Curriculum Vitae

Prof. Dr. Kevin Heng

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Research Interests

Theory, simulation and phenomenology of exoplanetary atmospheres: radiative transfer, chemistry, inversion methods, fluid dynamics. Analytical methods in astrophysics. Applications of machine learning, statistics and high performance computing. Exoplanet science for CHEOPS, JWST and LUVOIR missions. Habitability: geochemical cycles and biosignatures. Pedagogy and epistemology. Science writing.
Group Leader: Exoplanets & Exoclimes Group (7 postdocs, 4 Ph.D students). Center Director: two fellowship programs (8 fellows).

1. Training, Education and Awards

1.1. Academic Positions

2016–present: Director, Center for Space and Habitability, University of Bern
2015–present: Professor[1], University of Bern
2013–2015: Tenure-Track Assistant Professor, University of Bern
2010–2012: Zwicky Prize Fellow, ETH Zürich, Institute for Astronomy
2009–2010: Frank & Peggy Taplin Member, Institute for Advanced Study at Princeton
2007–2009: Member, Institute for Advanced Study at Princeton

1.2. Visiting Positions

2017: Visiting Professor[2], Johns Hopkins University, Departments of Physics & Astronomy and Earth & Planetary Sciences
2007: Visitor, Max Planck Institutes for Astrophysics (MPA) and Extraterrestrial Physics (MPE)

1.3. Education

2007: Ph.D, astrophysics, JILA and University of Colorado at Boulder
2006: Chef Track Diploma, Culinary School of the Rockies[3], Colorado
2005: M.S., astrophysics, JILA and University of Colorado at Boulder
2003: B.Sc (Hons), physics, National University of Singapore

1.4. Awards, Honours & Prizes

2018: *Chambliss Astronomical Writing Award,* American Astronomical Society
2015: *NCU-Delta Young Astronomer Lecturership Award*
2007: *Martin & Beate Block Prize,* Aspen Center for Physics
2002: *Pre-Graduate Award,* Agency for Science, Technology and Research, Singapore
2000: Dean's List, National University of Singapore

Email address: kevin.heng@csh.unibe.ch (Prof. Dr. Kevin Heng)

[1]The official title is *Ausserordentlicher Professor (Extraordinariat)* in the Swiss-German system, which is the equivalent of Associate Professor (with tenure) in the American system. I have not listed "Associate Professor" as the University of Bern uses this title at a level equivalent to *Titular Professor* (Research Professor).

[2]Due to time constraints, I could only take up the visiting position for two weeks.

[3]Rebranded the *Auguste Escoffier School Of Culinary Arts*.

1.5. Grants

2018–2023: European Research Council (ERC) Consolidator Grant for Project `EXOKLEIN` [1.98 M€]

2018–present: Project 3.1 Leader, PlanetS NCCR (National Center of Competence in Research), Swiss National Science Foundation (PI: W. Benz)

2016: Swiss National Science Foundation grant for the Exoplanets I conference [5 kCHF]

2014–present: Swiss National Science Foundation, for the *Exoclimes Simulation Platform* [373 + 363 kCHF]

2014–2018: Sub-Project 5.2 Leader, PlanetS NCCR (National Center of Competence in Research), Swiss National Science Foundation (PI: W. Benz)

2013–2020: Startup funding from the University of Bern [225 kCHF]

2014–2016: Swiss National Science Foundation grant for the Exoclimes III conference [6 kCHF]

2012–2016: FONDATION MERAC, Switzerland, for the *Exoclimes Simulation Platform* [500 kCHF]

2006: Sigma Xi, *Grants-in-Aid of Research* [1.5 kUSD]

1.6. Significant Mentors & Influences

Richard McCray, Scott Tremaine, Sara Seager, Willy Benz, Rashid Sunyaev, George Lake, Helmer Aslaksen

2. Service

2.1. Teaching Experience

2016: Invited lecturer, DPG Physics School on Exoplanets, Bad Honnef, Germany

2014–present: Advisor for 10 postdocs, 8 Ph.D students and 1 Masters student (see §5)

2013–present: Lecturer for 8 Masters[4] and 1 undergraduate courses, University of Bern

2012, 2014: Host/advisor for ThinkSwiss Research Scholarship summer students[5]

2003–2006: Teaching assistant, introductory astronomy/astrophysics, University of Colorado

2.2. Referee/Reviewer

2.2.1. Grant Reviewer

2018: Swiss National Science Foundation Postdoc Mobility program (Switzerland)

2017–present: Ambizione Fellowships, Swiss National Science Foundation (Switzerland)

2017: Winton Exoplanet Fellowships, Winton Philanthropies (U.K.)

2016–2017: European Research Council (ERC)

2016–2017: German Research Foundation (Deutsche Forschungsgemeinschaft or DFG)

2016, 2019: National Sciences and Engineering Research Council (NSERC) of Canada

2016: Leverhulme Trust (U.K.)

2016: Hubble Space Telescope (HST)

2014: Netherlands Organisation for Scientific Research (NWO)

2014–2017: NASA Exoplanets Research Program (XRP)

2013, 2015: NASA Postdoctoral Program (NPP)

2013: Swiss National Science Foundation (SNSF)

2013: (U.S.) National Science Foundation (NSF) *TCAN* Program

2013–2014: French National Research Agency (ANR)

2013–2015: Research Foundation - Flanders (FWO)

2012: (British) Royal Society *University Research Fellowship* Program

2012: U.S.-Israel Binational Science Foundation

2012, 2014, 2016: NASA Astrophysics Theory Program (ATP)

2012–2013: NASA ROSES Origins of Solar Systems Program

[4] Fluid Dynamics ×3, Radiative Transfer ×3, Planetary Atmospheres ×2.

[5] 2012: Peter Li, 2014: Greta Shum

2.2.2. Journal Editor

2015–present: Handling Editor, *Molecular Astrophysics* (Editor-in-Chief: A. Tielens)

2.2.3. Journal Referee

2018–present: *Publications of the Astronomical Society of the Pacific (PASP)*
2016–present: *Nature Astronomy*
2016–present: *Nature*
2013–present: *Science*
2012–present: *Planetary & Space Science*
2012–present: *Astronomical Journal*
2011–present: *Monthly Notices of the Royal Astronomical Society*
2008–present: *Astronomy & Astrophysics*
2006–present: *Astrophysical Journal*

2.3. Missions and Telescopes

2019–present: Member, extended science team, PLATO mission of ESA (PI: H. Rauer)
2019: Member, HST-TESS Advisory Committee to STScI Director
2017–present: Member, TESS mission Atmospheric Characterization Working Group
2017–present: Ex-officio non-voting international member, Science and Technology Definition Team (STDT), Large Ultraviolet/Optical/Infrared Surveyor (LUVOIR) space telescope
2016–present: Member, science team, SAINT-Ex telescope (PI: B.-O. Demory)
2012–present: Member (Switzerland), core science team, CHEOPS mission of ESA (PI: W. Benz)
2012: EChO mission (proposed to ESA)

2.4. Spokesperson Roles

2016–2019: Domain 3 (Atmospheres, Surfaces & Interiors) of PlanetS NCCR
2016–2019: Atmospheric Characterization (`ATMOS.CHAR`) theme, CHEOPS mission of ESA

2.5. Committees

2018–2019: Chair, Hans Sigrist Prize Committee 2019
2018–2021: Member of Steering Committee of International Astronomical Union (IAU) Division F
2018–2021: Member of Scientific Advisory Committee / Board of H2020 *ExoplANETS-A* project
2017–present: Member of University of Bern hiring committees ($\times 2^6$)
2017: Member of hiring committee for exo-climatology professor at University of Geneva, Switzerland
2017–present: Tenure review evaluations for 5 universities
2017–present: Swiss National Science Foundation (SNSF) Ambizione Fellowship selection committee
2016: Ph.D thesis committee (Pierre Auclair-Desrotour), Paris Observatory, France
2016–present: Science Committee member, International Space Science Institute (ISSI)
2015–present: Member of University of Bern promotion and habilitation commissions ($\times 4^7$)
2014: Ph.D thesis committee (Monika Lendt), Geneva Observatory, Switzerland

2.6. International Conference Organization

2019–2020: SOC co-chair, Exoplanets III conference, Heidelberg, Germany
2017–2018: SOC member, Exoplanets II conference, Cambridge University, England
2015: SOC member, OHP (Observatoire de Haute Provence) conference
2015: SOC member, PLATO atmospheric science workshop, DLR Berlin
2014–2016: SOC and LOC chair, Exoplanets I conference, Davos, Switzerland
2014–2015: SOC member and LOC chair, Pathways to Habitability II, Bern, Switzerland
2012–2014: SOC member and LOC chair, Exoclimes III conference, Davos, Switzerland

[6] Institute of Computer Science (2017), Interfaculty Research Cooperation (IRC) on sleep research (2018)
[7] Kreslo (2015), Breu (2016), Zisch (2019), Först (2019)

2.7. Societies

2016–present: Clé de Berne
2014–2016: Treasurer, Swiss Society for Astronomy & Astrophysics (SSAA)
2012–present: World Minds (formerly Zürich Minds until 2016)
2012–present: Member, International Astronomical Union (IAU)
2006–present: Member, Sigma Xi: The Scientific Research Society

2.8. Outreach

2019–present: Regular Contributor, Nature Research Astronomy Community (blog)

2014: *Nova: Alien Planets Revealed*, PBS, Season 41, Episode 10, directed by N. Williams and B. Bowie, with contributions from N. Batalha, D. Charbonneau, K. Heng, G. Marcy, C. McKay, S. Seager et al.

2013–present: Columnist, *Perspective* (formerly *Marginalia*) section of *American Scientist* magazine

2.9. Selected Successful Proposals for Telescope Time (as Consulting Theorist/Phenomenologist)

2017: *The Transiting Exoplanet Community Early Release Science Program*, James Webb Space Telescope, Co-I (PI: Batalha), Cycle 0 Early Release Science

2016: *A Preparatory Program to Identify the Single Best Transiting Exoplanet for JWST Early Release Science*, Hubble Space Telescope, Co-I (PI: Stevenson), Cycle 24

2015: *Hot Exoplanet Atmospheres Resolved with Transit Spectroscopy (HEARTS)*, ESO 3.6m (HARPS), Co-I (PI: Ehrenreich), Period 96

2012: *Atmospheric composition and inflation of the "warm" Jupiter WASP-80b*, VLT-CRIRES, Co-I (PI: Triaud), Period 91

2012: *Full-orbit atmospheric characterisation of a gas giant transiting an M dwarf*, Spitzer Space Telescope, Co-I (PI: Triaud), Cycle 9

2012: *Measuring the albedo of HD 189733b at optical wavelengths*, Hubble Space Telescope, Co-I (PI: Pont), Cycle 20

2.10. Other Professional Experiences

1998–1999: Journalist, producer and sound engineer, Power 98.0 FM, Singapore
1997–1998: Logistics specialist, infantry division, Singapore Armed Forces

3. Publications

3.1. Graduate-Level Textbook

Exoplanetary Atmospheres: Theoretical Concepts and Foundations[8], K. Heng, 2017, Princeton University Press (Editor: Ingrid Gnerlich. Foreword by Sara Seager.)

[8]Citation from the American Astronomical Society: *"Chambliss Astronomical Writing Award for astronomy writing for an academic audience, specifically textbooks at either the upper-division undergraduate or graduate level: Kevin Heng (University of Bern, Switzerland) for his pioneering graduate textbook Exoplanetary Atmospheres: Theoretical Concepts and Foundations (Princeton University Press, 2017) — a clearly written, well-motivated introduction to the theory of exoplanetary atmospheres, a field of great current and future interest."*

3.2. Refereed/Peer-Reviewed Papers (since 2005)

34 first author (5 single author), 11 second author, 44 N-th author ($N \geq 3$), 9 last author (as PI on a method paper by my research group)[†]. Nature & Science papers: 8
Citations: 3600+. h-index: 33, riq-index: 0.233 (using ADS). ♡: Personal highlights

98. [♡]*How Much Information Does the Sodium Doublet Encode? Retrieval Analysis of Non-LTE Sodium Lines at Low and High Spectral Resolutions*, C. Fisher & K. Heng, 2019, Astrophysical Journal, in press

97. [♡]*A spectral survey of an ultra-hot Jupiter. Detection of metals in the transmission spectrum of KELT-9b*, H.J. Hoeijmakers et al., 2019, Astronomy & Astrophysics, 627, A165

96. [†]*Self-luminous and irradiated exoplanetary atmospheres explored with* `HELIOS`, M. Malik et al., 2019, Astronomical Journal, 157, 170

95. *Hot Exoplanet Atmospheres Resolved with Transit Spectroscopy (HEARTS) - II. A broadened sodium feature on the ultra-hot giant WASP-76b*, J.V. Seidel et al., 2019, Astronomy & Astrophysics, 623, A166

94. *A chemical survey of exoplanets with ARIEL*, G. Tinetti et al., 2018, Experimental Astronomy, 46, 135

93. [†]*Three-dimensional Atmospheric Circulation Driving Chemical Disequilibrium in WASP-43b*, J.M. Mendonça et al., 2018, Astrophysical Journal, 869, 107

92. *Orbital and spectral analysis of the benchmark brown dwarf HD 4747B*, S. Peretti et al., 2018, Astronomy & Astrophysics, in press (arXiv:1805.05645)

91. *A Framework for Prioritizing the TESS Planetary Candidates Most Amenable to Atmospheric Characterization*, E. M.-R. Kempton et al., 2018, Publications of the Astronomical Society of the Pacific, 130, 114401

90. [♡]*Atomic iron and titanium in the atmosphere of the exoplanet KELT-9b*, H.J. Hoeijmakers et al., 2018, Nature, 560, 453

89. [♡]*The Peculiar Atmospheric Chemistry of KELT-9b*, D. Kitzmann et al., 2018, Astrophysical Journal, 863, 183

88. [♡]*Retrieval analysis of 38 WFC3 transmission spectra and the resolution of the normalisation degeneracy*, C. Fisher & K. Heng, 2018, Monthly Notices of the Royal Astronomical Society, 481, 4698

87. [♡]*Analytical Models of Exoplanetary Atmospheres. VI. Full Solutions for Improved Two-stream Radiative Transfer Including Direct Stellar Beam*, K. Heng, M. Malik & D. Kitzmann, 2018, Astrophysical Journal Supplements, 237, 29

86. *The Transiting Exoplanet Community Early Release Science Program for JWST*, J.L. Bean et al., 2018, Proceedings of the Astronomical Society of the Pacific, 130, 114402

85. [†♡]*Supervised Machine Learning for Analysing Spectra of Exoplanetary Atmospheres*, P. Márquez-Neila, C. Fisher, R. Sznitman & K. Heng, 2018, Nature Astronomy, 2, 719

84. *Analytical Models of Exoplanetary Atmospheres. V. Non-gray Thermal Structure with Coherent Scattering*, G. Mohandas, M.E. Pessah & K. Heng, 2018, Astrophysical Journal, 858, 1

83. *Revisiting the Phase Curves of WASP-43b: Confronting Re-analyzed Spitzer Data with Cloudy Atmospheres*, J.M. Mendonça, M. Malik, B.-O. Demory & K. Heng, 2018, Astronomical Journal, 155, 150

82. *The nature of the TRAPPIST-1 exoplanets*, S.L. Grimm et al., 2018, Astronomy & Astrophysics, 613, A68

81. †*Towards Consistent Modeling of Atmospheric Chemistry and Dynamics in Exoplanets: Validation and Generalization of Chemical Relaxation Method*, S.-M. Tsai et al., 2018, Astrophysical Journal, 862, 31

80. *Community Targets of JWST's Early Release Science Program: Evaluation of WASP-63b*, B.M. Kilpatrick et al. 2018, Astronomical Journal, 156, 103

79. *3D misalignment of the eccentric neptune GJ 436b with the spin of its cool star*, V. Bourrier et al., 2018, Nature, 553, 477

78. *Secondary atmospheres on HD 219134 b and c*, C. Dorn & K. Heng, 2018, Astrophysical Journal, 853, 64

77. *Optical properties of potential condensates in exoplanetary atmospheres*, D. Kitzmann & K. Heng, 2018, Monthly Notices of the Royal Astronomical Society, 475, 94

76. *Combining low- to high-resolution transit spectroscopy of HD189733b*, L. Pino et al., 2018, Astronomy & Astrophysics, 612, A53

75. †*Retrieval Analysis of the Emission Spectrum of WASP-12b: Sensitivity of Outcomes to Prior Assumptions and Implications for Formation History*, M. Oreshenko et al., 2017, Astrophysical Journal Letters, 847, L3

74. *The long egress of GJ 436b giant exosphere*, B. Lavie et al. 2017, Astronomy & Astrophysics, 605, L7

73. ♡*Analytical Models of Exoplanetary Atmospheres. IV. Improved Two-stream Radiative Transfer for the Treatment of Aerosols*, K. Heng & D. Kitzmann, 2017, Astrophysical Journal Supplements, 232, 20

72. *Balmer filaments in Tycho's supernova remnant: an interplay between cosmic-ray and broad-neutral precursors*, S. Knežević et al. 2017, Astrophysical Journal, 846, 167

71. *How does the Shape of the Stellar Spectrum affect the Albedo of Exoplanets at Short Optical Wavelengths?*, A. Oklopčić, C.M. Hirata & K. Heng, 2017, Astrophysical Journal, 846, 91

70. *Habitable Moist Atmospheres on Terrestrial Planets Near the Inner Edge of the Habitable Zone Around M-Dwarfs*, R.K. Kopparapu et al., 2017, Astrophysical Journal, 845, 5

69. *Radiative Transfer for Exoplanet Atmospheres*, K. Heng & M. Marley, 2017, Handbook of Exoplanets, eds. H.J. Deeg, J.A. Belmonte, S. Seager (Springer) (arXiv:1706.03188)

68. *A seven-planet resonant chain in TRAPPIST-1*, R. Luger et al., 2017, Nature Astronomy, 1, 129

67. ♡*The theory of transmission spectra revisited: a fast method for analyzing WFC3 data and an unresolved challenge*, K. Heng & D. Kitzmann, 2017, Monthly Notices of the Royal Astronomical Society, 470, 2972

66. †*HELIOS-Retrieval: An Open-source, Nested Sampling Atmospheric Retrieval Code, Application to the HR 8799 Exoplanets and Inferred Constraints for Planet Formation*, B. Lavie et al., 2017, Astronomical Journal, 154, 91

65. *Exoplanet Characterization by Multi-Observatory Transit Photometry with TESS and CHEOPS*, E. Gaidos, D. Kitzmann & K. Heng, 2017, Monthly Notices of the Royal Astronomical Society, 468, 3418

64. *Hot Exoplanet Atmospheres Resolved with Transit Spectroscopy (HEARTS) I. Detection of hot neutral sodium at high altitudes on WASP-49b*, A. Wyttenbach et al. 2017, Astronomy & Astrophysics, 602, A36

63. †*VULCAN: an Open-Source, Validated Chemical Kinetics Python Code for Exoplanetary Atmospheres*, S.-M. Tsai et al., 2017, Astrophysical Journal Supplements, 228, 20

62. †*HELIOS: An Open-Source, GPU-Accelerated Radiative Transfer Code For Self-Consistent Exoplanetary Atmospheres*, M. Malik et al., 2017, Astronomical Journal, 153, 56

61. *A Generalized Bayesian Inference Method for Constraining the Interiors of Super Earths and Sub-Neptunes*, C. Dorn et al., 2017, Astronomy & Astrophysics, 597, A37

60. *Three-dimensional Distribution of Ejecta in Supernova 1987A at 10,000 Days*, J. Larsson et al., 2016, Astrophysical Journal, 833, 147

59. †*THOR: A New and Flexible Global Circulation Model to Explore Planetary Atmospheres*, J.M. Mendonça et al., 2016, Astrophysical Journal, 829, 115

58. *Raman Scattering by Molecular Hydrogen and Nitrogen in Exoplanetary Atmospheres*, A. Oklopčić, C.M. Hirata & K. Heng, 2016, Astrophysical Journal, 832, 30

57. *A Cloudiness Index for Transiting Exoplanets Based on the Sodium and Potassium Lines: Tentative Evidence for Hotter Atmospheres Being Less Cloudy at Visible Wavelengths*, K. Heng, 2016, Astrophysical Journal Letters, 826, L16

56. ♡*Analytical Models of Exoplanetary Atmospheres. III. Gaseous C-H-O-N Chemistry with 9 Molecules*, K. Heng & S.-M. Tsai, 2016, Astrophysical Journal, 829, 104

55. *A map of the extreme day-night temperature gradient of a super-Earth exoplanet*, B.-O. Demory et al., 2016, Nature, 532, 207

54. *Transiting Exoplanet Studies and Community Targets for JWST's Early Release Science Program*, K.B. Stevenson et al., 2016, Publications of the Astronomical Society of the Pacific, 128, 967

53. *Shear-driven instabilities and shocks in the atmospheres of hot Jupiters*, S. Fromang, J. Leconte & K. Heng, Astronomy & Astrophysics, 2016, 591, A144

52. *Planet Hunters X. KIC 8462852 — Where's the Flux?*, T.S. Boyajian et al., 2016, Monthly Notices of the Royal Astronomical Society, 457, 3988

51. *Optical phase curves as diagnostics for aerosol composition in exoplanetary atmospheres*, M. Oreshenko, K. Heng & B.-O. Demory, 2016, Monthly Notices of the Royal Astronomical Society, 457, 3420

50. ♡*Carbon Dioxide in Exoplanetary Atmospheres: Rarely Dominant Compared to Carbon Monoxide and Water in Hot, Hydrogen-dominated Atmospheres*, K. Heng & J.R. Lyons, 2016, Astrophysical Journal, 817, 149

49. *Atmospheric Chemistry for Astrophysicists: A Self-consistent Formalism and Analytical Solutions for Arbitrary C/O*, K. Heng, J.R. Lyons & S.-M. Tsai, 2016, Astrophysical Journal, 816, 96

48. *The unstable CO2 feedback cycle on ocean planets*, D. Kitzmann et al., 2015, Monthly Notices of the Royal Astronomical Society, 452, 3752

47. ♡`HELIOS-K`*: An Ultrafast, Open-source Opacity Calculator for Radiative Transfer*, S.L. Grimm & K. Heng, 2015, Astrophysical Journal, 808, 182

46. *The Destruction of the Circumstellar Ring of SN 1987A*, C. Fransson et al., 2015, Astrophysical Journal Letters, 806, L19

45. *WASP-80b has a dayside within the T-dwarf range*, A.H.M.J. Triaud et al., 2015, Monthly Notices of the Royal Astronomical Society, 450, 2279

44. *A Non-isothermal Theory for Interpreting Sodium Lines in Exoplanetary Atmospheres*, K. Heng, A. Wyttenbach, B. Lavie, D.K. Sing, D. Ehrenreich & C. Lovis, 2015, Astrophysical Journal Letters, 803, L9

43. *Mapping High-velocity Hα and Lyα Emission from Supernova 1987A*, K. France et al., 2015, Astrophysical Journal Letters, 801, L16

42. *Can we constrain the interior structure of rocky exoplanets from mass and radius measurements?*, C. Dorn, A. Khan, K. Heng, Y. Alibert, J.A.D. Connolly, W. Benz & P. Tackley, 2015, Astronomy & Astrophysics, 577, A83

41. *Atmospheric Dynamics of Hot Exoplanets*, K. Heng & A.P. Showman, 2015, Annual Review of Earth and Planetary Sciences, 43, 509

40. *High Resolution Transmission Spectroscopy as a Diagnostic for Jovian Exoplanet Atmospheres: Constraints from Theoretical Models*, E. M.-R. Kempton, R. Perna & K. Heng, 2014, Astrophysical Journal, 795, 24

39. *Analytical Models of Exoplanetary Atmospheres. II. Radiative Transfer via the Two-Stream Approximation*, K. Heng, J.M. Mendonça & J.-M. Lee, 2014, Astrophysical Journal Supplements, 215, 4

38. $^{\heartsuit}$*Analytical Models of Exoplanetary Atmospheres. I. Atmospheric Dynamics via the Shallow Water System*, K. Heng & J. Workman, 2014, Astrophysical Journal Supplements, 213, 27

37. *Constraining the Atmospheric Composition of the Day-Night Terminators of HD 189733b: Atmospheric Retrieval with Aerosols*, J.-M. Lee et al., 2014, Astrophysical Journal, 789, 14

36. *The PLATO 2.0 Mission*, H. Rauer et al., 2014, Experimental Astronomy, 38, 249

35. *Atmospheric Retrieval Analysis of the Directly Imaged Exoplanet HR 8799b*, J.-M. Lee, K. Heng & P.G.J. Irwin, 2013, Astrophysical Journal, 778, 97

34. *Understanding Trends Associated with Clouds in Irradiated Exoplanets*, K. Heng & B.-O. Demory, 2013, Astrophysical Journal, 777, 100

33. *Inference of Inhomogeneous Clouds in an Exoplanet Atmosphere*, B.-O. Demory et al., 2013, Astrophysical Journal Letters, 776, L25

32. *The Deep Blue Color of HD 189733b: Albedo Measurements with Hubble Space Telescope/Space Telescope Imaging Spectrograph at Visible Wavelengths*, T. Evans, et al., 2013, Astrophysical Journal Letters, 772, L16

31. *Debris discs around M stars: non-existence versus non-detection*, K. Heng & M. Malik, 2013, Monthly Notices of the Royal Astronomical Society, 452, 2562

30. *An Integral View of Fast Shocks around Supernova 1006* S. Nikolić, G. van de Ven, K. Heng, D. Kupko, B. Husemann, J.C. Raymond, J.P. Hughes & J. Falcón-Barroso, 2013, Science, 340, 45

29. *On the Existence of Shocks in Irradiated Exoplanetary Atmospheres*, K. Heng, 2012, Astrophysical Journal Letters, 761, L1

28. *On the Stability of Super Earth Atmospheres*, K. Heng & P. Kopparla, 2012, Astrophysical Journal, 754, 60

27. *The Effects of Irradiation on Hot Jovian Atmospheres: Heat Redistribution and Energy Dissipation*, R. Perna, K. Heng & F. Pont, 2012, Astrophysical Journal, 751, 59

26. *Excitation and charge transfer in hydrogen-proton collisions at 5–80 keV and application to astrophysical shocks*, D. Tseliakhovich, C.M. Hirata & K. Heng, 2012, Monthly Notices of the Royal Astronomical Society, 422, 2357

25. *The Influence of Atmospheric Scattering and Absorption on Ohmic Dissipation in Hot Jupiters*, K. Heng, 2012, Astrophysical Journal Letters, 748, L17

24. *EChO - Exoplanet Characterisation Observatory*, G. Tinetti et al., 2012, Experimental Astronomy, 34, 311

23. $^{\heartsuit}$*On the effects of clouds and hazes in the atmospheres of hot Jupiters: semi-analytical temperature-pressure profiles*, K. Heng, W. Hayek, F. Pont & D.K. Sing, 2012, Monthly Notices of the Royal Astronomical Society, 420, 20

22. *HST-COS Observations of Hydrogen, Helium, Carbon and Nitrogen Emission from the SN 1987A Reverse Shock*, K. France et al., 2011, Astrophysical Journal, 743, 186

21. *Atmospheric circulation of tidally-locked exoplanets: II. Dual-band radiative transfer and convective adjustment*, K. Heng, D.M.W. Frierson & P.J. Phillipps, 2011, Monthly Notices of the Royal Astronomical Society, 418, 2669

20. *X-ray illumination of the ejecta of supernova 1987A*, J. Larsson et al., 2011, Nature, 474, 484

19. *Estimating the mass of the debris disk in HD 69830*, K. Heng, 2011, Monthly Notices of the Royal Astronomical Society, 415, 3365

18. *The Dependence of Brown Dwarf Radii on Metallicity and Clouds: Theory and Comparison with Observations*, A. Burrows, K. Heng & T. Nampaisarn, 2011, Astrophysical Journal, 736, 47

17. *Gliese 581g as a scaled-up version of Earth: atmospheric circulation simulations*, K. Heng & S.S. Vogt, 2011, Monthly Notices of the Royal Astronomical Society, 415, 2145

16. $^{\heartsuit}$*Atmospheric circulation of tidally-locked exoplanets: a suite of benchmark tests for dynamical solvers*, K. Heng, K. Menou & P.J. Phillipps, 2011, Monthly Notices of the Royal Astronomical Society, 413, 2380

15. *Observing Supernova 1987A with the Refurbished Hubble Space Telescope*, K. France et al., 2010, Science, 329, 1624

14. *Vortices as Nurseries for Planetesimal Formation in Protoplanetary Discs*, K. Heng & S.J. Kenyon, 2010, Monthly Notices of the Royal Astronomical Society, 408, 1476

13. $^{\heartsuit}$*Balmer-Dominated Shocks: A Concise Review*, K. Heng, 2010, Publications of the Astronomical Society of Australia, 27, 23

12. $^{\heartsuit}$*Long-Lived Planetesimal Discs*, K. Heng & S. Tremaine, 2010, Monthly Notices of the Royal Astronomical Society, 401, 867

11. *Planetesimal Disk Microlensing*, K. Heng & C.R. Keeton, 2009, Astrophysical Journal, 707, 621

10. *Magnetohydrodynamic Shallow Water Waves: Linear Analysis*, K. Heng & A. Spitkovsky, 2009, Astrophysical Journal, 703, 1819

9. *Spatial Structure and Collisionless Electron Heating in Balmer-dominated Shocks*, M.I. van Adelsberg et al., 2008, Astrophysical Journal, 689, 1089

8. *A Direct Measurement of the Dust Extinction Curve in an Intermediate-Redshift Galaxy*, K. Heng et al., 2008, Astrophysical Journal, 681, 1116

7. *Probing Elemental Abundances in SNR 1987A using XMM-Newton*, K. Heng et al., 2008, Astrophysical Journal, 676, 361

6. *Broad Lyα Emission from Supernova Remnants*, K. Heng & R. Sunyaev, 2008, Astronomy & Astrophysics, 481, 117

5. *The Transition Zone in Balmer-Dominated Shocks*, K. Heng et al., 2007, Astrophysical Journal, 668, 275

4. *Dust Echoes from the Ambient Medium of Gamma-Ray Bursts*, K. Heng, D. Lazzati & R. Perna, 2007, Astrophysical Journal, 662, 1119

3. $^{\heartsuit}$*Balmer-Dominated Shocks Revisited*, K. Heng & R. McCray, 2007, Astrophysical Journal, 654, 923

2. *Evolution of the Reverse Shock Emission from SNR 1987A*, K. Heng et al., 2006, Astrophysical Journal, 644, 959

1. *The Reverse Shock of SNR 1987A at 18 Years after Outburst*, N. Smith et al. 2005, Astrophysical Journal Letters, 635, L41

3.3. Research Notes, Selected Conference Proceedings & White Papers

Note: conference abstracts are excluded

12. *ESA Voyage 2050 White Paper: Detecting life outside our solar system with a large high-contrast-imaging mission*, I. Snellen et al., 2019, white paper for ESA Voyage 2050 (arXiv:1908.01803)

11. *What Does "Metallicity" Mean When Interpreting Spectra of Exoplanetary Atmospheres?*, K. Heng, Research Notes of the American Astronomical Society, 2, 3 (arXiv:1807.06102)

10. *Balmer-dominated shocks in Tycho's SNR: omnipresence of CRs*, Knežević, S. et al. 2017, Proceedings of the IAU Symposium, 331 (arXiv:1707.09026)

9. *The Need for Laboratory Work to Aid in The Understanding of Exoplanetary Atmospheres*, J.J. Fortney et al., 2016, white paper for Nexus for Exoplanet System Science (NExSS) (arXiv:1602.06305)

8. *Characterising exoplanets and their environment with UV transmission spectroscopy*, L. Fossati et al., 2015, white paper for Hubble's 2020 Vision (arXiv:1503.01278)

7. *HIRES: the high resolution spectrograph for the E-ELT*, F.M. Zerbi et al., 2014, Proceedings of the SPIE, 9147, 914723

6. *An Integral View of Balmer-dominated Shocks in Supernova Remnants*, S. Nikolić, G. van de Ven, Glenn, K. Heng, D. Kupko, J. Méndez-Abreu, J.A.L. Aguerri, J. Font Serra & J. Beckman, 2013, Proceedings of the IAU Symposium 296, 165

5. *The Exoplanet Characterization Observatory (EChO): performance model EclipseSim and applications*, R. van Boekel et al., 2012, Proceedings of the SPIE, 8442, 84421F

4. *The Science of EChO*, G. Tinetti et al., 2011, Proceedings of the IAU Symposium, 276, 359

3. *Challenges Facing Young Astrophysicists*, N. Zakamska et al., 2010, white paper for Astro2010: the Astronomy and Astrophysics Decadal Survey, Position Papers, no. 69

2. *The Reverse Shock of SNR 1987A*, K. Heng, 2007, American Institute of Physics Conference Proceedings, 937, 51, *Supernova 1987A: 20 Years After (Supernovae & Gamma-Ray Bursters)*, Aspen Center for Physics, eds. S. Immler, K.W. Weiler and R. McCray

1. *Bolocam: status and observations*, D.J. Haig et al., 2004, Proceedings of the SPIE, 5498, 78

3.4. Popular Science Articles

‡: edited by Katie Burke †: edited by Fenella Saunders

13. *NASA's Next Great Eye on the Sky*‡, K. Heng & B.M. Peterson, 2018, American Scientist, Perspective Column, 106, 266–269

12. *Ozone-like layer in an exoplanet atmosphere*, K. Heng, 2017, Nature (News & Views), 548, 38

11. *A New Window on Alien Atmospheres*‡, K. Heng, 2017, American Scientist, Perspective Column, 105, 86–89

10. *The language of exoplanet ranking metrics needs to change*, E. Tasker et al., 2017, Nature Astronomy, 1, 42

9. *The Imprecise Search for Extraterrestrial Habitability*‡, K. Heng, 2016, American Scientist, Perspective Column, Volume 104, Number 3, Pages 146–149

8. *Auf der Jagd nach der zweiten Erde*, K. Heng (translated), 2016, Spektrum der Wissenschaft, April 2016 Issue, Pages 36–44

7. *La naturaleza de la prueba científica en la era de las simulaciones*, K. Heng (translated), 2015, Investigación y Ciencia, May 2015 Issue, Pages 42–46

6. *The Next Great Exoplanet Hunt*‡, K. Heng & J. Winn, 2015, American Scientist, Feature Article, Volume 103, Number 3, Pages 196–203

5. *The Nature of Scientific Proof in the Age of Simulations*‡, K. Heng, 2014, American Scientist, Perspective Column, Volume 102, Number 3, Pages 174–177

4. *Why Does Nature Form Exoplanets Easily?*†, K. Heng, 2013, American Scientist, Marginalia Column, Volume 101, Number 3, Pages 184–187

3. *Das Klima auf fremden Welten*, K. Heng (translated), 2013, Spektrum der Wissenschaft, February 2013 Issue, Pages 46–53

2. *Le climat des exoplanètes*, K. Heng (translated by Sean Bailly), 2012, Pour la Science, Volume 421, Pages 40–46

1. *The Study of Climate on Alien Worlds*†, K. Heng, 2012, American Scientist, Feature Article, Volume 100, Number 4, Pages 334–341

4. Selected Colloquia, Seminars & Public Talks

4.1. Exoplanets

65. *Atmospheric Retrieval of Exoplanets: Extracting Chemical Abundances from Spectra of Exo-atmospheres*, astrophysics seminar, University College London, U.K. (2019)

64. *Atmospheric Retrieval of Exoplanets: Extracting Chemical Abundances from Spectra of Exo-atmospheres*, astrobiology seminar, University of California at Riverside, U.S.A. (2019)

63. *Atmospheric Retrieval of Exoplanets: Extracting Chemical Abundances from Spectra of Exo-atmospheres*, astrophysics colloquium, Jet Propulsion Laboratory (JPL), U.S.A. (2019)

62. *Atmospheric Retrieval of Exoplanets: Extracting Chemical Abundances from Spectra of Exo-atmospheres*, IPAC-Caltech lunch seminar, U.S.A. (2019)

61. *Atmospheric Retrieval of Exoplanets: Extracting Chemical Abundances from Spectra of Exo-atmospheres*, Carnegie Observatories colloquium, U.S.A. (2019)

60. *Atmospheric Retrieval of Exoplanets: Extracting Chemical Abundances from Spectra of Exo-atmospheres*, iPLEX lunch talk, UCLA, U.S.A. (2019)

59. *Are We Alone?*, Physik am Freitag (public talk, German translation by Daniel Kitzmann), University of Bern, Switzerland (2019)

58. *Remote Sensing of the Atmospheres of Exoplanets*, invited talk, 7th Joint Workshop on High Pressure, Planetary and Plasma Physics (HP4), Berlin, Germany (2018)

57. *Are We Alone? And How Do We Scan the Heavens to Find Out?*, invited highlight talk (18 minutes), TEDx Bern, Dampfzentrale (2018)

56. *Exoplanetary Atmospheres Research at the University of Bern*, invited talk, ExoMol conference, Cumberland Lodge, Windsor, England (2018)

55. *Machine-Learning Atmospheric Retrieval*, contributed talk, Exoplanets II conference, Cambridge, England (2018)

54. *Atmospheric Retrieval*, invited seminar, Cavendish Laboratory, Cambridge University, England (2018)

53. *Radiative Transfer in Exoplanetary Atmospheres*, invited astrophysics seminar, Department of Applied Mathematics and Theoretical Physics (DAMTP), Cambridge University, England (2018)

52. *Remote Sensing of Exoplanetary Atmospheres*, invited colloquium, Max Planck Institute for Meteorology (MPI-M), Hamburg, Germany (2018)

51. *Exoplanets and Habitability*, invited seminar, Max Planck Institute for Solar System Research (MPS), Göttingen, Germany (2018)

50. Invited highlight talk at Origins Cluster retreat meeting, Munich, Germany (2017)

49. Invited keynote talk at the European Geophysical Union (EGU) Galileo conference, Azores, Portugal (2017)

48. *Atmospheric Chemistry in Currently Observable Exoplanets*, invited special seminar, Space Telescope Science Institute, U.S.A. (2017)

47. Invited session chair and talk at Astrochemistry Symposium, American Chemical Society National Meeting, Washington D.C., U.S.A. (2017)

46. *Radiative Transfer in Atmospheres: Early Mars and Exoplanets*, Randolph Bromery Special Seminar, Johns Hopkins University, U.S.A. (2017)

45. *Limitations to what we may infer from atmospheric spectra, and possible links to planet formation*, invited talk at the Kavli ExoFrontiers Symposium, Cambridge University, England (2017)

44. *Radiative Transfer in Exoplanetary Atmospheres*, invited lecture at the Wenner-Gren Foundations Symposium on Planetary Atmospheres, Stockholm, Sweden (2017)

43. *Exoplanetary Atmospheres*, Heidelberg Joint Astronomical Colloquium (invited), Germany (2017)

42. *Transmission Spectra of Exoplanetary Atmospheres*, invited colloquium at the Harvard Institute for Theory and Computation (ITC), Cambridge, U.S.A. (2017)

41. *Exoplanetary Atmospheres: Theoretical Concepts and Foundations*, invited luncheon talk at the Harvard Institute for Theory and Computation (ITC), Cambridge, U.S.A. (2017)

40. *Two-Stream Radiative Transfer in Exoplanetary Atmospheres*, invited astrophysics colloquium at MIT, Cambridge, U.S.A. (2017)

39. *Exoplanetary Atmospheres*, invited lecture at the Institute for Planets and Life, joint between Space Telescope Science Institute and Johns Hopkins University, U.S.A. (2016)

38. *Exoplanetary Atmospheres*, invited lecture at the Bad Honnef summer school on exoplanets, Germany (2016)

37. *A Path Towards Detecting Life Elsewhere in the Universe*, invited talk for World Minds, Clé de Berne[9], Switzerland (2016)

36. *The Exoclimes Simulation Platform*, NCU-Delta Lecture III, Academia Sinica Institute of Astronomy and Astrophysics (ASIAA), Taiwan (2015)

35. *The Exoclimes Simulation Platform*, NCU-Delta Lecture III, National Central University (NCU), Taiwan (2015)

34. *Exoplanets and the Search for Life Elsewhere*, NCU-Delta Public Lecture, Taiwan (2015)

33. *The Next Great Exoplanet Hunt*, NCU-Delta Lecture II, Delta Electronics, Taiwan (2015)

32. *Exoplanetary Atmospheres in Eras*, NCU-Delta Lecture I, Academia Sinica Institute of Astronomy and Astrophysics (ASIAA), Taiwan (2015)

31. *Exoplanetary Atmospheres in Eras*, NCU-Delta Lecture I, National Central University (NCU), Taiwan (2015)

30. *Analytical Diagnostics for Interpreting Sodium Lines in Exoplanetary Atmospheres*, contributed talk, CHEOPS Science Workshop, Madrid, Spain (2015)

29. *Exoplanet Atmospheres: Theory & Simulation*, invited colloquium, Institut de Planétologie et d'Astrophysique de Grenoble (IPAG), France (2014)

28. *Radiative Transfer in Exoplanet Atmospheres*, exoplanet group seminar (invited), Cambridge University, England (2014)

27. *Exoplanet Atmospheres: Theory & Simulation*, Cavendish astrophysics seminar (invited), Cambridge University, England (2014)

[9]Swiss Federal Chancellor Walter Thurnherr was in attendance.

26. *Exoplanet Atmospheres: Theory & Simulation*, invited colloquium, Leiden University, the Netherlands (2014)

25. *Exoplanet Atmospheres: Theory & Simulation*, invited review, Planet Formation and Evolution Workshop, Kiel University, Germany (2014)

24. *The Relevance of Optical Data for Understanding Exoplanetary Atmospheres*, invited review, joint CoRoT-Kepler meeting, Toulouse, France (2014)

23. *Exoplanet Atmospheres: Theory & Simulation*, invited colloquium, Institut d'Astrophysique de Paris (IAP), France (2014)

22. *Exoplanetary Atmospheres*, invited lecture, Annual Member Lecture of the Swiss chapter of Sigma Xi, Bern, Switzerland (2013)

21. *What Can We Learn About Exoplanetary Atmospheres in the Optical?*, contributed talk, PLATO 2.0 Science Workshop, ESTEC, the Netherlands (2013)

20. *Exoplanetary Atmospheres and Climates: Theory and Simulation*, invited seminar, Lund University, Sweden (2013)

19. *The Exoplanets and Exoclimes Group at the University of Bern*, invited talk for the Helmholtz Alliance, DLR, Berlin, Germany (2013)

18. *What Can We Learn About Exoplanetary Atmospheres in the Optical?*, contributed talk, 1st CHEOPS Science Meeting, Bern, Switzerland (2013)

17. *Exoplanets*, invited talk, Zurich Minds flagship event[10], Switzerland (2012)

16. *The Study of Climate on Alien Worlds: a Hierarchical Approach to Understanding the Atmospheres of Exoplanets*, invited seminar, Geneva Observatory, Switzerland (2012)

15. *Atmospheric Dynamics of Hot Jupiters and Super Earths*, contributed talk at *Characterizing and Modeling Extrasolar Planetary Atmospheres* conference, Max Planck Institute for Astronomy, Heidelberg, Germany (2012)

14. *The Study of Climate on Alien Worlds: a Hierarchical, Multi-Disciplinary Approach to Understanding the Atmospheres of Exoplanets*, invited talk, Centre for Space and Habitability, University of Bern, Switzerland (2012)

13. *A Hierarchical Approach to Understanding Exoplanetary Atmospheres: from 1D Models to 3D Simulations*, invited colloquium, Anton Pannekoek Institute, University of Amsterdam, the Netherlands (2012)

12. *The Effects of Irradiation on Hot Jovian Atmospheres*, contributed talk at *Exoclimes II* conference, Aspen Center for Physics, U.S.A. (2012)

11. *A Hierarchical Approach to Understanding Exoplanetary Atmospheres: from 1D Models to 3D Simulations*, invited seminar, JILA, University of Colorado, U.S.A. (2012)

10. *A Hierarchical Approach to Understanding Hot Jovian Atmospheres: from 1D Models to 3D Simulations*, invited talk at GCM workshop, Exeter University, England (2011)

9. *A Hierarchical Approach to Understanding Hot Jovian Atmospheres: from 1D Models to 3D Simulations*, invited talk at University College London, England (2011)

[10]Speakers included Gerhard Schroeder and John Gray.

8. *Review of Astrophysical Theory of Exoplanetary Atmospheres*, review talk at *Planet-Z: The Atmospheres and Interiors of (Exo)planets*, ETH Zürich, Switzerland (2011)

7. *Joint Constraints on the Atmospheric Chemistry, Dynamics and Temporal Signatures of HD 189733b: Combining Abundance Retrieval with 3D Simulations*, contributed talk at EPSC-DPS Joint Meeting, Nantes, France (2011)

6. *Joint Constraints on the Atmospheric Chemistry, Dynamics and Temporal Signatures of HD 189733b: Combining Abundance Retrieval with 3D Simulations*, contributed talk at *Extreme Solar Systems II* conference, Wyoming, U.S.A. (2011)

5. *A Hierarchical Approach to Understanding Hot Jovian Atmospheres: from 1D Models to 3D Simulations*, invited seminar at Harvard Institute for Theory & Computation, U.S.A. (2011)

4. *A Hierarchical Approach to Modeling Hot Jovian Atmospheres: from 1D Models to 3D Simulations*, invited seminar at Exeter University, England (2011)

3. *The Study of Climate on Alien Worlds: Atmospheric Circulation Simulations of Extrasolar Planets*, contributed talk at EChO workshop, Paris, France (2011)

2. *The Study of Climate on Alien Worlds: Atmospheric Circulation Simulations of Extrasolar Planets*, invited talk at Exeter University, England (2011)

1. *Exoplanetary Astrophysics: Vortices, Atmospheres and Debris Disks*, invited seminar at the Space Telescope Science Institute, U.S.A. (2010)

4.2. Others

10. *Balmer-Dominated Shocks: a 3D View from IFU Spectroscopy*, invited talk at the *Explosive Ideas about Massive Stars* conference, AlbaNova University Center, Stockholm (2011)

9. *Planetesimal and Debris Disks: the Late Stages of Planetary Systems*, invited talk at the *Exoplanets for Planetary Scientists* conference, University of Central Florida (2010)

8. *Long-Lived Planetesimal Disks*, invited seminar at Columbia University (2009)

7. *Long-Lived Planetesimal Disks*, invited colloquium at Rutgers University (2009)

6. *Balmer-Dominated Shocks: A Concise Review*, invited review at *Rogerfest: A Festival of Cosmic Explosions*, Caltech (2009)

5. *A Simple Theory of Hydrogen Shocks*, invited colloquium at Stanford University and SLAC (2008)

4. *A Simple Theory of Hydrogen Shocks*, invited talk at the *Supernovae & Gamma-Ray Bursts at Low z in the Era of Reionization* conference, Darjeeling, India (2008)

3. *Basics of Shocks*, invited lecture at the *Supernovae & Gamma-Ray Bursts at Low z in the Era of Reionization* summer school, Darjeeling, India (2008)

2. *Balmer-Dominated Supernova Remnants (and Beyond)*, invited colloquium at Rutgers University (2007)

1. *The Reverse Shock of SNR 1987A*, invited talk at the *Supernova 1987A: 20 Years After (Supernovae & Gamma-Ray Bursters)* winter conference, Aspen Center for Physics (2007)

5. Postdocs & Students

Past and present: 10 postdocs, 8 Ph.D students

2019–present: Brett Morris (Ph.D, Washington; PlanetS postdoc)[11]
2019–present: Kaustubh Hakim (Ph.D, Amsterdam; ERC CoG postdoc)
2019–present: Sinan Li (M.Sc, Chinese Academy of Sciences; University of Bern Ph.D student)
2019: Caroline Piaulet (3-month summer externship from University of Montreal)
2018–present: Andrea Guzmán Mesa (M.S., Göttingen; PlanetS NCCR Ph.D student)[12]
2018–present: Pierre Auclair-Desrotour (Ph.D, Paris; ERC CoG postdoc)
2018–present: Russell Deitrick (Ph.D, Washington; ERC CoG postdoc)
2017–present: Jens Hoeijmakers (Ph.D, Leiden; PlanetS NCCR postdoc)[13]
2017–present: Chloe Fisher (M.Sc, Cambridge; University of Bern Ph.D student)[14]
2016: Chloe Fisher (M.Sc, Cambridge; 3-month externship from Cambridge University)
2015–2018: Frank Wagner (Ph.D, Berlin; PlanetS NCCR postdoc)[15]
2015–present: Simon Grimm (Ph.D, Zürich; University of Bern Oberassistent)[16]
2015–2019: Maria Oreshenko (M.S., ETH Zürich; University of Bern Ph.D student)
2015: Maria Oreshenko (external Masters thesis at University of Bern from ETH Zürich)[17]
2014–present: Daniel Kitzmann (Ph.D, Berlin; University of Bern postdoc)[18]
2014–2018: Shang-Min Tsai (M.Sc, Taiwan; PlanetS NCCR Ph.D student[19])[20]
2014–2018: Baptiste Lavie (M.S., Paris; PlanetS NCCR Ph.D student)[21]
2014–2018: Matej Malik (M.S., ETH Zürich; University of Bern Ph.D student[22])[23]
2014–2016: Luc Grosheintz (M.S., ETH Zürich; University of Bern Ph.D student)
2013–2017: João Mendonça (Ph.D, Oxford; University of Bern postdoc[24])
2012–2015: Jaemin Lee (Ph.D, Oxford; joint Universities of Bern and Zürich postdoc)
2012: Pushkar Kopparla (informal undergraduate project student[25])
2012: Matej Malik (ETH Zürich undergraduate semester project)
2012: Carsten Heinrich (ETH Zürich undergraduate semester project)
2012: Yannick Boetzel (ETH Zürich undergraduate semester project)
2012: Constantin Heidegger (ETH Zürich undergraduate semester project)
2012: Felix Huber (ETH Zürich undergraduate semester project)
2012: Peter Li (ThinkSwiss visiting student)
2011: David von Rickenbach (ETH Zürich undergraduate semester project)

[11] Joint with Brice-Olivier Demory.
[12] Joint with Christoph Mordasini.
[13] Joint with David Ehrenreich and Christophe Lovis.
[14] Recipient of University of Bern *International 2021 Ph.D Fellowship*, which pays 50% salary for 3 years.
[15] Joint with Paul Tackley.
[16] From 2015–2016, joint Universities of Bern and Zürich postdoc with Ben Moore.
[17] Joint with Hans Martin Schmid.
[18] Joint with Yann Alibert for first two years.
[19] Now ERC AdG postdoc at Oxford with Ray Pierrehumbert.
[20] Recipient of 2018 Greinacher Ph.D Prize from the *Professor Heinrich Greinacher Stiftung* of Bern.
[21] Joint with David Ehrenreich.
[22] Now University of Maryland postdoc with Eliza Kempton.
[23] Recipient of Swiss National Science Foundation *SNF Early Mobility Postdoc*.
[24] Now Assistant Professor at Technical University of Denmark.
[25] Completed Ph.D at Caltech from 2013–2018.

6. CSH and Bernoulli Fellows

For the CSH and Bernoulli Fellows, my role is almost exclusively as an administrator and facilitator, and not as a research mentor.
For the Bernoulli Fellows, I do not list them until they rotate from the collaborating university / institute into the CSH.

2019–present: Nestor Espinoza[26], Clémence Fontanive, Meng Tian
2017–present: Daniel Bower[27], Graham Lee[28]
2016–present: Maria Drozdovskaya[29]
2016–2019: Daniel Angerhausen, Susanne Wampfler[30]

[26] Bernoulli Fellow with Max Planck Institute for Astronomy (MPIA) in Heidelberg (2017–2019), accepted tenure-track position at Space Telescope Science Institute, Baltimore, in 2019.
[27] Recipient of Swiss National Science Foundation *Ambizione Fellowship* in 2017.
[28] Bernoulli Fellow with Oxford University's Climate Physics (2017–2020).
[29] Recipient of Swiss National Science Foundation *Ambizione Fellowship* in 2018.
[30] Recipient of Swiss National Science Foundation *Eccellanza Professorial Fellowship* in 2018, which promoted her to non-tenure-track assistant professor and terminated her status as CSH Fellow.