Demory, B.-O., Ehrenreich, D., Queloz, D., **Seager**, S., Gilliland, R., Chaplin, W. J., … Udry, S. (2015). Hubble Space Telescope search for the transit of the earth-mass exoplanet α centauri B b. *Monthly Notices of the Royal Astronomical Society*, *450*(2). https://doi.org/10.1093/mnras/stv673

Hu, R., Demory, B.-O., **Seager**, S., Lewis, N., & Showman, A. P. (2015). A semi-analytical model of visible-wavelength phase curves of exoplanets and applications to Kepler- 7 B and Kepler- 10 B. *Astrophysical Journal*, *802*(1). https://doi.org/10.1088/0004-637X/802/1/51

Hu, R., **Seager**, S., & Yung, Y. L. (2015). Helium Atmospheres on Warm Neptune- and Sub-Neptune-Sized Exoplanets and Applications to GJ 436b. *Astrophysical Journal*, *807*(1). https://doi.org/10.1088/0004-637X/807/1/8

*Hu, R., & **Seager**, S. (2014). Terrestrial Exoplanet Atmosphere III. Photochemistry and Thermochemistry in Thick Atmospheres on Super Earths and Mini Neptutnes. *The Astrophysical Journal*, *784*(1), 63. https://doi.org/10.1088/0004-637x/784/1/63

Kreidberg, L., Bean, J. L., Désert, J.-M., Benneke, B., Deming, D., Stevenson, K. B., … Homeier, D. (2014). Clouds in the atmosphere of the super-Earth exoplanet GJ1214b. *Nature*, *505*, 69–72. https://doi.org/10.1038/nature12888

Kreidberg, L., Bean, J. L., Désert, J.-M., Line, M. R., Fortney, J. J., Madhusudhan, N., … Homeier, D. (2014). A precise water abundance measurement for the hot jupiter WASP-43b. *Astrophysical Journal Letters*, *793*(2). https://doi.org/10.1088/2041-8205/793/2/L27

Stevenson, K. B., Désert, J.-M., Line, M. R., Bean, J. L., Fortney, J. J., Showman, A. P., … Homeier, D. (2014). Thermal structure of an exoplanet atmosphere from phase-resolved emission spectroscopy. *Science*, *346*(6211). https://doi.org/10.1126/science.1256758

Gillon, M., Demory, B.-O., Madhusudhan, N., Deming, D., **Seager**, S., Zsom, A., … Triaud, A. H. M. J. (2014). Search for a habitable terrestrial planet transiting the nearby red dwarf GJ 1214. *Astronomy and Astrophysics*, *563*. https://doi.org/10.1051/0004-6361/201322362

Ferreira, D., Marshall, J., O'Gorman, P. A., & **Seager**, S. (2014). Climate at high-obliquity. *Icarus*, *243*. https://doi.org/10.1016/j.icarus.2014.09.015

Bains, W., **Seager**, S., & Zsom, A. (2014). Photosynthesis in hydrogen-dominated atmospheres. *Life*, *4*(4). https://doi.org/10.3390/life4040716

Seager, S. (2014). The future of spectroscopic life detection on exoplanets. *Proceedings of the National Academy of Sciences of the United States of America*, *111*(35). https://doi.org/10.1073/pnas.1304213111

Seager, S., Bains, W., & Hu, R. (2013). A Biomass-based Model to Estimate the Plausibility of Exoplanet Biosignature Gases. *The Astrophysical Journal*, *775*(2), 104. Retrieved from http://stacks.iop.org/0004-637X/775/i=2/a=104

Deming, D., Wilkins, A., McCullough, P., Burrows, A., Fortney, J. J., Agol, E., … Showman, A. P. (2013). Infrared transmission spectroscopy of the exoplanets HD 209458b and XO-1b using the wide field camera-3 on the hubble space telescope. *Astrophysical Journal*, *774*(2). https://doi.org/10.1088/0004-637X/774/2/95

*Demory, B.-O., Torres, G., Neves, V., Rogers, L., Gillon, M., Horch, E., … Udry, S. (2013). Spitzer observations of GJ 3470 b: A very low-density neptune-size planet orbiting a metal-rich M dwarf. *Astrophysical Journal*, *768*(2). https://doi.org/10.1088/0004-637X/768/2/154

*Demory, B.-O., De Wit, J., Lewis, N., Fortney, J., Zsom, A., **Seager**, S., … Cowan, N. B. (2013). Inference of inhomogeneous clouds in an exoplanet atmosphere. *Astrophysical Journal Letters*, *776*(2). https://doi.org/10.1088/2041-8205/776/2/L25

*Babuscia, A., Corbin, B., Knapp, M., Jensen-Clem, R., Van De Loo, M., & **Seager**, S. (2013). Inflatable antenna for cubesats: Motivation for development and antenna design. *Acta Astronautica*, *91*. https://doi.org/10.1016/j.actaastro.2013.06.005

*Zsom, A., **Seager**, S., De Wit, J., & Stamenković, V. (2013). Toward the minimum inner edge distance of the habitable zone. *Astrophysical Journal*, *778*(2). https://doi.org/10.1088/0004-637X/778/2/109

*Hu, R., **Seager**, S., & Bains, W. (2013). Photochemistry in terrestrial exoplanet atmospheres. II. H<inf>2</inf>S and SO<inf>2</inf> photochemistry in anoxic atmospheres. *Astrophysical Journal*, *769*(1). https://doi.org/10.1088/0004-637X/769/1/6

Benner, S. A., Bains, W., & **Seager**, S. (2013). Models and standards of proof in cross-disciplinary science: The case of arsenic DNA. *Astrobiology*, *13*(5). https://doi.org/10.1089/ast.2012.0954

Seager, S., Bains, W., & Hu, R. (2013). Biosignature gases in H2-Dominated atmospheres on rocky exoplanets. *Astrophysical Journal*, *777*(2). https://doi.org/10.1088/0004-637X/777/2/95

*Benneke, B., & **Seager**, S. (2013). How to distinguish between cloudy mini-neptunes and water/volatile- dominated super-earths. *Astrophysical Journal*, *778*(2). https://doi.org/10.1088/0004-637X/778/2/153

*De Wit, J., & **Seager**, S. (2013). Constraining exoplanet mass from transmission spectroscopy. *Science*, *342*(6165). https://doi.org/10.1126/science.1245450

Seager, S. (2013). Exoplanet habitability. *Science*, *340*(6132). https://doi.org/10.1126/science.1232226

*Hu, R., **Seager**, S., & Bains, W. (2012). Photochemistry in terrestrial exoplanet atmospheres. I. Photochemistry model and benchmark cases. *The Astrophysical Journal*, *761*(2), 166.

Gautier III, T. N., Charbonneau, D., Rowe, J. F., Marcy, G. W., Isaacson, H., Torres, G., … Van Cleve, J. (2012). Kepler-20: A Sun-like Star with Three Sub-Neptune Exoplanets and Two

Earth-size Candidates. *The Astrophysical Journal*, *749*, 15. https://doi.org/10.1088/0004-637X/749/1/15

Seager, S., Schrenk, M., & Bains, W. (2012). An Astrophysical View of Earth-Based Metabolic Biosignature Gases. *Astrobiology*, *12*(1), 61–82. https://doi.org/10.1089/ast.2010.0489

Gillon, M., Demory, B.-O., Benneke, B., Valencia, D., Deming, D., **Seager**, S., … Udry, S. (2012). Improved precision on the radius of the nearby super-Earth 55 Cnc e. *Astronomy and Astrophysics*, *539*. https://doi.org/10.1051/0004-6361/201118309

*Demory, B.-O., Gillon, M., **Seager**, S., Benneke, B., Deming, D., & Jackson, B. (2012). Detection of thermal emission from a super-earth. *Astrophysical Journal Letters*, *751*(2). https://doi.org/10.1088/2041-8205/751/2/L28

*De Wit, J., Gillon, M., Demory, B.-O., & **Seager**, S. (2012). Towards consistent mapping of distant worlds: Secondary-eclipse scanning of the exoplanet HD 189733b. *Astronomy and Astrophysics*, *548*. https://doi.org/10.1051/0004-6361/201219060

*Hu, R., Ehlmann, B. L., & **Seager**, S. (2012). Theoretical spectra of terrestrial exoplanet surfaces. *Astrophysical Journal*, *752*(1). https://doi.org/10.1088/0004-637X/752/1/7

Bains, W., & **Seager**, S. (2012). A combinatorial approach to biochemical space: Description and application to the redox distribution of metabolism. *Astrobiology*, *12*(3). https://doi.org/10.1089/ast.2011.0718

*Benneke, B., & **Seager**, S. (2012). Atmospheric retrieval for super-earths: Uniquely constraining the atmospheric composition with transmission spectroscopy. *Astrophysical Journal*, *753*(2). https://doi.org/10.1088/0004-637X/753/2/100

Seager, S. (2012). Planetary science: The search for Earth's twin. *Nature*, *490*(7421). https://doi.org/10.1038/490479a

Borucki, W. J., Koch, D. G., Basri, G., Batalha, N., Brown, T. M., Bryson, S. T., … Still, M. (2011). Characteristics of planetary candidates observed by Kepler. II. Analysis of the first four months of data. *Astrophysical Journal*, *736*(1). https://doi.org/10.1088/0004-637X/736/1/19

Borucki, W. J., Koch, D. G., Basri, G., Batalha, N., Boss, A., Brown, T. M., … Wu, H. (2011). Characteristics of Kepler planetary candidates based on the first data set. *Astrophysical Journal*, *728*(2). https://doi.org/10.1088/0004-637X/728/2/117

Batalha, N. M., Borucki, W. J., Bryson, S. T., Buchhave, L. A., Caldwell, D. A., Christensen-Dalsgaard, J., … Gould, A. (2011). Kepler's first rocky planet: Kepler-10b. *Astrophysical Journal*, *729*(1). https://doi.org/10.1088/0004-637X/729/1/27

Demory, B.-O., Gillon, M., Deming, D., Valencia, D., **Seager**, S., Benneke, B., … Udry, S. (2011). Detection of a transit of the super-Earth 55 Cancri e with warm Spitzer. *Astronomy and Astrophysics*, *533*. https://doi.org/10.1051/0004-6361/201117178

Désert, J.-M., Charbonneau, D., Fortney, J. J., Madhusudhan, N., Knutson, H. A., Fressin, F., … **Seager**, S. (2011). The atmospheres of the hot-Jupiters Kepler-5b and Kepler-6b observed during occultations with Warm-Spitzer and Kepler. *Astrophysical Journal, Supplement Series*, *197*(1). https://doi.org/10.1088/0067-0049/197/1/11

Robinson, T. D., Meadows, V. S., Crisp, D., Deming, D., A'Hearn, M. F., Charbonneau, D., … Wellnitz, D. D. (2011). Earth as an extrasolar planet: Earth model validation using EPOXI earth observations. *Astrobiology*, *11*(5). https://doi.org/10.1089/ast.2011.0642

Demory, B.-O., **Seager**, S., Madhusudhan, N., Kjeldsen, H., Christensen-Dalsgaard, J., Gillon, M., … Koch, D. G. (2011). The high albedo of the hot Jupiter Kepler-7b. *Astrophysical Journal Letters*, *735*(1). https://doi.org/10.1088/2041-8205/735/1/L12

Christiansen, J. L., Ballard, S., Charbonneau, D., Deming, D., Holman, M. J., Madhusudhan, N., … A'Hearn, M. F. (2011). System parameters, transit times, and secondary eclipse constraints of the exoplanet systems hat-P-4, TrES-2, TrES-3, and WASP-3 from the nasa epoxi mission of opportunity. *Astrophysical Journal*, *726*(2). https://doi.org/10.1088/0004-637X/726/2/94

Knutson, H. A., Madhusudhan, N., Cowan, N. B., Christiansen, J. L., Agol, E., Deming, D., … **Seager**, S. (2011). A Spitzer transmission spectrum for the exoplanet GJ 436b, evidence for stellar variability, and constraints on dayside flux variations. *Astrophysical Journal*, *735*(1). https://doi.org/10.1088/0004-637X/735/1/27

Cowan, N. B., Robinson, T., Livengood, T. A., Deming, D., Agol, E., A'Hearn, M. F., … Wellnitz, D. (2011). Rotational variability of earth's polar regions: Implications for detecting snowball planets. *Astrophysical Journal*, *731*(1). https://doi.org/10.1088/0004-637X/731/1/76

Livengood, T. A., Deming, L. D., A'Hearn, M. F., Charbonneau, D., Hewagama, T., Lisse, C. M., … Wellnitz, D. D. (2011). Properties of an Earth-like planet orbiting a sun-like star: Earth observed by the EPOXI mission. *Astrobiology*, *11*(9). https://doi.org/10.1089/ast.2011.0614

Bean, J. L., Désert, J.-M., Kabath, P., Stalder, B., **Seager**, S., Miller-Ricci Kempton, E., … Seifahrt, A. (2011). The optical and near-infrared transmission spectrum of the super-earth GJ1214b: Further evidence for a metal-rich atmosphere. *Astrophysical Journal*, *743*(1). https://doi.org/10.1088/0004-637X/743/1/92

*Adams, E. R., López-Morales, M., Elliot, J. L., **Seager**, S., Osip, D. J., Holman, M. J., … Rojo, P. (2011). Twenty-one new light curves of OGLE-TR-56b: New system parameters and limits on timing variations. *Astrophysical Journal*, *741*(2). https://doi.org/10.1088/0004-637X/741/2/102

Gillon, M., Bonfils, X., Demory, B.-O., **Seager**, S., Deming, D., & Triaud, A. H. M. J. (2011). An educated search for transiting habitable planets: (Research note): Targetting M dwarfs with known transiting planets. *Astronomy and Astrophysics*, *525*(13). https://doi.org/10.1051/0004-6361/201014239

*Adams, E. R., López-Morales, M., Elliot, J. L., **Seager**, S., & Osip, D. J. (2011). Transit timing variation analysis of OGLE-TR-132b with seven new transits. *Astrophysical Journal*, *728*(2). https://doi.org/10.1088/0004-637X/728/2/125

*Rogers, L. A., Bodenheimer, P., Lissauer, J. J., & **Seager**, S. (2011). Formation and structure of low-density exo-Neptunes. *Astrophysical Journal*, *738*(1). https://doi.org/10.1088/0004-637X/738/1/59

Gelman, S. E., Elkins-Tanton, L. T., & **Seager**, S. (2011). Effects of stellar flux on tidally locked terrestrial planets: Degree-1 mantle convection and local magma ponds. *Astrophysical Journal*, *735*(2). https://doi.org/10.1088/0004-637X/735/2/72

*Madhusudhan, N., & **Seager**, S. (2011). High metallicity and non-equilibrium chemistry in the dayside atmosphere of hot-Neptune GJ 436b. *Astrophysical Journal*, *729*(1). https://doi.org/10.1088/0004-637X/729/1/41

*Demory, B.-O., & **Seager**, S. (2011). Lack of inflated radii for Kepler giant planet candidates receiving modest stellar irradiation. *Astrophysical Journal, Supplement Series*, *197*(1). https://doi.org/10.1088/0067-0049/197/1/12

Gillon, M., Deming, D., Demory, B.-O., Lovis, C., **Seager**, S., Mayor, M., … Magain, P. (2010). The Spitzer search for the transits of HARPS low-mass planets. I. No transit for the super-Earth HD 40307b. *Astronomy and Astrophysics*, *518*, A25. https://doi.org/10.1051/0004-6361/201014144

Borucki, W. J., Koch, D., Basri, G., Batalha, N., Brown, T., Caldwell, D., … Prsa, A. (2010). Kepler planet-detection mission: Introduction and first results. *Science*, *327*(5968). https://doi.org/10.1126/science.1185402

Steffen, J. H., Batalha, N. M., Borucki, W. J., Buchhave, L. A., Caldwell, D. A., Cochran, W. D., … Welsh, W. F. (2010). Five kepler target stars that show multiple transiting exoplanet candidates. *Astrophysical Journal*, *725*(1). https://doi.org/10.1088/0004-637X/725/1/1226

Ballard, S., Christiansen, J. L., Charbonneau, D., Deming, D., Holman, M. J., Fabrycky, D., … Veverka, J. F. (2010). A search for additional planets in the NASA EPOXI observations of the exoplanet system GJ436. *Astrophysical Journal*, *716*(2). https://doi.org/10.1088/0004-637X/716/2/1047

Stevenson, K. B., Harrington, J., Nymeyer, S., Madhusudhan, N., **Seager**, S., Bowman, W. C., … Lust, N. B. (2010). Possible thermochemical disequilibrium in the atmosphere of the exoplanet GJ 436b. *Nature*, *464*(7292). https://doi.org/10.1038/nature09013

Christiansen, J. L., Ballard, S., Charbonneau, D., Madhusudhan, N., **Seager**, S., Holman, M. J., … A'Hearn, M. F. (2010). Studying the atmosphere of the exoplanet HAT-P-7b via secondary eclipse measurements with epoxi, spitzer, and kepler. *Astrophysical Journal*, *710*(1). https://doi.org/10.1088/0004-637X/710/1/97

Ballard, S., Charbonneau, D., Deming, D., Knutson, H. A., Christiansen, J. L., Holman, M. J., … A'Hearn, M. F. (2010). A search for a sub-earth-sized companion to GJ 436 and a novel method to calibrate warm spitzer IRAC observations. *Publications of the Astronomical Society of the Pacific*, *122*(897). https://doi.org/10.1086/657159

Welsh, W. F., Orosz, J. A., **Seager**, S., Fortney, J. J., Jenkins, J., Rowe, J. F., … Borucki, W. J. (2010). The discovery of ellipsoidal variations in the kepler light curve of HAT-P-7. *Astrophysical Journal Letters*, *713*(2 PART 2). https://doi.org/10.1088/2041-8205/713/2/L145

O'Donovan, F. T., Charbonneau, D., Harrington, J., Madhusudhan, N., **Seager**, S., Deming, D., & Knutson, H. A. (2010). Detection of planetary emission from the exoplanet TrES-2 using spitzer/IRAC. *Astrophysical Journal*, *710*(2). https://doi.org/10.1088/0004-637X/710/2/1551

Crossfield, I. J. M., Hansen, B. M. S., Harrington, J., Cho, J. Y.-K., Deming, D., Menou, K., & **Seager**, S. (2010). A new 24 μm phase curve for ν Andromedae b. *Astrophysical Journal*, *723*(2). https://doi.org/10.1088/0004-637X/723/2/1436

*Adams, E. R., López-Morales, M., Elliot, J. L., **Seager**, S., & Osip, D. J. (2010). Lack of transit timing variations of ogle-tr-111b: A re-analysis with six new epochs. *Astrophysical Journal*, *714*(1). https://doi.org/10.1088/0004-637X/714/1/13

*Adams, E. R., López-Morales, M., Elliot, J. L., **Seager**, S., & Osip, D. J. (2010). Six high-precision transits of OGLE-TR-113b. *Astrophysical Journal*, *721*(2). https://doi.org/10.1088/0004-637X/721/2/1829

*Rogers, L. A., & **Seager**, S. (2010). A framework for quantifying the degeneracies of exoplanet interior compositions. *Astrophysical Journal*, *712*(2). https://doi.org/10.1088/0004-637X/712/2/974

*Beatty, T. G., & **Seager**, S. (2010). Transit probabilities for stars with stellar inclination constraints. *Astrophysical Journal*, *712*(2). https://doi.org/10.1088/0004-637X/712/2/1433

*Rogers, L. A., & **Seager**, S. (2010). Three possible origins for the gas layer on GJ 1214B. *Astrophysical Journal*, *716*(2). https://doi.org/10.1088/0004-637X/716/2/1208

Seager, S., & Deming, D. (2010). *Exoplanet atmospheres*. *Annual Review of Astronomy and Astrophysics* (Vol. 48). https://doi.org/10.1146/annurev-astro-081309-130837

*Madhusudhan, N., & **Seager**, S. (2010). On the inference of thermal inversions in hot jupiter atmospheres. *Astrophysical Journal*, *725*(1). https://doi.org/10.1088/0004-637X/725/1/261

Deming, D., **Seager**, S., Winn, J., Miller-Ricci, E., Clampin, M., Lindler, D., … Ennico, K. (2009). Discovery and characterization of transiting super earths using an all-sky transit survey and follow-up by the James Webb Space Telescope. *Publications of the Astronomical Society of the Pacific*, *121*(883). https://doi.org/10.1086/605913

Cowan, N. B., Agol, E., MeaDows, V. S., Robinson, T., Livengood, T. A., Deming, D., … Charbonneau, D. (2009). Alien maps of an ocean-bearing world. *Astrophysical Journal*, *700*(2). https://doi.org/10.1088/0004-637X/700/2/915

*Miller-Ricci, E., Meyer, M. R., **Seager**, S., & Elkins-Tanton, L. (2009). On the emergent spectra of hot protoplanet collision afterglows. *Astrophysical Journal*, *704*(1). https://doi.org/10.1088/0004-637X/704/1/770

*Miller-Ricci, E., **Seager**, S., & Sasselov, D. (2009). The atmospheric signatures of super-earths: How to distinguish between hydrogen-rich and hydrogen-poor atmoshpheres. *Astrophysical Journal*, *690*(2). https://doi.org/10.1088/0004-637X/690/2/1056

Deming, D., & **Seager**, S. (2009). Light and shadow from distant worlds. *Nature*, *462*(7271). https://doi.org/10.1038/nature08556

Seager, S., & Deming, D. (2009). On the method to infer an atmosphere on a tidally locked super earth exoplanet and upper limits to gj 876d. *Astrophysical Journal*, *703*(2). https://doi.org/10.1088/0004-637X/703/2/1884

*Madhusudhan, N., & **Seager**, S. (2009). A temperature and abundance retrieval method for exoplanet atmospheres. *Astrophysical Journal*, *707*(1). https://doi.org/10.1088/0004-637X/707/1/24

Lunine, J. I., Fischer, D., Hammel, H. B., Henning, T., Hillenbrand, L., Kasting, J., … Winn, J. N. (2008). Worlds beyond: A strategy for the detection and characterization of exoplanets executive summary of a report of the ExoPlanet task force astronomy and astrophysics advisory committee Washington, DC June 23, 2008. *Astrobiology*, *8*(5). https://doi.org/10.1089/ast.2008.0276

Rowe, J. F., Matthews, J. M., **Seager**, S., Miller-Ricci, E., Sasselov, D., Kuschnig, R., … Weiss, W. W. (2008). The very low albedo of an extrasolar planet: Most1 space-based photometry of hd 209458. *Astrophysical Journal*, *689*(2). https://doi.org/10.1086/591835

Pallé, E., Ford, E. B., **Seager**, S., Montañés-Rodríguez, P., & Vazquez, M. (2008). Identifying the rotation rate and the presence of dynamic weather on extrasolar earth-like planets from photometric observations. *Astrophysical Journal*, *676*(2). https://doi.org/10.1086/528677

Rauscher, E., Menou, K., Cho, J. Y.-K., **Seager**, S., & Hansen, B. M. S. (2008). On signatures of atmospheric features in thermal phase curves of hot jupiters. *Astrophysical Journal*, *681*(2). https://doi.org/10.1086/589499

Cho, J. Y.-K., Menou, K., Hansen, B. M. S., & **Seager**, S. (2008). Atmospheric circulation of close-in extrasolar giant planets. I. Global, bartopic, adiabatic simulations. *Astrophysical Journal*, *675*(1). https://doi.org/10.1086/524718

Hood, B., Wood, K., **Seager**, S., & Collier Cameron, A. (2008). Reflected light from 3D exoplanetary atmospheres and simulation of HD 209458b. *Monthly Notices of the Royal Astronomical Society*, *389*(1). https://doi.org/10.1111/j.1365-2966.2008.13549.x

*Adams, E. R., **Seager**, S., & Elkins-Tanton, L. (2008). Ocean planet or thick atmosphere: On the mass-radius relationship for solid exoplanets with massive atmospheres. *Astrophysical Journal*, *673*(2). https://doi.org/10.1086/524925

*Zeng, L. I., & **Seager**, S. (2008). A computational tool to interpret the bulk composition of solid exoplanets based on mass and radius measurements. *Publications of the Astronomical Society of the Pacific*, *120*(871). https://doi.org/10.1086/591807

Elkins-Tanton, L. T., & **Seager**, S. (2008). Ranges of atmospheric mass and composition of super-earth exoplanets. *Astrophysical Journal*, *685*(2). https://doi.org/10.1086/591433

Elkins-Tanton, L. T., & **Seager**, S. (2008). Coreless terrestrial exoplanets. *Astrophysical Journal*, *688*(1). https://doi.org/10.1086/592316

Seager, S. (2008). Exoplanet transit spectroscopy and photometry. *Space Science Reviews*, *135*(1–4). https://doi.org/10.1007/s11214-008-9308-5

Marley, M. S., Fortney, J., **Seager**, S., & Barman, T. (2007). Atmospheres of Extrasolar Giant Planets. In *Protostars and Planets V* (p. 733). Retrieved from https://ui.adsabs.harvard.edu/abs/2007prpl.conf..733M

Beichman, C. A., Fridlund, M., Traub, W. A., Stapelfeldt, K. R., Quirrenbach, A., & **Seager**, S. (2007). Comparative Planetology and the Search for Life Beyond the Solar System. In

Protostars and Planets V (p. 915). Retrieved from https://ui.adsabs.harvard.edu/abs/2007prpl.conf..915B

Deming, D., Harrington, J., Laughlin, G., **Seager**, S., Navarro, S. B., Bowman, W. C., & Horning, K. (2007). Spitzer transit and secondary eclipse photometry of GJ 436b. *Astrophysical Journal*, *667*(2 PART 2). https://doi.org/10.1086/522496

Rauscher, E., Menou, K., **Seager**, S., Deming, D., Cho, J. Y.-K., & Hansen, B. M. S. (2007). Toward eclipse mapping of hot Jupiters. *Astrophysical Journal*, *664*(2 I). https://doi.org/10.1086/519213

Richardson, L. J., Deming, D., Horning, K., **Seager**, S., & Harrington, J. (2007). A spectrum of an extrasolar planet. *Nature*, *445*(7130). https://doi.org/10.1038/nature05636

Harrington, J., Luszcz, S., **Seager**, S., Deming, D., & Richardson, L. J. (2007). The hottest planet. *Nature*, *447*(7145). https://doi.org/10.1038/nature05863

Rauscher, E., Menou, K., Cho, J. Y.-K., **Seager**, S., & Hansen, B. M. S. (2007). Hot Jupiter variability in eclipse depth. *Astrophysical Journal*, *662*(2 II). https://doi.org/10.1086/519374

Seager, S., Kuchner, M., Hier-Majumder, C. A., & Militzer, B. (2007). Mass-radius relationships for solid exoplanets. *Astrophysical Journal*, *669*(2). https://doi.org/10.1086/521346

López-Morales, M., & **Seager**, S. (2007). Thermal emission from transiting very hot jupiters: Prospects for ground-based detection at optical wavelengths. *Astrophysical Journal*, *667*(2 PART 2). https://doi.org/10.1086/522118

Johnston, K. J., Dorland, B., Gaume, R., Hennessy, G., Olling, R., Zacharias, N., … Unwin, S. (2006). The origins billions star survey: Galactic explorer. *Publications of the Astronomical Society of the Pacific*, *118*(848). https://doi.org/10.1086/508903

Rowe, J. F., Matthews, J. M., **Seager**, S., Kuschnig, R., Guenther, D. B., Moffat, A. F. J., … Weiss, W. W. (2006). An upper limit on the albedo of HD 209458B: Direct imaging photometry with the most satellite. *Astrophysical Journal*, *646*(2 I). https://doi.org/10.1086/504252

Harrington, J., Hansen, B. M., Luszcz, S. H., **Seager**, S., Deming, D., Menou, K., … Richardson, L. J. (2006). The phase-dependent infrared brightness of the extrasolar planet υ Andromedae b. *Science*, *314*(5799). https://doi.org/10.1126/science.1133904

Deming, D., Harrington, J., **Seager**, S., & Richardson, L. J. (2006). Strong infrared emission from the extrasolar planet HD 189733b. *Astrophysical Journal*, *644*(1). https://doi.org/10.1086/503358

Richardson, L. J., Harrington, J., **Seager**, S., & Deming, D. (2006). A Spitzer infrared radius for the transiting extrasolar planet HD 209458b. *Astrophysical Journal*, *649*(2 I). https://doi.org/10.1086/506503

López-Morales, M., Morrell, N. I., Butler, R. P., & **Seager**, S. (2006). Limits to transits of the Neptune-mass planet orbiting GJ 581. *Publications of the Astronomical Society of the Pacific*, *118*(849). https://doi.org/10.1086/508904

Wong, W. Y., **Seager**, S., & Scott, D. (2006). Spectral distortions to the cosmic microwave background from the recombination of hydrogen and helium. *Monthly Notices of the Royal Astronomical Society*, *367*(4). https://doi.org/10.1111/j.1365-2966.2006.10076.x

Wong, W. Y., **Seager**, S., & Scott, D. (2005). Spectral distortions to the CMB from the Recombination of H & He i. *Journal of the Royal Astronomical Society of Canada*, *99*, 146. Retrieved from https://ui.adsabs.harvard.edu/abs/2005JRASC..99..146W

Dyudina, U. A., Sackett, P. D., Bayliss, D. D. R., **Seager**, S., Porco, C. C., Throop, H. B., & Dones, L. (2005). Phase light curves for extrasolar jupiters and saturns. *Astrophysical Journal*, *618*(2 I). https://doi.org/10.1086/426050

*Von Braun, K., Lee, B. L., **Seager**, S., Yee, H. K. C., Mallén-Ornelas, G., & Gladders, M. D. (2005). Searching for planetary transits in galactic open clusters: EXPLORE/OC. *Publications of the Astronomical Society of the Pacific*, *117*(828). https://doi.org/10.1086/427982

Seager, S., Richardson, L. J., Hansen, B. M. S., Menou, K., Cho, J. Y.-K., & Deming, D. (2005). On the dayside thermal emission of hot jupiters. *Astrophysical Journal*, *632*(2 I). https://doi.org/10.1086/444411

Deming, D., **Seager**, S., Richardson, L. J., & Harrington, J. (2005). Infrared radiation from an extrasolar planet. *Nature*, *434*(7034). https://doi.org/10.1038/nature03507

Seager, S., Turner, E. L., Schafer, J., & Ford, E. B. (2005). Vegetation's red edge: A possible spectroscopic biosignature of extraterrestrial plants. *Astrobiology*, *5*(3). https://doi.org/10.1089/ast.2005.5.372

Gaudi, B. S., **Seager**, S., & Mallen-Ornelas, G. (2005). ON the period distribution of close-in extrasolar giant planets. *Astrophysical Journal*, *623*(1 I). https://doi.org/10.1086/428478

Kasdin, N. J., Brown, R. A., Burrows, C. J., Kilston, S., Kuchner, M., Littman, M. G., … Woodruff, R. A. (2004). An optical/UV space coronagraph concept for the terrestrial planet finder. *Advances in Space Research*, *34*(3). https://doi.org/10.1016/j.asr.2003.04.039

Liang, M.-C., **Seager**, S., Parkinson, C. D., Lee, A. Y.-T., & Yung, Y. L. (2004). On the insignificance of photochemical hydrocarbon aerosols in the atmospheres of close-in extrasolar giant planets. *Astrophysical Journal*, *605*(1 II). https://doi.org/10.1086/392509

Danchi, W. C., Deming, D., Kuchner, M. J., & **Seager**, S. (2003). Detection of Close-In Extrasolar Giant Planets Using the Fourier-Kelvin Stellar Interferometer. *The Astrophysical Journal*, *597*, L57–L60. https://doi.org/10.1086/379640

Benjamin, R. A., Churchwell, E., Babler, B. L., Bania, T. M., Clemens, D. P., Cohen, M., … Wolfire, M. G. (2003). GLIMPSE. I. An SIRTF legacy project to map the inner galaxy. *Publications of the Astronomical Society of the Pacific*, *115*(810). https://doi.org/10.1086/376696

Mallén-Ornelas, G., **Seager**, S., Yee, H. K. C., Minniti, D., Gladders, M. D., Mallén-Fullerton, G. M., & Brown, T. M. (2003). The explore project. I. A deep search for transiting extrasolar planets. *Astrophysical Journal*, *582*(2 I). https://doi.org/10.1086/344709

Liang, M.-C., Parkinson, C. D., Lee, A. Y.-T., Yung, Y. L., & **Seager**, S. (2003). Source of atomic hydrogen in the atmosphere of HD 209458b. *Astrophysical Journal*, *596*(2 II). https://doi.org/10.1086/379314

Menou, K., Cho, J. Y.-K., **Seager**, S., & Hansen, B. M. S. (2003). "Weather" variability of close-in extrasolar giant planets. *Astrophysical Journal*, *587*(2 II). https://doi.org/10.1086/375015

Cho, J. Y.-K., Menou, K., Hansen, B. M. S., & **Seager**, S. (2003). The changing face of the extrasolar giant planet HD 209458b. *Astrophysical Journal*, *587*(2 II). https://doi.org/10.1086/375016

Richardson, L. J., Deming, D., & **Seager**, S. (2003). Infrared observations during the secondary eclipse of HD 209458b. II. Strong limits on the infrared spectrum near 2.2 μm. *Astrophysical Journal*, *597*(1 I). https://doi.org/10.1086/378390

Seager, S., & Mallén-Ornelas, G. (2003). A unique solution of planet and star parameters from an extrasolar planet transit light curve. *Astrophysical Journal*, *585*(2 I). https://doi.org/10.1086/346105

Seager, S. (2003). The search for extrasolar Earth-like planets. *Earth and Planetary Science Letters*, *208*(3–4). https://doi.org/10.1016/S0012-821X(02)01151-2

Des Marais, D. J., Harwit, M. O., Jucks, K. W., Kasting, J. F., Lin, D. N. C., Lunine, J. I., … Woolf, N. J. (2002). Remote sensing of planetary properties and biosignatures on extrasolar terrestrial planets. *Astrobiology*, *2*(2), 153–181.

Marley, M. S., **Seager**, S., Saumon, D., Lodders, K., Ackerman, A. S., Freedman, R. S., & Fan, X. (2002). Clouds and chemistry: Ultracool dwarf atmospheric properties from optical and infrared colors. *Astrophysical Journal*, *568*(1 I). https://doi.org/10.1086/338800

Gurfil, P., Kasdin, J., Arrell, R., **Seager**, S., & Nissanke, S. M. (2002). Infrared space observatories: How to mitigate zodiacal dust interference. *Astrophysical Journal*, *567*(2 I). https://doi.org/10.1086/338751

Seager, S., & Hui, L. (2002). Constraining the rotation rate of transiting extrasolar planets by oblateness measurements. *Astrophysical Journal*, *574*(2 I). https://doi.org/10.1086/340994

Hui, L., & **Seager**, S. (2002). Atmospheric lensing and oblateness effects during an extrasolar planetary transit. *Astrophysical Journal*, *572*(1 I). https://doi.org/10.1086/340017

Ford, E. B., **Seager**, S., & Turner, E. L. (2001). Characterization of extrasolar terrestrial planets from diurnal photometric variability [1]. *Nature*, *412*(6850). https://doi.org/10.1038/35091009

Seager, S., Whitney, B. A., & Sasselov, D. D. (2000). Photometric light curves and polarization of close-in extrasolar giant planets. *Astrophysical Journal*, *540*(1 PART 1).

Seager, S., Sasselov, D. D., & Scott, D. (2000). How exactly did the universe become neutral? *Astrophysical Journal, Supplement Series*, *128*(2). https://doi.org/10.1086/313388

Peebles, P. J. E., **Seager**, S., & Hu, W. (2000). Delayed recombination. *Astrophysical Journal*, *539*(1 PART 2).

Seager, S., & Sasselov, D. D. (2000). Theoretical transmission spectra during extrasolar giant planet transits. *Astrophysical Journal*, *537*(2 PART 1).

Seager, S. (1999, January 1). Extrasolar giant planets under strong stellar irradiation. *Ph.D. Thesis*. Retrieved from https://ui.adsabs.harvard.edu/abs/1999PhDT.....18S

Seager, S., Sasselov, D. D., & Scott, D. (1999). A new calculation of the recombination epoch. *Astrophysical Journal*, *523*(1 PART 2).

Seager, S., & Sasselov, D. D. (1998). Extrasolar giant planets under strong stellar irradiation. *Astrophysical Journal*, *502*(2 PART 2).

Fernie, J. D., & **Seager**, S. (1995). V441 Herculis (89 Her) and V814 Herculis (HD 161796) in 1993 and 1994. *Publications of the Astronomical Society of the Pacific*, *107*, 853. https://doi.org/10.1086/133632

Fernie, J. D., Khoshnevissan, M. H., & **Seager**, S. (1995). Secular changes in the classical Cepheid Y Ophiuchi. *Astronomical Journal*, *110*(3). https://doi.org/10.1086/117607

Fernie, J. D., & **Seager**, S. (1994). R Coronae Borealis in 1992 and 1993. *Publications of the Astronomical Society of the Pacific*, *106*, 1138. https://doi.org/10.1086/133490

Zsoldos, E., Fernie, J. D., Arellano Ferro, A., & **Seager**, S. (1993). The double-mode semiregular variable UU Herculis: 1990-1992photometry. *Astronomy and Astrophysics*, *275*, 484–488. Retrieved from https://ui.adsabs.harvard.edu/abs/1993A&A...275..484Z

Fernie, J. D., & **Seager**, S. (1993). V441 Herculis (89 Herculis) and V814 Herculis (HD 161796) in 1991 and 1992. *Publications of the Astronomical Society of the Pacific*, *105*, 751. https://doi.org/10.1086/133226

Fernie, J. D., Kamper, K. W., & **Seager**, S. (1993). Goodbye to Polaris the Cepheid. *Astrophysical Journal*, *416*(2). https://doi.org/10.1086/173279

Percy, J. R., & **Seager**, S. (1992). The Royal Canadian Institute Youth Science Academy. *Journal of the Royal Astronomical Society of Canada*, *86*, 286–287. Retrieved from https://ui.adsabs.harvard.edu/abs/1992JRASC..86..286P