

SABINE STANLEY

DEPARTMENT OF EARTH & PLANETARY SCIENCES, JOHNS HOPKINS UNIVERSITY
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EDUCATION:

- Ph.D. in Geophysics, Harvard University [2004]
- M.A. in Geophysics, Harvard University [2003]
- B.Sc. Honors in Astronomy & Physics, University of Toronto [1999]

PROFESSIONAL EXPERIENCE:

- Vice Provost for Graduate and Professional Education, Johns Hopkins University [2023-now]
- Dean's Fellow in Sustainability [2022-2023]
- Morton K. Blaustein Chair, Dept. of Earth & Planetary Sciences [2021-2023]
- Bloomberg Distinguished Professor, Dept. of Earth & Planetary Sciences & Applied Physics Lab, Johns Hopkins University [2017-now]
- Professor [2015-2016], Associate Professor (Tenured) [2010-2015], Assistant Professor [2005-2010], Dept. of Physics, University of Toronto [2015-2016]
- Associate Chair, Undergraduate Studies, Dept. of Physics, University of Toronto [2015-2016]
- Postdoctoral Researcher, Department of Earth, Atmospheric & Planetary Sciences, Massachusetts Institute of Technology [2004-2005]
- Graduate Research Assistant, Department of Earth & Planetary Sciences, Harvard University [1999-2004]
- Teaching Fellow, Division of Engineering & Applied Sciences, Harvard University [1999-2004]

AWARDS AND HONORS:

- Dean's Outstanding Teaching Award, Faculty of Arts & Science, University of Toronto [2015]
- Canada Research Chair (Tier II) in Planetary Physics [2012-2017]
- Science Leadership Fellow, University of Toronto [2013-2014]
- Sloan Research Fellow, Alfred P. Sloan Foundation [2011-2013]
- William Gilbert Award, American Geophysical Union (AGU), Geomagnetism and Paleomagnetism Section [2010]
- Ranjini Ghosh Excellence in Teaching Award, University of Toronto [2010]
- Early Researcher Award, Ministry of Research and Innovation, Province of Ontario [2009-2013]
- Graduate Teaching Award, University of Toronto [2007]

PROFESSIONAL AFFILIATIONS:

- Member, American Geophysical Union Board [2021-2022]
- Vice-Chair, American Geophysical Union Council [2021-2022]
- Editor, Journal of Geophysical Research – Planets [2014-2018]
- President, American Geophysical Union Focus Group: Study of the Earth's Deep Interior (SEDI) [2015-2016]

- President-elect, AGU Focus Group: SEDI [2013-2014]

SELECT PROFESSIONAL ACTIVITIES AND SERVICE:

- Learning Community Advisor, Executive Leadership in Academic Technology, Engineering and Science (ELATES) program [2023-now]
- Co-Chair, NASA InSight Mission Science Team Diversity & Inclusion Working Group [2020-2023]
- Chair, AGU Meetings Committee [2019-2023]
- Panelist, KSAS Listening Session on Priorities for Science Faculty Growth [2022]
- Member, Shared Leadership Council, KSAS [2021-2022]
- Admissions Committee Member, Vivien Thomas Scholars Initiative [2021-2023]
- Director of Undergraduate Studies, EPS Department, Johns Hopkins University [09-12/2019]
- Member, AGU Governance/Leadership Development Committee [2017-2021]
- Member, AGU Council [2013-2016, 2019-2023]
- Director of Graduate Studies, EPS Department, Johns Hopkins University [07-12/2018]
- Science Steering Committee Member, Computational Infrastructure for Geodynamics (CIG) Organization [2016-2018]
- Executive Committee Member, Study of Earth's Deep Interior, a Committee of the International Union of Geodesy and Geophysics (IUGG) [2015-2018]
- Chair, Talent Pool Strategy Task Force, American Geophysical Union (AGU) [September 2017-June 2018]
- Chair, NASA Grant Proposal Review Panel [2017]
- Nominations Committee Member, Computational Infrastructure for Geodynamics (CIG) Organization [2017]
- Member, Canadian Space Agency (CSA) Topical Team on Planetary Exploration: Planetary Geology, Geophysics and Prospecting [2016]
- Member, AGU Affiliation and Engagement Task Force [2014-2016]
- Member, Geodynamo Working Group of the CIG [2013-2017]
- Member, Steering Committee, Women in Physics Canada Conference [2014-2016]
- Faculty Advisor, Local Organizing Committee for Women in Physics Canada 2015 Conference [2014-2015]
- Chair, SEDI Graduate Research Award Selection Committee [2014]
- External Peer Reviewer for grant proposals submitted to:
 - Swiss National Supercomputing Centre, National Science Foundation (NSF), Austrian Science Fund (FWF), Natural Sciences & Engineering Research Council of Canada (NSERC), NASA
- Journal Referee for manuscripts submitted to:
 - *Astrophysical Journal*, *Earth Planet. Sci. Lett.*, *Europhys. Lett.*, *Geophys. J. Int.*, *Geophys. Res. Lett.*, *Icarus*, *J. Geophys. Res.*, *Nature*, *Physics Today*, *Phys. Earth Planet Int.*, *Planet. Space Sci.*, *Science*, *Science Adv.*, *Space Science Rev.*
- Panel Member for grant proposal evaluation: NASA, German Research Foundation (DFG), Compute Canada, SciNet
- Program Committee Member:
 - Geomagnetism & Paleomagnetism Section, AGU/CGU Spring Joint Assembly [2014-2015]
 - Study of Earth's Deep Interior (SEDI) Section, AGU/CGU Spring Joint Assembly [2008-2009]
- Convenor for Conference Sessions:

- AGU/CGU Joint Assembly [2015 (2)], AGU Fall Meeting [2003, 2006 (2), 2010 (2), 2012, 2014, 2016, 2017], Gordon Research Conference: *Interior of the Earth* [2009]
- Reviewer for Monographs:
 - “Treatise on Geophysics, Volume 5: Geomagnetism and Planetary Magnetism”, Chapter 1. [2006]
 - “Physics of the Earth”, new edition by Frank Stacey [2006]
- Member of Canadian Space Exploration Working Group (CSEWG) Planetary Geology and Geophysics Section, co-writer of CSEWG report: “Canadian Scientific Priorities for the Global Exploration Strategy” [2008-2009].

PROFESSIONAL DEVELOPMENT/TRAINING:

- Executive Leadership in Academic Technology, Engineering, and Science (ELATES) [2022-2023]
- Bystander Intervention Training [2022]
- OpEd: Write to Change the World Workshop [2022]
- IGEN Inclusive Practices in Graduate Admissions Workshop [2021]
- Preventing Harassment in Science Workshop [2020]
- Academics for Black Survival and Wellness Workshop [2020]
- Save a Life, QPR Training, Johns Hopkins University [2018, 2019]
- Faculty Mentorship Workshop, Johns Hopkins University [10-11/2018]
- Women in Leadership: Approach and Impact, Carey Business School, Johns Hopkins University, [January 2018]
- Best Practices in University Teaching, Johns Hopkins University [January 2018]
- SafeZone Training, Johns Hopkins University [May 2017]

OUTREACH ACTIVITIES:

- Congressional Briefing on JHU’s Civilian Space Research [2022]
- Panel Moderator, JHU’s Science Policy Workshop [2022]
- Panelist, MIT Path of Professorship, Funding Panel [2022]
- Panelist, Hopkins At Home Documentary Screening and Panel Discussion: Helping You to Be You, 2021.
- AGU EOS invited “From the Prow” posts: 7 posts authored or co-authored since 2020: <https://fromtheprow.agu.org/author/sstanley/>
- Developed and delivered an online video lecture series/course for *The Great Courses* entitled “A Field Guide to the Planets”, 24 lectures, 2018-2019, <https://www.thegreatcourses.com/courses/a-field-guide-to-the-planets.html>
- Created youtube science communication video “The Magnetic Fields in the Solar System” with almost 900 views, 2019: https://www.youtube.com/watch?v=7S_VqFJep_0
- Co-organizer (with S. Hörst), High school student work program for 5 students through THREAD, [2018]
- Writer, Bloomberg View article on the Cassini Grand Finale: <https://www.bloomberg.com/view/articles/2017-09-05/cassini-s-last-photos-will-be-spectacular> [2017]
- Editor’s Vox, EOS. “Women in Science: A Q&A with an Editor”: <https://eos.org/editors-vox/women-in-science-a-qa-with-an-editor> [2017]
- Reviewer of *The Spinning Magnet*, Alanna Mitchell, Penguin Random House, 2018.

- Speaker at JHU “Lunch and Learn” Series for undergraduate students, November 2017
- Developer, UOIT Science Teacher workshop: “Using python in high school physics classes” [2015]
- Faculty Advisor, UofT Branch of *Let’s Talk Science* [2014-2016]
- Contributor to “Ask a Scientist” for Government of Canada science.gc.ca website [2012-2014]
- Twitter feed for *Planetary Geology and Geophysics in Canada*: @pgg_canadian [2012-2015]
- Mentor for Physics Mentorship Program [2010/11, 2013/14, 2014/15, 2015/16]
- Master of Ceremonies for Astronomy and Space Exploration (ASX) Society event: *7th Annual Expanding Canada’s Frontiers Symposium*. [2010]
- Speaker/Presenter:
 - Quarknet Teacher Workshop, Johns Hopkins University [2017, 2018, 2019]
 - Galesville Astronomical Society, 08/2018
 - High school physics class in Baltimore County, 04/2018
 - Women Serious About Science (WSAS) at Baltimore Polytechnic Institute, 12/2017
 - ScienceUnlimited@UofT Summer Camp in the physical sciences for high school students, “Scientific Computing in Physics” Workshop, University of Toronto [2015, 2014, 2013, 2012]
 - ScienceUnlimited@UofT Summer Camp, “The Physics of Chaos” Workshop, University of Toronto [2014, 2013, 2012]
 - Chaos Workshop for Grade 12 physics class from TDCH Woodbridge [2014, 2013, 2012]
 - Durham SciTech Talk Series by the Durham District School Board: “Mars: A Magnetic History” [2014]
 - POPTOR (Physics Olympiad Preparation Toronto) session: “The Physics of Chaos” [2013]
 - Toronto Science Festival “*Café Scientifique*” [2013]
 - *Space Day*, Royal Ontario Museum [2012]
 - Let’s Talk Science: Live online chat on “The Moon & Astronomy” [2012]
 - High School Gifted Program Conference workshop: “The Physics of Chaos”, hosted by Toronto Catholic District School Board [2012]
 - Physics and Astronomy Student Union (PASU) Lecture [2011]
 - “Balancing Teaching and Research” session for new faculty at the University of Toronto [2010]
 - International Physics Olympiad Training Camp for Canadian high school students: presentation on Electricity and Magnetism [2010]
 - “Girls Rock Science workshop: *Chaos: What is it? Where is it? How do we study it?*” for high-school girls. [2010, 2009, 2008]
 - *Science Rendezvous*, city-wide event held in Toronto, ON. [2008, 2009]
 - University of Toronto Spring Reunion Open House [2007]
 - Workshop for women graduate students considering careers in Academia, University of Toronto [2007]
 - Physics & Astronomy Students Union (PASU) “Physics Subject POST Selection session”, University of Toronto [2007]
 - “UofT in Space” event during UofT Fall Campus Days [2006]
 - Department of Physics Undergraduate Summer Research Lecture Series [2006]
 - Canadian Association for Girls in Science (CAGIS) event at a skating rink: “The Physics of Ice Skating” [2006]
- Television, radio and podcast appearances:
 - Titanium Physicists podcast: Neptune [2019]
 - CBC Radio’s *Quirks and Quarks* Interviews and Question Shows [2015 (2), 2009 (2), 2008 (2)]
 - The Star Spot podcast, Episode 22: Magnetism: Probing Planets and Searching for Life [2013]
 - Fairchild TV’s program: The Physics of the Frisbee [2012]
 - CTV News segment: The Earth’s rotation [2011]

- CBC's *Test the Nation* representing the winning "Nerds" team for the Annual IQ test [2010]
- Perimeter Institute's *Quantum to Cosmos* festival event: Worlds Beyond Earth. [2009]
- Interviewee for:
 - *Scientific American* article on Earth's ancient magnetic field [2019]
 - *Globe & Mail* article on the Juno mission to Jupiter [2016]
 - *Washington Post* article on Earth rotational dynamics and core-mantle coupling [2015]
 - Non-fiction book "*The Spinning Magnet*" in preparation by Alanna Mitchell [2015]
 - *Toronto Star* article on the physics of jockeying in horse-racing [2012]
 - *Toronto Star* article on the physics of the 'quad' in figure skating [2011]
 - local high school student's physics project on "Women in Physics" [2009]
 - *National Geographic* television documentary entitled "The Earth Stood Still" [2009]
 - *Discovery Channel* television documentary entitled "The World Without" [2009]
 - *Nature* news story [2008]

PRESENTATIONS: (STUDENTS & POSTDOCS UNDERLINED)

INVITED CONFERENCE PRESENTATIONS:

1. Barik, A., Yan, C., Moore, K., Stanley, S., "Comparison of Jupiter's and Saturn's magnetic fields and implications for their interiors", AGU Fall Meeting, 2022.
2. Moore, K., Barik, A., Stanley, S., Stevenson, D.J., Nettelmann, N., Helled, R., Guillot, T., Militzer, B., Bolton, S., "The influence of stably stratified layers on Jupiter's dynamo magnetic field", AGU Fall Meeting, 2022.
3. Stanley, S., "Is the Geodynamo Different?", International Space Science Institute (ISSI) workshop on Probing the Deep Earth Interior, 2020.
4. Stanley, S., "'Saturn-like' Dynamo Models", Theo Murphy Royal Society Meeting: Revealing Saturn's deep interior for the first time with Cassini, 2019.
5. Yan, C. & Stanley, S., "Recipe for a Saturn-like dynamo model", American Geophysical Union Fall Meeting, 2019.
6. Stanley, S., & Tian, B.Y., "Ice Giant Dynamos", The Next Steps in Ice Giant Exploration Workshop, *Division of Planetary Sciences Meeting*, 2017.
7. Stanley, S., "Dynamos in Exoplanets: What's Different?", *Brown Dwarf to Exoplanet Connection II*, 2017.
8. Stanley, S., Tian, B.Y. and Vilim, R., "Exoplanet Magnetic Fields and Their Detectability", *American Geophysical Union (AGU) Fall Meeting*, 2014.
9. Stanley, S., "Detecting Saturn's Non-axisymmetric Magnetic Fields", *Cassini-Juno Workshop*, 2014.
10. Stanley, S., "Planetary Magnetism: Unlocking the Secrets of Planetary Interiors", *IUPAP International Conference on Women in Physics*, 2014.
11. Stanley, S., "Planetary Dynamos: Updates and New Frontiers", *Heliophysics Summer School*, 2014.
12. Stanley, S., "Unlocking the secrets of planetary interiors", *Women in Physics Canada Conference*, 2013.
13. Stanley, S., "Dynamos in Planets and Stars", *Heliophysics Summer School*, 2013.
14. Stanley, S., "New insights into planetary deep interiors", *Study of the Earth's Deep Interior (SEDI) Symposium*, 2012.
15. Stanley, S., "Numerical modelling of planetary dynamos", *American Physical Society, Division of Plasma Physics Meeting*, 2011.
16. Stanley, S., "Numerical modelling of planetary dynamos", *European Planetary Science Congress – Division of Planetary Sciences (EPSC-DPS) Joint Meeting*, 2011.

17. Stanley, S., Vilim, R., Weiss, B.P., Elkins-Tanton, L.T., “Dynamo generation in asteroids and planetesimals”, *AGU Fall Meeting*, 2010.
18. Stanley, S., Zuber, M.T., Elkins-Tanton, L.T., Parmentier, E.M., “The dynamo’s sensitivity to core-mantle thermal interactions: Investigations of Mars and Earth”, *AGU Fall Meeting*, 2009.
19. Stanley, S., “A dynamo model for axisymmetrizing Saturn’s internal magnetic field using thermal winds in stably stratified layers”, *AGU Fall Meeting*, 2009.
20. Stanley, S., “Planetary Dynamos”, *Canadian Institute for Theoretical Astrophysics (CITA) Workshop on Stellar Magnetism*, 2009.
21. Stanley, S., Elkins-Tanton, L., Zuber, M., Parmentier, E.M., “Creating abnormal dynamo models to explain the abnormal magnetic fields of Mars and Mercury”, *Joint Assembly of the AGU and Canadian Geophysical Union (CGU)*, 2009.
22. Stanley, S., Elkins-Tanton, L., Zuber, M.T., and Parmentier, E.M., “Mars’ Paleomagnetic Field as the Result of a Single-Hemisphere Dynamo”, *European Geophysical Union (EGU) Spring Meeting*, 2009.
23. Stanley, S., “Dynamo models of Mercury, Uranus and Neptune: The Weird Ones”, *International Space Science Institute Workshop on Planetary Magnetism*, 2008.
24. Stanley, S., “Dynamos of the Ice Giants”, *Ecoles de Physique Summer School on Dynamos*, 2007.
25. Stanley, S., Zuber, M.T. and Bloxham, J., “Determining core properties from a planet’s magnetic field morphology”, *AGU Fall Meeting*, 2005.
26. Stanley, S., “What can planetary magnetic fields tell us about their interiors?”, *Gordon Research Conference: Interior of the Earth*, 2005.
27. Stanley, S. and Bloxham, J. “Convective region geometry as the cause of Uranus’ and Neptune’s unusual magnetic fields”, *CGU – AGU Joint Assembly*, 2004.
28. Stanley, S., Bloxham J., Zuber, M.T. and Hutchison, W.E., “Can Mercury’s magnetic field be generated by a dynamo?”, *MESSENGER (MErcury Surface, Space Environment, Geochemistry, and Ranging) Science Team Meeting*, 2004.
29. Stanley, S. and Bloxham, J., “Numerical models of planetary magnetic fields”, *AGU-EGU Joint Assembly*, 2003.

CONTRIBUTED CONFERENCE PRESENTATIONS (AS FIRST AUTHOR):

1. Stanley, S., Banerdt, W.B., Smrekar, S., Fernando, B., Fuqua Haviland, H., Horleston, A.C., Johnson, C.J., King, S.D., Knappmeyer, M., Marusiak, A.G., Mimoun, D., Mittelholz, A., Ohja, L., Panning, M.P., Plesa, A.-C., Russell, C.T., Schmerr, N.C., Spiga, A., Weber, R.C., “A Space Computer Named In Sight Landed on the Red World Last Year and Here is What We Found So Far”, *American Geophysical Union Fall Meeting*, 2019.
2. Stanley, S., “Mars’ Core Evolution and Magnetic Field Generation”, *InSight Science Team Meeting*, 2018.
3. Stanley, S., Tian, B.Y., Tikoo, S.M., and Weiss, B.P., “The Ancient Lunar Dynamo: How to Resolve the Intensity and Duration Conundrums”, *Lunar and Planetary Science Conference (LPSC)*, 2017.
4. Stanley, S. and Tian, B.Y., “The Role of Convective Shell Thickness on Dynamo Scaling Laws for Magnetic Field Morphology: Implications for the Ice Giants and Future Earth”, *AGU Fall Meeting*, 2016.
5. Stanley, S. and Bloxham, J., “On the Secular Variation of Saturn’s Magnetic Field”, *AGU/CGU Joint Assembly*, 2015.
6. Stanley, S. and Tajdaran, K., “Dynamo Models for Saturn’s Axisymmetric Magnetic Field: Finding the Non-axisymmetry”, *AGU Fall Meeting*, 2013.

7. Stanley, S. and Tajdaran K., “Dynamo Models for Saturn’s Axisymmetric Magnetic Field”, *AGU Fall Meeting*, 2012.
8. Elkins-Tanton, L., Zuber, M. T. and Parmentier, E. M., “Mars’ Paleomagnetic Field as the Result of a Single-Hemisphere Dynamo”, *AGU Fall Meeting*, 2008.
9. Stanley, S., “A dynamo model of Saturn’s extremely axisymmetric magnetic field”, *Committee on Space Research*, 2008.
10. Stanley, S., “A dynamo model of Saturn’s extremely axisymmetric magnetic field”, *AGU Spring Meeting*, 2008.
11. Stanley, S., Zuber, M.T. and Bloxham, J., “Determining dynamo region properties from observations of a planet’s magnetic field”, *AGU Fall Meeting*, 2006.
12. Stanley, S., Zuber, M.T., Bloxham, J. and Hutchison, W.E., “Force balances in thin shell dynamo models with applications to Mercury and Mars”, *EGU Annual Meeting*, 2005.
13. Stanley, S., Zuber, M.T., Bloxham, J. and Hutchison, W.E., “Using future observations to determine whether the source of Mercury’s magnetic field is an active dynamo”, *Lunar and Planetary Science Conference*, 2005.
14. Stanley, S., Bloxham, J., Hutchison, W.E. and Zuber, M.T., “Thin shell dynamo models consistent with Mercury’s weak observed magnetic field”, *AGU Fall Meeting*, 2004.
15. Stanley, S., Bloxham, J., Hutchison, W.E. and Zuber, M.T., “Can Mercury’s weak observed magnetic field be generated by a dynamo?”, *AGU Fall Meeting*, 2003.
16. Stanley, S., and Bloxham, J., “Numerical modeling of planetary dynamos”, *Planetary Dynamos Workshop*, 2003.
17. Stanley, S., and Bloxham, J., “Numerical modeling of Uranus’ and Neptune’s unusual magnetic fields”, *AGU Fall Meeting*, 2002.
18. Polano, S., and Bloxham, J., “Numerical modeling of the magnetic fields of Uranus and Neptune”, *AGU Fall Meeting*, 1998. (note: Polano is my maiden name).

CO-AUTHORED CONFERENCE PRESENTATIONS (WITH MY STUDENTS/POST-DOCS AS FIRST AUTHOR):

1. Angappan, R., Barik, A., Anderson, B.J., Merkin, V., Sorathia, K., Philpott, L., Johnson, C.L., Stanley, S., “Physics-Based Simulation of Mercury’s Magnetosphere to Characterize the Magnetic Signatures of Birkeland Currents”, *AGU Fall Meeting*, 2022.
2. Angappan, R., Barik, A., Anderson, B. J., Sorathia, K. A., Philpott, L. C., Johnson, C. L., Stanley, S., “High Precision Characterization of Hermian Birkeland Currents”, *Committee on Space Research (COSPAR) 44th Scientific Assembly*, 2022.
3. Angappan, R., Stanley, S., “Designing an Undergraduate Course Focused on Empathy to Empower Scientific Identity and Support Diversity in Earth and Space Sciences”, *AGU Fall Meeting*, 2022.
4. Borlina, C.S., Stanley, S., Hofstader, M., “The role of magnetic fields during the formation of ice giants”, *AGU Fall Meeting*, 2022.
5. Yan, C., Barik, A., Stanley, S., “The role of stably stratified layers in separating deep and shallow dynamos”, *AGU Fall Meeting*, 2022.
6. Sadhasivan, M., Stanley, S., “The Role of Superionic Ice on The Magnetic Field Morphology of Uranus & Neptune”, *AGU Fall Meeting*, 2022.
7. Yan, C., Barik, A., Plesa, A.-C., Rivoldini, A., Stanley, S., “Sensitivity of the ancient martian dynamo to hemispheric CMB heat flux patterns”, *American Geophysical Union Fall Meeting*, 2020.
8. Barik, A., Stanley, S., Tikoo, S.M., Weiss, B.P., “A precession and convection driven lunar dynamo”, *American Geophysical Union Fall Meeting*, 2020.

9. Angappan, R., Barik, A., Anderson, B.J., Sorathia, K., Philpott, L., Johnson, C., Stanley, S., “Birkeland Current Correction for Mercury’s Core Field Characterization”, American Geophysical Union Fall Meeting, 2020.
10. Yan, C., Stanley, S., “Simulations of Mars’ Ancient Dynamo”, Mars InSight Mission Science Team Meeting 19, 2020.
11. Angappan, R., Anderson, B.J., Barik, A., Vines, S., Stanley, S., “Geomagnetic Jerks: Observations from the Iridium Constellation of Satellites”, International Space Science Institution (ISSI) Workshop on Probing the Deep Earth Interior, 2020.
12. Angappan, R., Anderson, B.J., Vines, S.K., & Stanley, S., “From Drifts to Jerks: Characterizing Variations in the Core Field Globally with Iridium”, American Geophysical Union Fall Meeting, 2019.
13. Anderson, B.J., Angappan, R., Vines, S.K., Stanley, S., Barnes, R.J., “Rapid cadence estimation of Earth’s magnetic field structure reflecting core processes from the Iridium constellation, American Geophysical Union Fall Meeting, 2019.
14. Johnson, C.J., Mittelholz, A., Langlais, B., Russell, C.T., Ansan, V., Banfield, D., Chi, P.J., Fillingim, M.O., Forget, F., Fuqua Haviland, H., Joy, S.P., Liu, X., Michaut, C., Pan, L., Spiga, A., Stanley, S., Wieczorek, M.A., Yu, Y., Smrekar, S.E., & Banerdt, W.B., “Static and Time-Varying Magnetic Fields Recorded at the InSight Landing Sight”, American Geophysical Union Fall Meeting, 2019.
15. Perera, V., Mead, C., van der Hoeven Kraft, K., Stanley, S., Semken, S., Husman, J., Angappan, R., MacKenzie, S., Barik, A., & Buxner, S., “Considering Intergroup Emotions to Improve Diversity and Inclusion in the Geosciences, American Geophysical Union Fall Meeting, 2019.
16. Yan, C. & Stanley, S., “Recipe for a Saturn-like Dynamo”, Theo Murphy Royal Society Meeting: Revealing Saturn’s deep interior for the first time with Cassini, 2019.
17. Barik, A. & Stanley, S., “A lunar dynamo driven by mantle precession and convection”, Core of the Moon Workshop, 2019.
18. Williams, B.M., Karsten, J. Stanley, S. and Harwell, D., “Advancing Ethics and Equity in the Earth and Space Sciences – Strategies and Actions to Impact Diversity and Inclusion”, *Geologic Society of America Annual Meeting*, 2018.
19. Karsten, J., Stanley, S., William, B.M. and Harwell, D., “A New AGU Vision for Improving Diversity and Inclusion in the Earth and Space Sciences”, *Annual Meeting of the American Fisheries Society*, 2018.
20. Angappan, R., Anderson, B.J., Vines, S.K., & Stanley, S., “Acceleration, Jerks, and External Signals: Global Characterization of Earth’s Field on Sub-Annual Time Scales with Space Constellation Measurements”, *American Geophysical Union Fall Meeting*, 2018.
21. Barik, A. & Stanley, S., “A Lunar Dynamo Driven by Differential Precession and Convection., *American Geophysical Union Fall Meeting*, 2018.
22. Angappan, R., Anderson, B.J., Vines, S.K. & Stanley, S., “Sub-Decadal Acceleration in Earth’s Main Field”, *Study of Earth’s Deep Interior Symposium*, 2018.
23. Yan, C. and Stanley, S., “Sensitivity of the Geomagnetic Octupole to a Stably Stratified Layer in the Earth’s Core”, *AGU Fall Meeting*, 2017.
24. Powell, J., Stanley, S., “Implications of Using the GAD Hypothesis in Paleopole Studies for the Moon”, *AGU Fall Meeting*, 2017.
25. Yan, C. and Stanley, S., “Sensitivity of the Geomagnetic Octupole to a Stably Stratified Layer in the Earth’s Core”, *Gordon Research Conference: Interior of the Earth*, 2016.
26. Urbancic, N., Ghent, R., Johnson, C., Stanley, S., et al., “Subsurface Density Structure of Taurus Littrow Valley Using Apollo 17 Gravity Data”, *AGU Fall Meeting*, 2016.
27. Tian, B.Y., Stanley, S. and Valencia, D., “Incorporation of Helium Demixing in Interior Structure Models of Saturn”, *European Geophysical Union General Assembly*, 2015.

28. Urbancic, N., Stanley, S., Ghent, R., Carroll, K.A. et al., “Exploring Lunar Sub-surface Objects Using Surface Gravimetric Surveys”, *Lunar and Planetary Science Conference*, 2015.
29. Tian, Z., Zuber, M.T. and Stanley, S., “Magnetic Field Modeling for Mercury Using Dynamo Models with Stable Layers and Laterally Variable Heat Flux”, *Lunar and Planetary Science Conference*, March 2015.
30. Tian, B.Y., Stanley, S., Tikoo, S.M. and Weiss, B.P., “A Precession-Driven Lunar Dynamo Model”, *AGU Fall Meeting*, 2014.
31. Vilim, R. and Stanley, S., “Can a solid FeS layer help explain Mercury’s unique magnetic field?”, *AGU Fall Meeting*, 2014.
32. Tian, B.Y., Stanley, S., Tikoo, S.M., Weiss, B.P. and Wisdom, J., “A Precession-Driven Lunar Dynamo Model”, *European Geophysical Union Meeting*, 2014.
33. Tian, B.Y. and Stanley, S., “Interior Structure Modeling of Water-Rich Planets: Implications for their Dynamo Source Regions”, *AGU Fall Meeting*, 2013.
34. Vilim, R., Stanley, S., Dumberry, M., “The Effect of a Heterogeneous Electrically Conducting Mantle Layer on Secular Variation in the Geodynamo”, *AGU Fall Meeting*, 2013.
35. Dharmaraj, G. and Stanley, S., “Dynamo Generation Mechanisms: What Determines the Dynamo Type?”, *AGU Fall Meeting*, 2013.
36. Tian, B.Y. and Stanley, S., “Interior Structure of Water Planets: Implications for Their Dynamo Source Regions”, *Lunar & Planetary Science Conference*, 2013.
37. Vilim, R., Stanley, S., Elkins-Tanton, L., “The Effect of an Electrically Conducting Lower Mantle on Dynamo Generated Planetary Magnetic Fields”, *Les Houches Winter School on Waves and Instabilities in Geophysical and Astrophysical Flows*, 2013.
38. Vilim, R., Stanley, S., Elkins-Tanton, L., “The Effect of an Electrically Conducting Lower Mantle on Dynamo Generated Planetary Magnetic Fields”, *AGU Fall Meeting*, 2012.
39. Dharmaraj, G. and Stanley, S., “Influence of boundary conditions on planetary dynamos”, *SEDI Symposium*, 2012.
40. Vilim, R., Stanley, S. and Elkins-Tanton, L.T., “The effect of lower mantle metallisation on the dynamo generated magnetic fields of Super-Earths”, *SEDI Symposium*, 2012.
41. Vilim, R., Stanley, S. and Elkins-Tanton, L.T., “The effect of lower mantle metallisation on the dynamo generated magnetic fields of Super-Earths”, *CPS 9th International School of Planetary Sciences*, 2012.
42. Dharmaraj, G. and Stanley, S., “Influence of thermal and velocity boundary conditions on planetary dynamos”, *AGU Fall Meeting*, 2011.
43. Leung, J. and Stanley, S., “Mars magnetic field intensity: Relationship to core-mantle boundary thermal variability”, *EPSC-DPS Joint Meeting*, Nantes, FR, 2011.
44. Vilim, R., Stanley, S. and Elkins-Tanton, L., “The effect of an electrically conducting lower mantle on planetary dynamos in large terrestrial exoplanets”, *EPSC-DPS Joint Meeting*, Nantes, FR, 2011.
45. Dharmaraj, G. and Stanley, S., “Effect of inner core conductivity on planetary dynamos”, *Canadian Association of Physics (CAP) Congress*, 2010.
46. Dharmaraj, G. and Stanley, S., “The effects of inner core conductivity on planetary dynamo models”, *AGU Fall Meeting*, 2009.
47. Vilim, R., Stanley, S., Hauck, S.A., “Dynamo models incorporating iron ‘snow zones’ consistent with Mercury’s weak observed magnetic field”, *AGU Fall Meeting*, 2009.
48. Vilim, R., Stanley, S., Hauck, S.A., “Dynamo models incorporating iron snow zones consistent with Mercury’s weak observed magnetic field”, *Gordon Research Conference: Interior of the Earth*, 2009.
49. Dharmaraj, G., Stanley, S., “Effects of inner core conductivity on planetary magnetic field morphology”, *Gordon Research Conference: Interior of the Earth*, 2009.

50. Vilim, R., Stanley, S. and Hauck, S.A., “Dynamo models incorporating iron snow zones consistent with Mercury’s weak observed magnetic field”, *Joint Assembly of the AGU and CGU*, 2009.
51. Dharmaraj, G., Stanley, S., “Effects of inner core conductivity on planetary magnetic field morphology”, *Joint Assembly of the AGU and CGU*, 2009.
52. Vilim, R., Stanley, S., and Hauck, S., “The effect of iron ‘snow’ layers on magnetic field generation in Mercury”, *AGU Fall Meeting*, 2008.

INVITED LECTURES:

1. Studio Art Quilt Associates (SAQA) Presentation, August 2022.
2. International Space Science Institute (ISSI) Game Changers Seminar, November 2021.
3. UC Berkeley, Center for Integrative Planetary Sciences (CIPS) Seminar, November 2021.
4. NASA Heliophysics Summer School, June 2021
5. UC Santa Cruz, IGPP Seminar Series, November 2020.
6. UC San Diego, Scripps Institution of Oceanography, November 2020.
7. Lawrence Livermore National Labs, 2018.
8. Center for Environment and Applied Fluid Mechanics, Johns Hopkins University, 2017.
9. Carnegie Institute of Washington, Department of Terrestrial Magnetism, 2017
10. University of Maryland, Department of Geology, 2017
11. Princeton University, Geosciences Department, 2016.
12. McGill University, Space Science Institute, 2016.
13. University of Guelph, Department of Physics, 2016.
14. Stanford University, Department of Geological Sciences, 2016.
15. York University, Department of Physics & Astronomy, 2015.
16. York University, Astronomy Club, 2015.
17. Johns Hopkins University, Department of Physics and Astronomy, 2015.
18. Florida State University, Department of Physics, 2014.
19. University of Western Ontario, Department of Earth Sciences, 2014.
20. University of Western Ontario, Centre for Planetary Science and Exploration (CPSX) Research Forum, 2014.
21. Astronomy and Space Exploration (ASX) Society “Star Talk”, 2013.
22. Harvard University, Department of Earth & Planetary Sciences, 2013.
23. Royal Canadian Institute/Royal Astronomical Society of Canada (RCI/RASC) Lecture, 2012.
24. Physics and Astronomy Student Union Lecture, University of Toronto, 2012.
25. MIT, Department of Earth, Atmospheric and Planetary Sciences, 2012.
26. Princeton Plasma Physics Laboratory, 2012.
27. University of Alberta, Department of Physics, 2012.
28. Université de Montréal, Département de Physique, 2012.
29. University of Ontario Institute of Technology, Sharcnet Seminar, 2012.
30. University of Rochester, Department of Astronomy/Astrophysics, 2011.
31. Physics and Astronomy Student Union Lecture, University of Toronto, 2011.
32. University of Toronto Alumni Association “Canadian Perspectives” Lecture, 2010.
33. Royal Astronomical Society, Ontario Science Centre, 2009.
34. California Institute of Technology, Division of Geological & Planetary Sciences, 2007.
35. University of Toronto, Department of Physics, 2007.
36. University of California Los Angeles, Department of Earth & Space Sciences, 2007.
37. University of Toronto, Department of Geology, 2007.
38. Carnegie Institute of Washington, Department of Terrestrial Magnetism, 2006.

39. University of Colorado Boulder, Department of Astrophysical & Planetary Sciences, 2006.
40. University of Chicago, Department of Geophysical Sciences, 2006.
41. University of Toronto at Mississauga, Department of Chemical and Physical Sciences, 2006.
42. Princeton University, Department of Geosciences, 2006.
43. Royal Military College, Department of Physics, 2006.
44. University of British Columbia, Physics and Astronomy Department, 2005.
45. University of Toronto, Department of Astronomy & Astrophysics, 2005.
46. University of California Berkeley, Department of Earth & Planetary Sciences, 2005.
47. Brown University, Department of Geosciences, 2004.

PUBLICATIONS:

1. Barik, A., Triana, S.A., Calkins, M., Stanley, S., Aurnou, J., Onset of convection in rotating spherical shells: Variations with radius ratio, *Earth and Space Science*, **9**, e2022EA002606 (2022).
2. Fernando, B., Daubar, I.J., Irving, J.C.E., Johnson, C.L., Marusiak, A.G., Baker, M.M., Stanley, S., Inclusion of early-career researchers in space missions, *Nature Astronomy*, **6**, 1339-1341 (2022)
3. Moore, K.M., Barik, A., Stanley, S., Stevenson, D.J., Nettelmann, N., Helled, R., Guillot, T., Militzer, B., Bolton, S., Dynamo Simulations of Jupiter's Magnetic Field: The Role of Stable Stratification and a Dilute Core, *J. Geophys. Res.* **127**, e2022JE007479 (2022).
4. Cohen, I.J. et al. (including S. Stanley), The Case for a New Frontiers-Class Uranus Orbiter: System Science at an Underexplored and Unique World with a Mid-scale Mission, *Planetary Sci. J.* **3**, 58 (2022)
5. Breuer, D., Spohn, T., van Hoolst, T., van Westrenen, W., **Stanley, S.**, Rambaux, N., Interior of Earth-like Planets and Satellites of the Solar System, *Surv. Geophys.* (2021)
<https://doi.org/10.1007/s10712-021-09677-x>.
6. Gleason, A.E., Rittman, D.R., Bolme, C.A., Galtier, E., Lee, H.J., Granados, E., Ali, S., Lazicki, A., Swift, D., Celliers, P., Militzer, B., **Stanley, S.**, & Mao, W.L., Structure of dynamically compressed water to over 200 GPa: Implications for ice giant interiors, *in review*.
7. Anderson, B.J., Angappan, R., Barik, A., Vines, S.K., **Stanley, S.**, Bernasconi, P.N., Korth, H., & Barnes, R.J., Satellite Constellation Data for Study of Earth's Magnetic Field, *Geochem. Geophys. Geosys.*, **22**, e2020GC009515 (2021).
8. Yan, C., & **Stanley, S.**, Recipe for a Saturn-like dynamo, *AGU Advances*, **2**, e202AV000318 (2021).
9. Perera, V., van der Hoeven Kraft, K.J., Husman, J., Semken, S., Mead, C., Angappan, R., Barik, A., **Stanley, S.**, MacKenzie, S., & Buxner, S., Considering intergroup emotions to improve diversity and inclusion in the geosciences, *Journal of Geoscience Education*, DOI: [10.1080/10899995.2021.1881863](https://doi.org/10.1080/10899995.2021.1881863) (2021).
10. Soderlund, K.M. & **Stanley, S.**, The underexplored frontier of ice giant dynamos, *Phil. Trans. R. Soc. A.* **378**: 20190479 (2020).
11. Kollmann, P., Cohen, I., Allen, R.C., Clark, G., Roussos, E., Vines, S., Dietrich, W., Wicht, J., dePater, I., Runyon, K.D., Cartwright, R., Masters, A., Brain, D., Hibbits, K., Mauk B., Gkioulidou, M., Rymer, A., McNutt Jr., R., Hue, V., **Stanley, S.**, Brandtl, P., Magnetospheric Studies: A requirement for addressing interdisciplinary mysteries in the Ice Giant systems, *Space Sci Rev.* **216**, 1-26 (2020)
12. Johnson, C.L., Mittelholz, A., Langlais, B., Russell, C.T., Ansan, V., Banfield, D., Chi, P.J., Fillingim, M.O., Forget, F., Haviland, H., Golomek, M., Joy, S., Lognonné, P., Liu, X., Michaut,

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13. Banerdt, W.B., Smrekar, S., Banfield, D., Giardini, D., Golombek M., Johnson C.J., Lognonné, P., Spiga, A., Spohn, T., Perrin, C., Stähler, S., Antonangeli, D., Asmar, S., Beghein, C., Bowles, N., Bozdag, E., Chi, P., Christensen, U., Clinton, J., Collins, G., Daubar, I., Dehant, V., Drilleau, M., Fillingim, M., Folkner, W., Garcia, R., Garvin, J., Grant, J., Grott, M., Grygorczuk, J., Hudson, T., Irving, J., Kargl, G., Kawamura, T., Kedar, S., King, S., Knapmeyer-Endrun, B., Knapmeyer, M., Lemmon, M., Lorenz, R., Maki, J., Margerin, L., McLennan, S., Michaut, S., Mimoun, D., Mittelholz, A., Mocquet, A., Morgan, P., Müller, N., Murdoch, N., Nagihara, S., Newman, C., Nimmo, F., Panning, M., Pike, W.T., Plesa, A.-C., Rodriguez, S., Rodriguez-Manfredi, J.-A., Russell, C.T., Schmerr, N., Siegler, M., **Stanley, S.**, Stutzmann, E., Teanby, N., Tromp, J., van Driel, M., Warner, N., Weber, R., Wicczorek, M., “Early Results from the InSight Mission: Mission Overview and Global Seismic Activity”, *Nature Geosci.*, **13**, 183-189 (2020).
 14. Yan, C. & **Stanley, S.**, “Sensitivity of the Geomagnetic Octupole to a Stably Stratified Layer in the Earth’s Core” *Geophysical Research Letters*, 45(20). DOI:10.1029/2018GL078975, (2018).
 15. Hauck II, S.A., Grott, M., Byrne, P.K., Denevi, B.W., **Stanley, S.**, & McCoy, T.J., “Mercury’s Global Evolution”, in Mercury, The View After MESSENGER, ed. Solomon, S.C., Nittler, L. & Anderson, B.J. Cambridge University Press, 516-543 (2018).
 16. Urbancic, N., Ghent, R., Johnson, C.L, **Stanley, S.**, Hatch, D., Carroll, K.A., Garry, W.B. & Talwani, M., “Subsurface Density Structure of Taurus Littrow Valley Using Apollo 17 Gravity Data”, *JGR-Planets*, **122**, 1181-1194 (2017).
 17. Scheinberg, A., Fu, R.R., Elkins-Tanton, E., Weiss, B.P. & **Stanley, S.**, “Magnetic fields on asteroids and planetesimals”, in Planetesimals: Early Differentiation and Consequences for Planets, ed. Elkins-Tanton, L.T. & Weiss, B.P., Cambridge University Press, 180-203 (2017).
 18. Matsui et al. (including **Stanley, S.**), “Performance benchmarks for a next generation numerical dynamo model”, *Geochem. Geophys. Geosys.*, **17**, 1586-1607 (2016).
 19. **Stanley, S.**, “Planetary Dynamos: Updates and New Frontiers” in: *Heliophysics: Active Stars, their Astrospheres, and Impacts on Planetary Environments*, ed: K. Schrijver, F. Bagenal and J. Sojka. Cambridge University Press, 121-136 (2016).
 20. **Stanley, S.** and Bloxham, J., “On the Secular Variation of Saturn’s Magnetic Field”, *Phys. Earth Planet. Int.* **250**, 31-34 (2016).
 21. Mitrovica, J.X., Hay, C.C., Morrow, E., Kopp, R.E., Dumberry, M. & **Stanley, S.**, “Reconciling Past Changes in Earth Rotation with 20th Century Global Sea-Level Rise: Resolving Munk’s Enigma”, *Science Advances* **1**, e1500679 (2015).
 22. Tian, Z., Zuber, M.T. and Stanley, S., “Magnetic field modelling for Mercury using dynamo models with stable layers and laterally variable heat flux”, *Icarus* **260**, 263-268 (2015).
 23. Batygin, K. & **Stanley, S.**, “Non-axisymmetric flows on Hot Jupiters with Oblique Magnetic Fields”, *Astrophys. J.* **794**:10 (2014).
 24. Dharmaraj, G., & **Stanley, S.**, “Scaling laws, force balances and dynamo generation mechanisms in numerical dynamo models: Influence of boundary conditions”, *Geophys. J. Int.* **199**, 514-532 (2014).
 25. **Stanley, S.**, “Magnetic Field Generation in Planets”, in: *Encyclopedia of the Solar System, 3rd edition*, ed: T. Spohn, T.V. Johnson & D. Breuer. Elsevier, 121-136 (2014).
 26. Chan, N.-H., Mitrovica, J.X., Daradich, A., Creveling, J.R., Matsuyama, I. and **Stanley, S.**, “Time-Dependent Rotational Stability of Dynamic Planets with Elastic Lithospheres”, *J. Geophys. Res.* **119**, doi:10.1002/2013JE004466 (2014).
 27. Batygin, K., **Stanley, S.** and Stevenson, D., “Magnetically controlled circulation on hot extrasolar planets”, *Astrophys. J.* **776**: 53 (2013).

28. Vilim, R., Stanley, S., and Elkins-Tanton, L., “The effect of lower mantle metallization on magnetic field generation in rocky exoplanets”, *Astrophys. J. Lett.* **768**, L30 (2013).
29. Tian, B.Y. & Stanley, S., “Interior structure of water planets: Implications for their dynamo source regions”, *Astrophys. J.* **768**, 156 (2013).
30. Dharmaraj, G. and Stanley, S., “Effect of inner core conductivity on planetary dynamo models”, *Phys. Earth Planet. Int.* **212-213**, 1-9 (2012).
31. Chan, N.-H., Mitrovica, J.X., Matsuyama, I., Creveling, J.R. and **Stanley, S.**, “The rotational stability of a convecting Earth: Assessing inferences of rapid TPW in the late cretaceous”, *Geophys. J. Int.* **187**, 1319-1333 (2011).
32. Chan, N.H., Mitrovica, J.X., Matsuyama, I., Latychev, K., Creveling, J.R., **Stanley, S.** and Morrow, E., “The rotational stability of a convecting Earth: The Earth’s figure and TPW over the last 100 Myr”, *Geophys. J. Int.* **187**, 773-782 (2011).
33. Serbanescu, R.M., Kushner, P.J. and **Stanley, S.**, Putting computation on a par with experiments and theory in the Undergraduate Physics curriculum, *American Journal of Physics* **79**, 919 (2011).
34. **Stanley, S.**, A dynamo model for axisymmetrizing Saturn’s magnetic field, *Geophys. Res. Lett.* **37**, L05201, doi:10.1029/2009GL041752 (2010).
35. Vilim, R., Stanley, S., Hauck, S.A., Iron snow zones as a mechanism for generating Mercury’s weak observed magnetic field, *J. Geophys. Res.* **115**, E11003 (2010).
36. Weiss, B.P., Rochette, P., **Stanley, S.**, Paleomagnetic Records of Meteorites and Early Planetsimal Differentiation, *Space Sci. Rev.* **152**, 341-490 (2010).
37. **Stanley, S.** and Glatzmaier, G., Dynamo models for planets other than Earth, *Space Sci. Rev.* **152**, 617-649 (2010).
38. Weiss, B.P., Berdahl, J.S., Elkins-Tanton, L.T., **Stanley, S.**, Lima, E.A., Carporzen, L., Magnetism on the Angrite Parent Body and the Early Differentiation of Planetesimals, *Science*, **322**, 713-716 (2008).
39. **Stanley, S.**, Elkins-Tanton, L.T., Zuber, M.T., Parmentier, E.M., Mars’ Paleomagnetic Field as the Result of a Single-Hemisphere Dynamo, *Science*, **321**, 1822-1825 (2008).
40. **Stanley, S.** and Mohammadi, A., Effects of an outer thin stably-stratified layer on planetary dynamos, *Phys. Earth Planet. Int.*, **168**, 179-190 (2008).
41. **Stanley, S.**, Dynamos of the ice giants, in: *Dynamos*, ed: P. Cardin and L. Cugliandolo. Elsevier, Amsterdam, 451-464 (2008).
42. **Stanley, S.**, Zuber, M.T. and Bloxham, J., Using reversed magnetic flux spots to determine a planet’s inner core size, *Geophys. Res. Lett.*, **34**, L19205 (2007).
43. Zuber, M.T., Aharonson, O., Aurnou, J.M., Cheng, A.F., Hauck, S.A., Heimpel, M.H., Neumann, G.A., Peale, S.J., Phillips, R.J., Smith, D.E., Solomon, S.C., **Stanley, S.**, The Geophysics of Mercury: Current Status and Anticipated Insights from the MESSENGER Mission, *Space Science Rev.*, **131**, 105-132 (2007).
44. **Stanley, S.** and Bloxham, J., Numerical dynamo models of Uranus’ and Neptune’s magnetic fields, *Icarus*, **184**, 556-572 (2006).
45. **Stanley, S.**, Bloxham, J., Hutchison, W. E. and Zuber, M.T., Thin shell dynamo models consistent with Mercury’s weak surface magnetic field, *Earth Planet. Sci. Lett.*, **234**, 27-38 (2005).
46. **Stanley, S.** and Bloxham, J., Convective-region geometry as the cause of Uranus’ and Neptune’s unusual magnetic fields, *Nature*, **428**, 151-153 (2004).
47. **Stanley, S.**, So many dynamos: A study of planetary magnetic field morphologies, Ph.D. Thesis, Harvard University, Cambridge, MA.
48. Percy, J.R. and **Polano, S.**, Pulsation Modes in M Giants, in: *A half century of stellar pulsation interpretation: A Tribute to Arthur N. Cox*, ed: P.A. Bradley and J.A. Guzik. ASP Conference Series **135**, 249-253 (1998). (Note: Polano is my maiden name).