Yohai Kaspi

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Research Interests: Geophysical fluid dynamics; general circulation of atmospheres and oceans; climate dynamics; dynamics of giant planet atmospheres and interiors; gravity science; atmospheric occultations.

Education

Postdoc	**Atmospheric Dynamics** California Institute of Technology, Pasadena, CA	2008-2011
Ph.D.	**Physical Oceanography** Massachusetts Institute of Technology (MIT), Cambridge, MA, and Woods Hole Oceanographic Institution (WHOI), Woods Hole, MA, Joint Program	2008
M.Sc.	**Physics** Weizmann Institute of Science (WIS), Rehovot, Israel	2002
B.Sc.	**Physics and Mathematics** Hebrew University, Jerusalem, Israel	2000

Professional Appointments

- Associate Professor, Weizmann Institute of Science 2017 - present
- Assistant Professor, Weizmann Institute of Science 2011 - 2017
- Postdoctoral Fellow, California Institute of Technology 2008 - 2011

Professional Activities

- Head, Weizmann Institute Helen Kimmel Center for Planetary Science
- Head, Weizmann Institute Postdoctoral Program
- Co-PI, 3GM instrument for ESA's JUICE mission to Jupiter and the Galilean satellites
- Co-I, NASA Juno mission to Jupiter
- Co-I, NASA Trident mission to Neptune's moon Triton (proposed, phase A)
- Chair, American Meteorological Society's Atmosphere & Ocean Fluid Dynamics (AOFD) committee
- Member of the World Climate Research Programme (WCRP) CLIVAR Climate Dynamics Panel

Honors and Awards

- Japanese Society for the Promotion of Science (JSPS) Visitors Scholar Fellowship 2018
- Princeton GFDL Visitors Scholar Fellowship 2017
- Weizmann Institute Scientific Council Prize of Excellence 2017
- EU Marie Curie Award Fellowship 2012
- NASA Group Achievement Award, Juno Science Team 2012
- NOAA Climate and Global Change Postdoctoral Award Fellowship 2008
- Teaching Excellence Award, MIT 2007
- Charney Prize, MIT 2003
- MIT Presidential Fellowship 2002

Teaching

- The global circulation of the atmosphere, WIS — Spring 2015, Spring 2019
- Global warming debates, WIS — Fall 2013
- Atmospheric and oceanic baroclinic instability theory, WIS & IUI Eilat — Spring 2013
- Atmospheric and oceanic fluid dynamics, WIS — Fall 2012, Fall 2015, Fall 2018, Fall 2020
- Turbulence in the oceans and atmospheres, WIS — Fall 2016

Service

- Co-Organizer of the Latsis Symposium on Atmosphere and Climate Dynamics: From Clouds to Global Circulations, Zurich, Switzerland, June 2014.
- Co-Organizer of the GFD Days Symposium, Sde Boqer, Israel, January 2016, January 2017 & January 2019.
- Co-Organizer of Stormtracks 2018: Perspectives on storm tracks in a changing climate, Uto, Sweden, August, 2018.
- Co-Organizer of AMS Atmospheres and Oceans Fluid Dynamics meeting, USA, 2021.
- Organizer of Departmental seminar, Earth and Planetary Sciences, WIS, 2011-2019.
- Weizmann Institute Scientific Appointments Committee (V9). 2019 - present
- Peer-review journal reviewer: Nature, Science, Nature Geoscience, Nature Climate Change, Nature Astronomy, Nature Communications, Icarus, Geophysical Research Letters, The Astrophysical Journal, Fluid Dynamics Research, Journal of the Atmospheric Sciences, Quarterly Journal of the Royal Meteorological Society, Journal of Climate, Journal of Geophysical Research, Journal of Hydrometeorology, Climate Dynamics, Planetary and Space Science, Monthly Notices of the Royal Astronomical Society, Physics of the Earth and Planetary Interiors.
- Grant reviewer: ERC-STG, NERC, NASA Outer Planets program, NASA Solar Systems Research Programs, NSF, Israeli Science Foundation, German-Israeli Science Foundation, Leverhulme Trust, Deutsche Forschungsgemeinschaft, Pazi Foundation, Swiss National Science Foundation.

Students and Postdocs supervised

MSc

- Rei Chemke — 2012-2014
  Thesis title: Poleward migration of eddy-driven jets.
- Ilai Guendelman — 2015 - 2017
  Thesis title: Hadley cell dynamics over a wide range of orbital parameters.
- Keren Duer — 2016 - 2018
  Thesis title: The interaction between Jupiter's magnetic field its atmospheric flows.
- Dana Raiter — 2018 - 2020
  Topic: The Longitudinal dependence of the Hadley circulation
- Or Hadas — 2018 - 2020
  Topic: Storm track dynamics

PhD

- Talia Tamarin-Brodsky — 2012-2017
  Thesis title: The poleward deflection of midlatitude storm tracks and its variation under climate change.
  Current position: James McDonnell Postdoctoral fellow, University of Reading
  Beginning 2021: Assistant Professor, MIT

- Rei Chemke 2014-2017
  Thesis title: The latitudinal dependence of geostrophic turbulence in the atmosphere.
  Current position: Assistant Professor, Weizmann Institute
- Janni Yuval 2013-2017
  Thesis title: Sensitivity of atmospheric turbulence to the spatial structure of baroclinicity: implications for storm tracks and climate change.
  Current position: EAPS Distinguished Postdoctoral fellow, MIT
- Hilla Afargan-Gerstman 2012-2018
  Thesis title: The seasonal cycle of storm track eddies.
  Current position: Postdoctoral fellow, ETH Zurich
- Ilai Guendelman 2018 - present
  Thesis topic: Seasonal variation of planetary climate
- Keren Duer 2018 - present
  Thesis topic: Magnetohydrodynamics on giant planets
- Nimrod Gavriel 2019 - present
  Thesis topic: Geophysical vortices
- Maria Smirnova 2020 - present
  Thesis topic: Atmospheric radio-occultations
- Or Hadas 2020 - present
  Topic: Storm track dynamics

Postdoc

- Marzia Parisi 2014-2016
  Research topic: Determining the depth of Jupiter's Great Red Spot with Juno's gravity measurements
  Current position: Research scientist, Jet Propulsion Laboratory
- Morgan E. O'Neill 2015-2017
  Research topic: Convection on fluid planets
  Current position: Assistant Professor, Stanford University

Publications

Bold face denotes members of the Kaspi Research group

84. **Gavriel N.** and **Y. Kaspi**, 2021, The number and location of circumpolar cyclones on Jupiter explained by vorticity dynamics, *Nature Geoscience*, Vol. 14, 8, link
83. Parisi, M, **Y. Kaspi**, **E. Galanti**, D. Durante, S. J. Bolton, S. M. Levin, D. R. Buccino, L. N. Fletcher, W. M. Folkner, T. Guillot, R. Helled, L. Iess, C. Li, K. Oudrhiri, M. H. Wong, 2021, The depth of Jupiter's Great Red Spot constrained by the Juno gravity overflights, *Science*, in press.
82. Okajima S., H. Nakamura and **Y. Kaspi**, 2021, Energetics of transient eddies related to the midwinter minimum of the North Pacific storm-track, *J. Climate*, Vol. 11, in revision.
81. Nettelmann, N., N. Movshovitz, D. Ni, J. J. Fortney, **E. Galanti**, **Y. Kaspi**, R. Helled, C. R. Mankovich, and S. Bolton, 2021, Theory of Figures to the 7th order and the interiors of Jupiter and Saturn, *Astrophys. J.*, in revision.
80. **Guendelman I.**, D. Waugh and **Y. Kaspi**, 2021, The emergence of a summer hemisphere jet in planetary atmospheres, *J. Atmos. Sci.*, Vol. 76, in press. link

79. Fletcher L. N., F. A. Oyafuso, M. D. Allison M. D., Ingersoll A. P., Li L., **Y. Kaspi**, **E. Galanti**, M. H. Wong, G. S. Orton , **K. Duer**, Z. Zhang, C. Li, T. Guillot, S. M. Levin, S. J. Bolton, 2021, Jupiter's Temperate Belt/Zone Contrasts Revealed at Depth by Juno Microwave Observations (2021) *J. Geophys. Res.*, in press. link

78. **Galanti E., D. Raiter, Y. Kaspi** and Tziperman E., 2021, The zonal shift of the longitudinally-dependent Hadley circulation on interannual time scales, *J. Geophys. Res.*, in revision. link

77. **Hadas O.** and **Y. Kaspi**, 2021, Suppression of baroclinic eddies by strong jets, *J. Atmos. Sci*., Vol. 76, 2445–2457. link

76. Lee S. and **Y. Kaspi**, 2021, Towards an understanding of the structure of Jupiter's atmosphere using the ammonia distribution and the Transformed Eulerian Mean theory, *J. Atmos. Sci*., Vol. 76, 2047–2056. link

75. **Galanti E.**, **Y. Kaspi**, **K. Duer**, L. N. Fletcher, A. P. Ingersoll, C. Li, G. S. Orton, T. Guillot, S. M. Levin and S. J. Bolton, 2021, Constraints on the latitudinal profile of Jupiter's deep jets, *Geophys. Res. Lett.,* 48, 9, e2021GL092912. link

74. Okajima S., H. Nakamura and **Y. Kaspi**, 2021, Cyclonic and anticyclonic contributions to atmospheric energetics*, Scientific Reports*, Vol. 11, 13202. link

73. Fletcher et al., 2021, Ice giant system exploration within ESA's Voyage 2050, *Experimental Astronomy,* pp. 12. link

72. **Galanti E.** and **Y. Kaspi**, 2021, Combined magnetic and gravity measurements probe the deep zonal flows of the gas giants, *Mon. Not. Royal Astronom. Soc.*, 501, 2, 2352-2362. link

71. **Kaspi, Y., E. Galanti**, A. P. Showman, D. J. Stevenson, T. Guillot, L. Iess and S. J. Bolton, 2020 Comparison of the deep atmospheric dynamics of Jupiter and Saturn in light of the Juno and Cassini gravity measurements, *Space Sci. Rev.,* 216, 5, 84. link

70. Parisi M., **E. Galanti**, W. M. Folkner, **Y. Kaspi** and D. R. Buccino, Resolving the latitudinal short-scale gravity field of Jupiter using Slepian functions, *J. Geophys. Res.*, 125, e2020JE006416. link

69. **Raiter, D., E. Galanti** and **Y. Kaspi**, 2020, The tropical atmospheric conveyor belt: A coupled Eulerian-Lagrangian analysis of the large-scale tropical circulation*, Geophys. Res. Lett.,* 47, 10, e2019GL086. link

68. **Duer K., E. Galanti** and **Y. Kaspi**, 2020, The range of Jupiter's flow structures fitting the Juno asymmetric gravity measurements, *J. Geophy. Res.*, 125, e2019JE006292. link

67. Lachmy O. and **Y. Kaspi**, 2020, The role of diabatic heating in Ferrel cell dynamics*, Geophys. Res. Lett.,* 47, 23, 2020GL0906. link

66. Fletcher L. N., **Y. Kaspi,** T. Guillot and A. P. Showman, 2020, How well do we understand the belt/zone circulation of Giant Planet atmospheres?, *Space Sci. Rev*., 216, 2, 30. link

65. T. Imamura, J. Mitchell, S. Lebonnois, **Y. Kaspi**, A. P. Showman and O. Korablev, 2020, Superrotation in planetary atmospheres. *Space Sci. Rev.,* 216, 5, 87. link

64. **Guendelman I.** and **Y. Kaspi**, 2020, Atmospheric dynamics on terrestrial planets with eccentric orbits, *Astrophys. J.*, 901:46. link

63. Fletcher et al., 2020, Ice Giant Systems: The Scientific Potential of Missions to Uranus and Neptune, *Planet. and Space Sci.,* 191, 105030. link

62. **Yuval J.** and **Y. Kaspi**, 2020, Eddy activity response to global warming like temperature changes, *J. Climate*, Vol. 33, 1381-1404. link

61. Parisi M., W. M. Folkner, **E. Galanti, Y. Kaspi**, D. R. Buccino , K. Oudrhiri and S. J. Bolton, 2020, A mascon approach to estimating the depth of Jupiter's Great Red Spot with the Juno mission, *Planet. and Space Sci.,* 181, 104781. link

60. **Duer K., E. Galanti** and **Y. Kaspi**, 2019, Analysis of Jupiter's deep jets combining Juno gravity and time varying magnetic field measurements, *Geophys. Res. Lett.,* 879:L22. link

59. **Guendelman I.** and **Y. Kaspi**, 2019, Atmospheric dynamics on terrestrial planets: the seasonal response to changes in orbital, rotational and radiative timescales, *Astrophys. J.*, 881:67. link
58. **Galanti E., Y. Kaspi**, F. J. Simons, D. Durante, M. Parisi, S. J. Bolton, 2019, Determining the depth of Jupiter's Great Red Spot: a Slepian approach. *Astrophys. J.*, 874:L24. link
57. Iess L., B. Militzer, **Y. Kaspi**, P. Nicholson, D. Durante, P. Racioppa, A. Anabtawi, **E. Galanti**, W. Hubbard, M. J. Mariani, P. Tortora, S. Wahl, M. Zannoni, 2019, Measurement and implications of Saturn's gravity field and ring mass, *Science,* Vol. 364, 1052. link
56. **Galanti E.**, **Y. Kaspi**, Y. Miguel, T. Guillot, D. Durante, P. Racioppa, and L. Iess, 2019, Saturn's deep atmosphere revealed by the Cassini Grand Finale gravity measurements. *Geophys. Res. Lett.,* Vol. 46, 616-624. link
55. Galperin, B., S. Sukoriansky, R.M.B. Young, **R. Chemke**, **Y. Kaspi**, P.L. Read N. Dikovskaya, 2019, Barotropic and geostrophic turbulence, ISSI Zonal Jets book chapter. link
54. Sanchez-Lavega A., L. Sromovsky, A. P. Showman, A. D. Del Genio, R. Young, E. Garcia-Melendo, **Y. Kaspi**, G. S. Orton, N. Barrado-Izagirre, D. Choi, and J. M. Barbara, 2019, Zonal jets in gas giants, ISSI Zonal Jets book chapter. link
53. **Guendelman I.** and **Y. Kaspi**, 2018, An axisymmetric limit for the width of the Hadley cell in a planet with large obliquity and long seasonality, *Geophys. Res. Lett.,* Vol. 45, 13213–13221. link
52. **Yuval J.**, **Afargan, H.** and **Y. Kaspi**, 2018, The seasonal subtropical to eddy-driven jet transition leading to a Pacific midwinter minimum in eddy activity, *Geophys. Res. Lett.,* Vol. 45, 9995-10002. link
51. **Kaspi Y.**, **E. Galanti**, W. B. Hubbard, D. J. Stevenson, S. J. Bolton, L. Iess, T. Guillot, J. Bloxham, J. E. P. Connerney, H. Cao, D. Durante, W. M. Folkner, R. Helled, A. P. Ingersoll, S. M. Levin, J. I. Lunine, Y. Miguel, B. Militzer, M. Parisi and S. M. Wahl 2018, Jupiter's atmospheric jet streams extend thousands of kilometers deep, *Nature,* Vol. 555, 223-226. link
50. Iess L., W. M. Folkner, D. Durante, M. Parisi, **Y. Kaspi**, **E. Galanti**, T. Guillot, W. B. Hubbard, D. J. Stevenson, J. D. Anderson, D. R. Buccino, L. Gomez Casajus, A. Milani, R. Park, P. Racioppa, D. Serra, P. Tortora, M. Zannoni, H. Cao, R. Helled, J. I. Lunine, Y. Miguel, B. Militzer, S. Wahl, J. E. P. Connerney, S. M. Levin and S. J. Bolton. Measurement of Jupiter's asymmetric gravity field, 2018, *Nature,* Vol. 555, 220-222. link
49. Guillot T., Y. Miguel, B. Militzer, W. B. Hubbard, **Y. Kaspi**, **E. Galanti**, H. Cao, R. Helled, S. M. Wahl, L. Iess, W. M. Folkner, D. J. Stevenson, J. I. Lunine, D. R. Reese, A. Biekman, M. Parisi, D. Durante, J. E. P. Connerney, S. M. Levin and S. J. Bolton 2018, A suppression of differential rotation in Jupiter's deep interior, *Nature,* Vol. 555, 227-230. link
48. **Yuval J**. and **Y. Kaspi**, 2018, Eddy response to changes in jet characteristics, *J. Atmos. Sci*., Vol. 75, 1371-1383. link
47. Collins M., S. Minobe, M. Barreiro, S. Bordoni, **Y. Kaspi**, A. Kuwano-Yoshida, N. Keenlyside, E. Manzini, C. H. O'Reilly, R. Sutton, S-P. Xie and O. Zolina, 2018, Climate dynamics and regional climate change, *Nature Climate Change*, Vol. 8, 101-108. link
46. Showman A. P., **Y. Kaspi**, R. Achterberg and A. P. Ingersoll, 2018, The global atmospheric circulation of Saturn, Invited review chapter for: Saturn in the 21st Century. link
45. **Tamarin, T.** and **Y. Kaspi**, 2017, Enhanced poleward propagation of storms under climate change, *Nature Geoscience*, Vol. 10, 908-913. link
44. **Afargan H**. and **Y. Kaspi**, 2017, A midwinter minimum in Atlantic storm track intensity during years of a strong jet, *Geophys. Res. Lett.,* Vol. 44, 12511–12518. link
43. **Tamarin T.** and **Y. Kaspi**, 2017, The poleward shift of storm tracks under global warming: a Lagrangian perspective, *Geophys. Res. Lett.,* Vol. 44, 10666-10674. link
42. **Galanti E.**, H. Cao and **Y. Kaspi**, 2017, Constraining Jupiter's internal flows using Juno magnetic and gravity measurements, *Geophys. Res. Lett.,* Vol. 44, 8173-8181. link

41. **Chemke R.** and **Y. Kaspi**, 2017, Dynamics of massive atmospheres, *Astrophys. J*, 845:1. link
40. **Galanti E.** and **Y. Kaspi**, 2017, Prediction for the flow-induced gravity field of Saturn: implications for Cassini's Grande Finale, *Astrophys. J. Lett.,* 843:L25 link
39. **Kaspi Y.**, T. Guillot , **E. Galanti**, Y. Miguel, R. Helled, W. B. Hubbard, B. Militzer, S. M. Wahl, S. Levin, J. E. P. Connerney, and S. J. Bolton 2017, The effect of differential rotation on Jupiter's low-degree even gravity moments, *Geophys. Res. Lett.,* Vol. 44, 5960-5968 link
38. Bolton S. J., A. Adriani, V. Adumitroaie, M. Allison, J. Anderson, S. Atreya, J. Bloxham, S. Brown, J. E. P. Connerney, E. DeJong, W. Folkner, D. Gautier, D. Grassi, S. Gulkis, T. Guillot, C. Hansen, W. B. Hubbard, L. Iess, A. Ingersoll, M. Janssen, J. Jorgensen, **Y. Kaspi,** S. M. Levin, C. Li, J. Lunine, Y. Miguel, A. Mura, G. Orton, T. Owen, M. Ravine, E. Smith, P. Steffes, E. Stone, D. J. Stevenson, R. Thorne, J. Waite, D. Durante, R. W. Ebert, T. K. Greathouse, V. Hue, M. Parisi, J. R. Szalay, R. Wilson, 2017, Jupiter's interior and deep atmosphere: the first close polar pass with the Juno spacecraft, *Science,* Vol. 356, 821-825 link.
37. **Galanti E.**, D. Durante, S. Finocchiaro, L. Iess, and **Y. Kaspi**, 2017, Estimating Jupiter gravity field using Juno measurements, trajectory estimation analysis, and a flow model optimization, *Astronom. J*, 154:2. link
36. Wahl S. M., W. B. Hubbard , B. Militzer, T. Guillot, Y. Miguel, N. Movshovitz, **Y. Kaspi**, R. Helled, D. Reese, **E. Galanti**, S. Levin, J.E. Connerney, and S. J. Bolton, 2017, Comparing Jupiter interior structure models to Juno gravity measurements and the role of an expanded core, *Geophys. Res. Lett.,* Vol. 44, Vol. 44, 4649–4659. link
35. **O'Neill M. E.**, **Y. Kaspi** and L. N. Fletcher, 2017, New interpretation of the Galileo probe sounding indicating a neutrally stable Jovian atmosphere, *Geophys. Res. Lett.,* Vol. 44, 4008-4017. link
34. **Yuval J.** and **Y. Kaspi**, 2017, The effect of vertical baroclinicity concentration on atmospheric macroturbulence scaling relations, *J. Atmos. Sci*., Vol. 74, 1651-1667. link
33. **Galanti E.** and **Y. Kaspi**, 2017, Decoupling Jupiter's deep and atmospheric flows using the upcoming Juno gravity measurements and a dynamical inverse model, *Icarus,* Vol. 286, 46-55. link
32. **Tamarin T.** and **Y. Kaspi**, 2017, Mechanisms controlling the poleward deflection of midlatitude storm tracks, *J. Atmos. Sci*., Vol. 74, 553-572. link
31. **Galanti E.**, **Y. Kaspi** and E. Tziperman, 2017, A full, self-consistent, treatment of thermal wind balance on oblate fluid planets, *J. Fluid Mech*., Vol. 810, 175–195. link
30. **Chemke R.**, **Y. Kaspi** and I. Halevy, 2016, The thermodynamic effect of atmospheric mass on early Earth's temperature, *Geophys. Res. Lett.,* Vol. 43, 11414–11422. link
29. **O'Neill M. E.** and **Y. Kaspi**, 2016, Slantwise convection on fluid planets, *Geophys. Res. Lett.,* Vol. 43, 10611–10620. link
28. **Chemke R.**, **T. Dror** and **Y. Kaspi**, 2016, Barotropic kinetic energy and enstrophy transfers in the atmosphere, *Geophys. Res. Lett.*, Vol. 43, 7725–7734. link
27. **Chemke R.** and **Y. Kaspi**, 2016, The latitudinal dependence of the oceanic barotropic eddy kinetic energy and macro-turbulence energy transport, *Geophys. Res. Lett.,* Vol. 43, 2175–2183. link
26. **Kaspi Y., J. E. Davighi**, **E. Galanti** and W. B. Hubbard, 2016, The gravitational signature of internal flows in giant planets: Comparing the thermal wind approach with barotropic potential-surface methods, *Icarus*, Vol. 276, 170-181. link
25. **Chemke R.** and **Y. Kaspi**, 2016, The effect of eddy-eddy interactions on jet formation and macroturbulent scales, *J. Atmos. Sci*., Vol. 73, 2049-2059. link
24. **Tamarin T.** and **Y. Kaspi**, 2016, The poleward motion of extratropical cyclones from a potential vorticity tendency analysis, *J. Atmos. Sci*., Vol. 73, 1687-1707. link
23. **Galanti E.** and **Y. Kaspi**, 2016, An adjoint based method for the inversion of the Juno and Cassini gravity measurements into wind fields, *Astrophys. J*, 820:91. link

22. **Yuval J.** and **Y. Kaspi**, 2016, Eddy activity sensitivity to changes in the vertical structure of baroclinicity, *J. Atmos. Sci*., Vol. 73, 1709-1726. link
21. **Parisi M.**, **E. Galanti**, S. Finocchiaro, L. Iess and **Y. Kaspi**, 2016, Probing the atmospheric dynamics of Jupiter's Great Red Spot with the Juno gravity experiment, *Icarus*, Vol. 267, 232-242. link
20. Helled R., **E. Galanti** and **Y. Kaspi**, 2015, Saturn's fast spin determined from its gravitational field and oblateness, *Nature*, Vol. 520, 202-204. link
19. **Chemke R.** and **Y. Kaspi**, 2015, The latitudinal dependence of atmospheric jet scales and macroturbulent energy cascades, *J. Atmos. Sci*., Vol. 72, 3891–3907. link
18. **Kaspi Y.** and A. P. Showman, 2015, Atmospheric dynamics of terrestrial exoplanets over a wide range of orbital and planetary parameters, *Astrophys. J*, 804:60. link
17. **Chemke R.** and **Y. Kaspi**, 2015, Poleward migration of eddy-driven jets, *J. Adv. Model. Earth Sys.*, Vol. 07, 1457–1471. link
16. Showman A. P., R. D. Wordsworth, T. M. Merlis, and **Y. Kaspi**, 2014. Atmospheric circulation of terrestrial exoplanets. Comparative Climatology of Terrestrial Planets book chapter, pp. 277-326, U. Arizona press. link
15. **Kaspi Y.,** A. P. Showman, W. B. Hubbard, O. Aharonson and R. Helled, 2013. Atmospheric confinement of jet streams on Uranus and Neptune, *Nature*, Vol. 497, 344-347. link
14. **Kaspi Y.,** 2013, Inferring the depth of atmospheric dynamics on Jupiter and Saturn from odd gravity harmonics, *Geophys. Res. Lett.,* Vol. 40, 676-680. link
13. Liu J., T. Schneider and **Y. Kaspi**, 2013. Predictions of thermal and gravitational signals of Jupiter's deep zonal winds, *Icarus,* Vol. 224, 114-125. link
12. Ryoo J-M., **Y. Kaspi**, D. Waliser, E. Fetzer, G. Kiladis, D. Waugh, J. Kim, 2013, Impact of Rossby wave breaking on U.S. west coast winter precipitation during the 2008-2010 ENSO cycle, *J. Climate*, Vol. 26, 6360-6382. link
11. Showman A. P. and **Y. Kaspi**, 2013, Atmospheric dynamics of Brown Dwarfs and directly imaged exoplanets, *Astrophys. J*, 776:85. link
10. **Kaspi Y.** and T. Schneider, 2013. The role of stationary eddies in shaping midlatitude storm tracks, *J. Atmos. Sci*., Vol. 70, 2596-2613. link
9. **Kaspi Y.** and T. Schneider, 2011. Winter cold of eastern continental boundaries induced by warm ocean waters, *Nature*, Vol. 471, 621-624. link
8. Showman A. P., **Y. Kaspi**, and G. R. Flierl, 2011. Scaling laws for convection and jet speeds in the giant planets, *Icarus*, 211, 1258-1273. link
7. **Kaspi Y.** and T. Schneider, 2011. Downstream self-destruction of storm tracks, *J. Atmos. Sci*., Vol., 68, 2459-2464. link
6. **Kaspi Y.,** W. B. Hubbard, A. P. Showman and G. R. Flierl, 2010. The gravity signature of Jupiter's internal dynamics, *Geophys. Res. Lett.,* Vol. 37, L01204. link
5. **Kaspi Y.,** G. R. Flierl and A. P. Showman, 2009. The deep wind structure of the giant planets: Results from an anelastic general circulation model, *Icarus,* Vol. 202, 525-542. link
4. **Kaspi Y.,** 2008. Turbulent convection in an anelastic rotating sphere: A model for the circulation on the giant planets, Ph.D. Thesis, MIT-WHOI joint program. link
3. **Kaspi Y.** and G. R. Flierl, 2007. Formation of jets by baroclinic instability on gas planet atmospheres, *J. Atmos. Sci*., Vol.64, 3177-3194. link
2. **Kaspi Y.**, R. Sayag and E. Tziperman, 2004. A "triple sea-ice state" mechanism for the abrupt warming and synchronous ice sheet collapses during Heinrich events, *Paleoceanography*, Vol. 19, No. 3, PA3004. link
1. **Kaspi Y.**, 2002. A mechanism for the abrupt warming and simultaneous ice sheet discharge involved in Heinrich Events. M.Sc. Thesis, WIS. link

Select talks in international meetings

Invited

- Planetary Science: The young Solar System (Quy Nhon, Vietnam), Sep. 2021: *New view of the giant planets.*
- KITP Conference: Is There a Common Thread to Layering in Atmospheres, Oceans and Plasmas (Santa Barbara, CA), Jan. 2021: *Dynamics of jets in planetary atmospheres.*
- Asia Oceania Geosciences Society annual meeting (Singapore), Aug. 2019: *The Juno gravity experiment: revealing Jupiter's interior and deep flows.*
- Revealing Saturn's deep interior for the first time with Cassini, the Theo Murphy international scientific meeting of the Royal Society (London, UK), June, 2019, *Revealing Saturn's deep flows with Cassini.*
- Waves, Turbulence and Large-scale Structures in Rotating Magnetic Fluids. Above and Beyond Geophysical Fluid Dynamics (Boulder, CO, USA), Sep., 2018, *Evidence from the Juno mission that Jupiter's zonal jets extend down to the depth of magnetic dissipation*
- European Geophysical Union general assembly (Vienna, Austria), April, 2018, *The Juno gravity experiment: revealing the interior dynamics and structure of Jupiter.*
- Dynamics of Rotating Fluids (London, UK), Dec., 2017, *The depth of Jupiter's zonal flows: results from the Juno mission*
- Asia Oceania Geosciences Society annual meeting (Singapore), Aug. 2017: *Determining the depth of atmospheric and interior flows on Jupiter from the Juno gravity measurements.*
- Diversity of Planetary Circulation Regimes, in our Solar System and Beyond (Les Houches, France), Mar. 2017: *Circulation regimes on terrestrial planets: Review.*
- Turbulence and Waves in Flows Dominated by Rotation: Lessons from Geophysics and perspectives in Space Physics and Astrophysics (Boulder, CO, USA), Aug. 2016: *The role of rotation in controlling macroturbulent scales in atmospheric and oceanic flows.*
- European Planetary Science Congress (Nantes, France), Sep. 2015: *The Juno and Cassini gravity measurements: probing the interior dynamics of Jupiter and Saturn.*
- Storm Tracks, Jets and their Modes of Variability (Grindelwald, Switzerland), Aug. 2015: *Processes controlling the spatial structure and downstream evolution of midlatitude storm tracks.*
- Joint Juno-Cassini Workshop on Giant Planet Interiors (San Francisco, CA, USA), Dec. 2014: *Inferring the depth of the zonal flows on Jupiter and Saturn from the Juno and Cassini gravity measurements.*
- The Diversity of Planetary Atmospheres, Exoclimes III, (Davos, Switzerland), Feb. 2014: *Atmospheric dynamics on giant planets: A review.*
- COSPAR symposium: Planetary Systems of our Sun and other Stars, and the Future of Space Astronomy (Bangkok, Thailand), Nov. 2013: *Atmospheric dynamics on giant planets: probing the deep dynamics by gravity measurements.*
- Science Opportunities for the Extended Cassini Solstice Mission to Saturn (Pasadena, CA), Oct. 2013: *Inferring the depth of the zonal winds on Saturn from the proximal orbit gravity measurements.*
- Comparative Climatology of Terrestrial Planets, (Boulder, CO, USA), Jun. 2012: *Comparing shallow and deeply forced atmospheric dynamics.*
- Planetary Origins and Frontiers of Exploration, (Rehovot, Israel), May, 2012: *Structure and atmospheric dynamics on giant planets.*

Contributed

- American Geophysical Union fall meeting (San Francisco, CA, USA), Dec., 2019: *A comparative analysis of the deep atmospheric dynamics of Jupiter and Saturn in light of the Juno and Cassini gravity measurements.*
- American Geophysical Union fall meeting (San Francisco, CA, USA), Dec., 2019: *Eddy activity response to seasonal jet characteristics: implications for the Pacific midwinter minimum.*

- Asia Oceania Geosciences Society annual meeting (Singapore), Aug. 2019: *Planetary climate dynamics over a wide range of orbital and atmospheric characteristics.*
- European Geophysical Union general assembly (Vienna, Austria), April, 2019, *Comparison between the deep atmospheric dynamics of Jupiter and Saturn in light of the Juno and Cassini gravity measurements.*
- American Geophysical Union fall meeting (Washington DC, USA), Dec. 2018: *The possible mechanisms controlling the deep jets on Jupiter and Saturn in light of the Juno and Cassini gravity measurements.*
- American Geophysical Union fall meeting (Washington DC, USA), Dec. 2018: *Hadley cell dynamics over a wide range of climates and circulation regimes.*
- 50th DPS meeting (Knoxville, TN, USA), Oct. 2018: *Comparing the deep atmospheric dynamics on Jupiter and Saturn in light of the Juno and Cassini gravity experiments*
- American Geophysical Union fall meeting (New Orleans, LA, USA), Dec. 2017: *The poleward shift of storm tracks under climate change: tracking cyclones in CMIP5.*
- American Geophysical Union fall meeting (New Orleans, LA, USA), Dec. 2017: *The depth and structure of the atmospheric flows on Jupiter: results from the Juno gravity measurements.*
- 49th DPS meeting (Provo, UT, USA), Oct. 2017: *Inferring the depth of the atmospheric flows on Jupiter from the Juno gravity measurements.*
- 21st AMS Conference on Atmospheric and Oceanic Fluid Dynamics (Portland, OR, USA), Jun. 2017: *Determining the depth of Jupiter's zonal flows by gravity measurements: results from Juno's first year at Jupiter* (9 other contributed talks/poster by students/postdocs).
- American Geophysical Union fall meeting (San Francisco, CA, USA), Dec. 2016: *Mechanisms controlling the spatial structure of midlatitude storm tracks and their variation under global warming.*
- American Geophysical Union fall meeting (San Francisco, CA, USA), Dec. 2016: *Determining the depth of atmospheric and interior flows on Jupiter using the Juno gravity measurements.*
- Model Hierarchies workshop (Princeton, NJ, USA), Nov. 2016: *Eddy activity sensitivity to the vertical structure of baroclinicity: from linear theory to idealized GCMs and climate predictions.*
- CLIVAR Open Science Conference (Qingdao, China), Sep. 2016: *The latitudinal dependence of the oceanic barotropic eddy kinetic energy and macroturbulence energy transport.*
- CLIVAR Open Science Conference (Qingdao, China), Sep. 2016: *The role of diabatic heating and baroclinicity in controlling the spatial structure of midlatitude storm tracks.*
- 41st COSPAR Scientific Assembly (Istanbul, Turkey), Jul. 2016: *Deciphering Jupiter's atmospheric dynamics using the upcoming Juno gravity measurements.*
- 47th DPS meeting (National Harbor, MD, USA), Nov. 2015: *Mechanisms controlling the number and latitudinal spacing of jets-streams on multiple jet planets: from terrestrial planets to gas giants.*
- 20th AMS Conference on Atmospheric and Oceanic Fluid Dynamics (Minneapolis, MN, USA), Jun. 2015: *Poleward migration of eddy-driven jets.*
- European Geophysical Union general assembly (Vienna, Austria), Apr. 2015: *Poleward migration of eddy-driven jets.*
- 46th DPS meeting (Tucson, AZ, USA), Nov. 2014: *Atmospheric circulation of terrestrial exoplanets over a wide range of atmospheric and orbital parameters.*
- European Planetary Science Congress (Cascais, Portugal), Sep. 2014: *Three-dimensional atmospheric circulation of terrestrial exoplanets over a wide range of atmospheric and orbital parameters.*
- European Planetary Science Congress (Cascais, Portugal), Sep. 2014: *Inferring the depth of the atmospheric circulation on Jupiter and Saturn through gravity measurements by Juno and Cassini.*
- European Geophysical Union general assembly (Vienna, Austria), Apr. 2014: *Atmospheric dynamics of terrestrial exoplanets over a wide range of orbital and atmospheric parameters.*
- 45th DPS meeting (Denver, CO, USA), Oct 2013: *Atmospheric confinement of jet-streams on Uranus and Neptune.*

- AGU Chapman Conference on Crossing the Boundaries in Planetary Atmospheres: From Earth to Exoplanets (Annapolis, MD, USA), Jun. 2013: *3D atmospheric circulation and climate of terrestrial exoplanets.*
- 19th AMS Conference on Atmospheric and Oceanic Fluid Dynamics (Newport, RI, USA), Jun. 2013: *Atmospheric confinement of jet streams on giant planets and their detection by gravity measurements.*
- Zonal jets and eddies workshop of the International Space Science Institute, (Bern, Switzerland), Apr. 2013*: Zonal jets driven by deep internal convection on giant planets.*
- American Geophysical Union fall meeting (San Francisco, CA, USA) Dec. 2012: *Zonal jets on the giant planets and detection of their depth by gravity measurements.*
- 44th DPS meeting (Reno, NV, USA), Oct 2012: *Three-dimensional atmospheric circulation and climate of terrestrial exoplanets and super Earths.*
- The Diversity of Planetary Atmospheres, Exoclimes II, (Aspen, CO, USA), Jan. 2012: *Atmospheric dynamics on gas giants driven by internal convection.*
- 43rd DPS meeting (Nantes, France), Oct. 2011: *The gravity signature of internal dynamics on Jupiter, Saturn, Uranus and Neptune*.
- 18th AMS Conference on Atmospheric and Oceanic Fluid Dynamics (Spokane, WA, USA), Jun. 2011: *The role of stationary eddies in storm track dynamics*.
- American Geophysical Union fall meeting (San Francisco, CA, USA), Dec. 2010: *Downstream self-destruction of storm track***s**.
- Ocean-atmosphere energy transport conference (Pasadena, CA, USA), Nov. 2009: *The energy budget of mid-latitude storm tracks*.
- 41st DPS meeting (Fajardo, Puerto Rico), Oct. 2009: *The gravity signature of Jupiter's internal dynamics*.
- 17th AMS Conference on Atmospheric and Oceanic Fluid Dynamics (Stowe, VT, USA), Jun. 2009: *The location and downstream intensification of storm tracks in an idealized moist GCM*.
- 38th DPS meeting (Pasadena, CA, USA), Oct. 2006: *A general circulation model for deep circulation on gas giants: internal convection, solar heating and zonal flows*.
- 26th IUGG meeting on Mathematical Geophysics (Maagan, Israel), Jun. 2006: *Formation of multiple zonal jets by baroclinic instability on gas planet atmospheres*.