

Dr HAIYANG S. WANG

BRIEF SUMMARY

- An exoplanetologist interested in **habitable worlds** within and beyond our Solar System
- Expertise in theoretical modelling of the **compositions, interiors and atmospheres** of rocky worlds
- **Multi-disciplinary educational and research experience** across planetary astrophysics, cosmochemistry, geochemistry and geophysics.

EMPLOYMENT

- Apr/2024 – present, Assistant Professor of Planetary Science, Globe Institute, the University of Copenhagen
- Oct/2019 – Mar/2024, Postdoctoral fellow, Exoplanets & Habitability and Experimental Planetology, ETH Zürich
- Jun/2013 – Feb/2014 Associate Geoscientist, Baker Hughes Asia Pacific Ltd.

EDUCATION

- Dec/2018 Ph.D. in Astronomy & Astrophysics, Research School of Astronomy and Astrophysics (RSAA), Australian National University (ANU)
- Jun/2012 M.Eng. (Geophysics), China University of Petroleum (Beijing)
- Jul/2008 B.Eng. (Geoscience), China University of Petroleum (Huadong)

COMPUTATIONAL SKILLS

- Excel in using **Python, IDL, R, and Fortran** to programme
- Skilled in data analysis techniques (e.g. **Regression, Bootstrap, Monte Carlo, and Bayesian**)
- Experienced in software development and applications:
 - Principal developer of [ExoInt](#) – a software package for **devolatilizing stars and modelling exoplanet bulk compositions and interiors**
 - Active user of `Perple_X` – a modelling package for **planet mineralogy**
 - Beta tester of VSTAR – a modelling package for **planet atmospheres**
 - User of SyMBA and SWIFT – *N*-body simulation codes for **planet formation**

SUPERVISION OF JUNIOR RESEARCHERS

- Jan/2020 – Oct/2023, **Thesis collaborator** of a PhD project, on the topic “Constraining the plausible range of bulk terrestrial exoplanet compositions”, by Robert Spaargaren (Supervisor: Paul Tackley), ETH Zürich
- Sep/2022 – June/2023, **Primary supervision** of a Semester project, entitled “The compilation and systematics of the chemical abundances of major rock-forming elements of FGKM dwarfs within the solar neighbourhood $\lesssim 20$ pc”, by Laura Ruther, ETH Zürich
- Feb/2021 – Aug/2021, **Primary supervision** of a Master’s thesis, entitled “An extended devolatilization model of the Solar System towards quantifying exoplanetary bulk chemistry”, by Wen-Jou (Wenzo) Lin, ETH Zürich
- Feb/2021 – Aug/2021, **Co-supervision** of a Master’s thesis, entitled “A method to retrieve the interior composition of bare rocky planets from their emission and reflectance spectra”, by Fabian Seidler, ETH Zürich

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- Feb/2020 – Sep/2020, **Primary supervision** of a Semester project, entitled “An inversion model of rocky exoplanet interiors taking into account devolatilization”, by Fabian Seidler, ETH Zürich

TEACHING ACTIVATES

- Spring semesters, 2021-2023, **Teaching Assistant** for an ETH Master’s course *The Sun, Stars and Planets – Properties, Processes and Interactions* (Lecturers: Prof Louise Harra and Prof Sascha Quanz)
- Fall semesters, 2020-2022, **Teaching Assistant** for an ETH Bachelor’s course *Astrophysics I* (Lecturer: Prof Simon Lilly)
- Fall semester, 2021, **Guest lecturer** on *Comparative Planetology: From Stars to Planetary Atmospheres*, for an ETH Master’s course *Earth - A (Unique?) Habitable Planet* (Lecturer: Prof Sascha Quanz)
- Spring semester, 2020, **Teaching Assistant** for an ETH Bachelor’s course *Particle Physics* (Lecturer: Prof Christoph Grab)
- First semester, 2019, **Teaching Assistant** for an ANU Master’s course *Professional Practice 2* (Lecturer: Dr Emmaline Lear)
- First semester, 2019, **Moderator** of the *ANU Astrophysics XSeries Program*, delivered by Prof Paul Francis and Prof Brian Schmidt (Nobel Prize Laureate in Physics 2011) via edx.org

SCIENTIFIC COMMUNITY SERVICES

- Sep/2022 – present, Editor of [ExoPlanetNews](#) – A monthly newsletter for exoplanetary community
- Sep/2022, Convenor of “[Devolatilization during rocky \(exo\)planet formation: Mechanisms, simulations, and observations](#)”, Session EXOA5 of EPSC 2022, Granada, Spain.
- Apr/2021, Convenor of “[Rocky planets around the Sun and other stars – bulk, interiors, atmospheres, and their interdependent evolution](#)”, Session PS1.1 of EGU 2021 (virtual)
- Jan/2020, Convenor of [Cosmo-/Exo-chemical Workshop I](#), ETH Zurich
- Feb/2020 – Dec/2021, (Co-)organizer of weekly literature meetings of Exoplanets & Habitability, ETH Zürich
- Dec/2017, LOC member of Franco-Australian Astrobiology and Exoplanet School and Workshop
- Dec/2014, LOC member of Mt Stromlo Student Seminars

MISSION INVOLVEMENTS

- Apr/2022 – present, **Contributor** of ETH Proposals for the commissioning of VLT/ERIS (Enhanced Resolution Imager and Spectrograph)
- Dec/2021 – present, **Member** of the WP117 Team of the **PLATO Mission Consortium**
- May/2020 – present, **Member** of the Exoplanet Science Team of the **LIFE** (Large Interferometer For Exoplanets) **Initiative**

MEDIA AND OUTREACH

- May/2023, Fantasy Basel – a Swiss-wide science festival, The Swiss Comic Con
- Jun/2022, Outreach volunteer for Night of Physics 2022, ETH Zurich
- May/2022, Highlighted for research output by [Nature Astronomy](#)
- Mar/2022, Interviewed for a news release by ETH Zürich: [Imagining an Earthly neighbour](#)
- Mar/2022, Covered for research output by ~ 35 news outlets including [The New York Post](#), [Forbes](#), [Space.com](#), and [physicsworld.com](#)
- Aug/2020, Interviewed for a news release by NCCR PlanetS: [Stars with planets show no special](#)

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[fingerprint](#)

- Mar/2019, Interviewed for a news release by ANU: [Earth is a less volatile version of the Sun, study finds](#)
- Sep/2017, Interviewed for a news release by ANU: [ANU scientists produce best estimate of Earth's composition](#)
- Feb/2014 – Dec/2018, Member of the award-winning outreach team, Mt Stromlo Observatory

AWARDS/SCHOLARSHIPS/GRANTS

- **NCCR PlanetS Competitive Short-term Grant 2022** (12,880 CHF; hiring a research assistant)
- Postdoctoral grant of NCCR PlanetS (Phase 2: project 4.2; Phase 3: Domain C_project 2; PI: Sascha Quanz), of value equivalent to 50% of my salaries, 2019 – present
- **Prime Minister's Australia Asia Endeavour Award (PhD, 2014-2018)** (Only 20 recipients out of thousands of applicants per year across all fields; worth AUD 285,500 in total)
- Long-term Visitor Grant of ELSI (Earth-Life Science Institute) in Japan, 2017
- VC (Vice-Chancellor)' Travel Grant of the Australian National University for Goldschmidt 2016
- Travel Grant of RSAA/ANU for European Astrobiology Campus Summer Workshop 2016
- Travel Grant of RSAA/ANU for Astrobiology Science Conference 2015
- **Beijing Science and Technology Award (2012)**
- **Graduate Award for Research of Excellence** in China University of Petroleum, Beijing (2010-2012)
- **Distinguished Bachelor's Thesis Award** (equivalent to 1st-class Honours) of China University of Petroleum, Huadong (2008)

SELECTED CONFERENCE/SEMINAR/WORKSHOP TALKS

- **Highlighted talk for PLATO Stellar Science Conference 2023** (26-30 June 2023, Milazzo, Italy): *Building blocks of rocky planets: Trends in chemical make-ups of M dwarfs in comparison with brighter (F)GK dwarfs*
- **Contribution talk for EPSC 2022** (18-23 September, Granada, Spain): *The interior diversity of terrestrial-type exoplanets: constrained with devolatilized stellar abundances and mass-radius measurements*
- **Contribution talk for EPSC 2022** (18-23 September, Granada, Spain): *No universal devolatilization trend has been found for the solar system rocky bodies* (on behalf of student Wen-Jou Lin)
- **Invited participant of the Lorentz Center Workshop "Diversity of Rocky Planets" 2022** (5–9 September, Leiden, The Netherlands): **Joint Lecture** (together with Dr Hiroyuki Kurokawa and Dr Allona Vazan) on *Planet formation and volatile delivery*
- **Contribution talk for the Latsis Symposium "The Origin and Prevalence of Life" 2022** (30 August – 2 September, Zurich, Switzerland): *From protoplanetary disks to planetary atmospheres*
- **Highlighted talk for EGU General Assembly 2022** (23–27 May, Vienna, Austria): *Devolatilisation during planet formation: A hybrid model of chemistry and dynamics* (online delivery)
- **Contribution talk for Astrobiology Science Conference 2022** (15–20 May, Atlanta, USA): *If a terrestrial planet exists in the habitable zone of Alpha-Cen A/B, what would the planet look like?* (online delivery)
- **Contribution talk for the Bonus Domain session, NCCR PlanetS General Assembly 2022** (25–29 April, Grindelwald, Switzerland): *From detailed stellar abundances to planetary interiors and beyond*
- **Contribution talk for ETH IPA Colloquium** (5 April 2022, Zurich, Switzerland): *A model Earth-sized planet in the habitable zone of α Centauri A/B*. Link to the presentation [slides](#).
- **Contribution talk for Virtual (NCCR) PlanetS Researcher Seminar** (2 December 2021, online): *A model Earth-sized planet in the habitable zone of α Centauri A/B*

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- **Invited seminar (informal) for the White Dwarf group at the University of Cambridge** (30 November 2021, Cambridge, UK): *Comparative Planetology: From Stars to Planetary Atmospheres* (online delivery)
 - **Contribution talk for ESO Star-Planet Connection Workshop 2021** (25–28 October, online): *From detailed host stellar abundances to planetary interiors*. Link to the [recording](#).
 - **Contribution talk (pre-recording) for PLATO Mission Conference 2021** (11–15 October, online): *Model for a rocky planet around the nearest Sun-like stars*
 - **Guest seminar for Swinburne Astrophysics Colloquium** (3 June 2021, Melbourne, Australia): *Comparative Planetology: From Stars to Planetary Atmospheres* (online delivery)
 - **Guest seminar for Macquarie University AAstromeeting** (28 May 2021, Sydney, Australia): *Comparative Planetology: From Stars to Planetary Atmospheres* (online delivery)
 - **Guest seminar for the USQ Astromeeting** (19 May 2021, Toowoomba, Australia): *Comparative Planetology: From Stars to Planetary Atmospheres*
 - **Contribution talk for the 43rd COSPAR Scientific Assembly** (28 January – 4 February 2021, online): *From accurate stellar abundances to exoplanet structures and compositions*
 - **Invited seminar for the University of Bern CSH Seminar** (12 November 2020, Bern, Switzerland): *Comparative Planetology: Starting with Stars* (online delivery)
 - **Contribution talk for Europlanet Science Congress (EPSC) 2020** (21 September – 9 October, online): *Nebular condensation of different stellar compositions and its influence on planetary chemistry*
 - **Contribution talk for Exoplanets III** (30 July 2020, online): *From detailed chemical compositions of planet host stars to planetary interior composition and structure*. Link to the [recording](#).
 - **Guest seminar for the University of Zurich Planet Seminar** (20 November 2019, Zurich, Switzerland): *From stars to planets: Devolatilization matters*
 - **Contribution talk for Elizabeth & Frederick White Conference 2018** (5 – 7 September 2018, Canberra, Australia): *Enhanced constraints on the interior composition and structure of rocky exoplanets*
 - **Contribution talk for IAU Astrobiology 2017** (26 November – 1 December, 2017 Coyhaique, Chile): *From a star to its rocky planets: Devolatilisation matters*. Link to the [recording](#).
 - **Contribution talk for Goldschmidt 2016** (26 June – 1 July 2016, Yokohama, Japan): *Chemical compositions of the proto-Sun and the bulk Earth: New estimates and implications*

PUBLICATION INFO

According to [Google Scholar](#), I have over **500** citations and a h-index of **12** for about **30** papers/patents to date. I mainly published papers in geophysics and rock physics prior to 2014, and subsequently my interest of research has shifted to (exo)planet sciences. A full (and up-to-date) list of [publications](#) is linked.