

CURRICULUM VITAE – SASCHA P. QUANZ

(AS OF 2021/05/15)

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EMPLOYMENT

06 / 2019 – PRESENT Associate Professor for Exoplanets and Habitability; ETH Zurich, Department of Physics
06 / 2014 – 05 / 2019 Senior Scientist & Lecturer; ETH Zurich, Department of Physics
09 / 2011 – 05 / 2014 Senior Research Associate (Oberassistent); ETH Zurich, Department of Physics
08 / 2009 – 08 / 2011 Post-doctoral Researcher (Assistent); ETH Zurich, Department of Physics
09 / 2007 – 07 / 2009 Associate / Senior Associate management consultant; McKinsey & Company, Frankfurt, Germany

EDUCATION

04 / 2004 – 07 / 2007 PhD in Astronomy (summa cum laude – with distinction);
Max Planck Institute for Astronomy (MPIA), Heidelberg, Germany
04 / 1999 – 03 / 2004 Diploma in Physics; University of Heidelberg, Germany

HONORS / AWARDS

11 / 2019 “Golden Owl” for exceptional teaching awarded by the Association of Students at ETH Zurich (VSETH)
08 / 2016 Assistant Professorship in Exoplanet Science offered from the University of Amsterdam (declined)
03 / 2013 – PRESENT Liaison professor and mentor for the Friedrich-Ebert-Stiftung (www.fes.de/studienfoerderung)
02 / 2013 Lecturer for the Studienstiftung des Deutschen Volkes (www.studienstiftung.de)
07 / 2007 PhD awarded with distinction (summa cum laude)
10 / 2004 – 07 / 2007 Full PhD scholarship from the Friedrich-Ebert-Stiftung for excellent students
05 / 2001 – 07 / 2007 Student scholarship from the e-fellows.net career network supporting outstanding students
07 / 2000 – 02 / 2004 Student scholarship from the Friedrich-Ebert-Stiftung for excellent students

INSTRUMENTATION /

PROJECT LEADERSHIP

12 / 2020 – PRESENT Acting PI for LIFE, an initiative to develop a mid-infrared space-based nulling interferometer mission designed for the characterization of terrestrial exoplanet atmospheres (www.life-space-mission.com)
01 / 2020 – PRESENT Co-Investigator (Co-I) for ERIS a 1–5 μm AO-assisted imager and spectrograph for the Very Large Telescope (VLT) (<https://www.eso.org/public/teles-instr/paranal-observatory/vlt/vlt-instr/eris/>) to be commissioned in late 2020 as a 2nd generation VLT instrument
12 / 2018 – 12 / 2020 Project and Science Lead for LIFE (see above)
12 / 2017 – PRESENT Co-Investigator (Co-I) for METIS, the mid-infrared (3–19 μm) 1st generation instrument for the future Extremely Large Telescope (ELT) (<http://metis.strw.leidenuniv.nl>)
05 / 2014 – PRESENT Consortium Project Scientist for METIS
05 / 2013 – PRESENT Project Scientist for the ETH contribution to ERIS
10 / 2011 – 02 / 2013 National Project Manager and deputy Instrument Scientist in an international consortium during an assessment study of EChO, a medium-class exoplanet mission candidate within the Cosmic Vision Program of the European Space Agency

PI OF GRANTS & PROPOSALS

07 / 2021 PI of SNF FLARE grant “ELT METIS” (~2050 kCHF) to contribute to the development of the METIS instrument for the ELT
04 / 2021 PI of SNF project grant “Constraining gas giant planet formation via high-contrast exoplanet imaging” (~650 kCHF)
07 / 2020 PI of ETH grant “Towards the direct detection of terrestrial exoplanets - predictive control for adaptive optics systems at (extremely) large ground-based telescopes” (~180 kCHF) in collaboration with M. Kasper (ESO) and O. Guyon (Subaru/Arizona)
06 / 2019 PI of NCCR project grant “Direct imaging of forming and mature planetary systems” (~670 kCHF)
06 / 2019 PI of NCCR bonus project grant “Observational signatures of habitability” (~320 kCHF) in collaboration with C. Lovis (Geneva Observatory)
05 / 2019 PI of SNF FLARE grant “ELT METIS” (~620 kCHF) to contribute to the development of the METIS instrument for the ELT
04 / 2018 PI of Preparatory Project (1000 node hours) at the Swiss National Supercomputing Center to investigate machine learning approaches for post-processing of high-contrast exoplanet imaging data
09 / 2016 PI of SNF project grant “Optimizing and exploiting high-contrast imaging at 3-5 micron for the direct detection of extrasolar planets” (~320 kCHF)
07 / 2016 PI of NCCR new initiative grant “The exoplanet census in the Solar neighborhood” (~210 kCHF) in collaboration with C. Lovis (Geneva Observatory)

LARGE SCIENCE COLLABORATIONS

2020 – PRESENT International Collaborator” on a 5-yr “NASA Interdisciplinary Consortia for Astrobiology Research” program “Alternative Earths – How to Build and Sustain a Detectable Biosphere” (PI: Prof. Timothy Lyons, University of California at Riverside)

2020 – PRESENT	Associated professor at the ETH AI Center (https://ai.ethz.ch)
2018 – PRESENT	Project leader and Board member within the National Center of Competence in Research (NCCR) “PlanetS” an interdisciplinary, inter-institutional exoplanet program funded through Swiss National Science Foundation SNF (http://nccr-planets.ch)
2018 – PRESENT	Associated member at the Max Planck ETH Center for Learning Systems (https://learning-systems.org)
2018 – PRESENT	Science Team member of the BEAST survey, a 190-hour exoplanet imaging ESO large program to search for planets around B-type stars with VLT/SPHERE
2017 – PRESENT	Co-Investigator of an accepted Early Release Science (ERS) proposal for the James Webb Space Telescope (JWST) to test and establish high-contrast imaging techniques for exoplanets and circumstellar dust disks (PI: S. Hinkley).
2015 – PRESENT	Invited science team member of the 120-nights VLT/NACO exoplanet imaging GTO survey of the PRIMA-DDL consortium (MPIA Heidelberg, Landessternwarte Heidelberg, Geneva Observatory); survey completed October 2019; data analysis ongoing
2016 – 2019	Spokesperson for one out of three “Science Domains” within the NCCR “PlanetS”
2014 – 2018	Member and sub-project leader “Exoplanet imaging” within the National Center of Competence in Research (NCCR) “PlanetS”
SUPERVISION OF POSTDOCS AND STUDENTS	
2012 – PRESENT	(Co-)Supervision and mentoring of 10 postdocs (Drs. D. Angerhausen, E. Alei, K. Todorov, S. Daemgen, H. Avenhaus, A. Boehle, T. Stolker, J. Hagelberg, N. Engler, H. Wang) and 12 PhD students (F. Dannert, J. Hayoz, B. Konrad, A. Gheorghie, M. Bonse, J.-N. Mettler, T. Gebhardt, P. Patapis, G. Cugno, M. Reggiani, H. Avenhaus, A. Garufi); supervision of >30 undergraduate students
2017 – PRESENT	PhD-committee member for Carlos Gomez Gonzalez (U. of Liege), Emily Rickman (U. of Geneva), Silvan Hunziker (ETH Zurich)
RELEVANT TEACHING	
2016 – PRESENT	Main lecturer for elective courses in physics: <ul style="list-style-type: none"> - <i>Exoplanets (Spring 2016, 2017, 2018, 2019, 2020, 2021)</i> - <i>The Sun, Stars and Planets - Properties, Processes and Interaction (Spring 2021)</i> Main lecturer for undergraduate courses in physics: <ul style="list-style-type: none"> - <i>Physics 1/2 for chemistry students (Fall 2019/Spring 2020)</i> - <i>Student Lab 1 (Fall 2016, 2017) and Student Lab 2 (Spring 2017)</i> - <i>Astronomie (Fall 2017, 2018, 2020)</i>
2010 – 2015	Substitute lecturer for various courses in physics (on average 3-4 lectures/term): <ul style="list-style-type: none"> - <i>Physics 1 for chemists (Fall 2015), Exoplanets (Spring 2013, 2015), Physics 2 for chemists (Spring 2014), Physics of Star and Planet Formation (Spring 2012, 2010)</i>
COMMUNITY SERVICE / COMMITTEES	
01 / 2021 – PRESENT	Member of the Swiss Committee on Space Research (CSR) of the Swiss Academy of Sciences
01 / 2021 – PRESENT	Swiss representative in the Scientific Council of the European Interferometry Initiative (EII)
01 / 2021	SOC member for “COSPAR 2020” scientific assembly exoplanet event: “Exoplanet detection and characterisation: current research, future opportunities and the search for life outside the solar system”, Sydney, Australia (and virtual)
11 / 2019	Main organizer “LIFE workshop II”, ETH Zurich, Switzerland
01 / 2019	Main organizer “LIFE workshop I”, DLR Berlin Adlershof, Germany
02 / 2018	Science Advisory Board member for “Water during planet formation and evolution 2018”, an Interdisciplinary workshop at the University of Zurich
10 / 2017	External expert reviewer for the Chinese Telescope Access Program
10 / 2017 – 01 / 2020	Editor-in-chief of the monthly “Exoplanet Newsletter” (~1500 subscribers worldwide)
09 / 2017	Science Advisory Board member for “Water during planet formation and evolution 2018” an Interdisciplinary workshop at the University of Zurich in 02/2018
03 / 2017 – 05 / 2018	Member of NASA’s Origins Space Telescope Exoplanet working group
07 / 2016	Review Board member for ESO’s Phase A review of the “VISIR-AO” experiment (later called “NEAR”) in collaboration between ESO and the Breakthrough Initiative
08 / 2015	SOC member for “Exoplanets & Statistics” Focus Meeting at the IAU GA, Honolulu, USA
03 / 2014 – 03 / 2015	Member of the European Southern Observatory (ESO) Observing Programmes Committee Panel for the Very Large Telescope (VLT) in observing periods 94 and 96
2010 – PRESENT	Referee for Science, Astrophysical Journal (Letters), Astronomical Journal, Astronomy & Astrophysics, Publications of the Astronomical Society of Japan, and Astronomy & Computing
MEMBERSHIP OF SCIENTIFIC SOCIETIES	
2019 – PRESENT	Member of the European Geosciences Union
2013 – PRESENT	Member of the Swiss Society for Astrophysics and Astronomy (SSAA)
2013 – PRESENT	Member of the European Astronomical Society (EAS)
2012 – PRESENT	Member of the International Astronomical Union (IAU)

SCIENTIFIC PUBLICATIONS

2006 – PRESENT

119 refereed articles in internationally recognized 1st-tier journals; 115 non-refereed publications (total ADS citation count: 5566, h-index: 45 (as of May 15, 2021))

SELECTED TALKS

- 02 / 2021 “The Large Interferometer For Exoplanets (LIFE) – Characterizing terrestrial exoplanet atmospheres in the mid-infrared”, contributed talk at the “COSPAR 2020” scientific assembly exoplanet event: “Exoplanet detection and characterization: current research, future opportunities and the search for life outside the solar system”, Sydney, Australia (virtual)
- 01 / 2021 “Towards the direct detection of terrestrial exoplanets”, Munich Joint Astronomy Colloquia, invited colloquium, Garching (virtual)
- 07 / 2020 “The Large Interferometer For Exoplanets (LIFE) - characterizing terrestrial exoplanet atmospheres in the mid-infrared”, Contributed talk at online conference Exoplanets III (virtual)
- 06 / 2020 “*Observing Earth-like exoplanets directly*”, Invited talk at Simons Collaboration on the Origins of Life (SCOL) Exoplanet e-Meeting (virtual)
- 10 / 2019 “*Atmospheric characterization of terrestrial exoplanets in the mid-infrared: biosignatures, habitability & diversity*”, Invited talk (White Paper presentation) at ESA’s Voyage 2050 workshop, Madrid, Spain
- 09 / 2019 “*Thermal IR ELT opportunity: finding and characterizing other worlds around the nearest stars with METIS*”, Contributed talk at the European Planetary Science Congress, Geneva, Switzerland
- 09 / 2019 “*The LIFE mission: a space mission designed to characterize terrestrial exoplanet atmospheres*”, Contributed talk at the European Planetary Science Congress, Geneva, Switzerland
- 06 / 2019 “*Towards the direct detection of terrestrial exoplanets*”, Invited talk at the Bay Area Exoplanets Meeting, Santa Cruz, USA
- 06 / 2018 “*Quantifying the exoplanet yield of a space-based mid-infrared interferometer*”, Invited talk at SPIE conference “Optical and Infrared Interferometry and Imaging”, Texas, USA
- 09 / 2017 “*Direct detection of hundreds of exoplanets with a space-based mid-infrared interferometer*” Contributed talk at the European Planetary Science Congress, Riga, Lithuania
- 07 / 2016 “*Direct constraints on planet formation: Young planets embedded in circumstellar disks*”, Contributed talk at “Exoplanets 1”, Davos, Switzerland
- 05 / 2016 “*High-contrast imaging observations of forming planets*”, Invited talk at ESO conference “Resolving planet formation in the era of ALMA and extreme AO”, Santiago de Chile, Chile
- 10 / 2015 “*Exoplanet science with E-ELT/METIS*”, Invited talk at the European Planetary Science Congress, Nantes, France
- 08 / 2015 “*Young planets embedded in circumstellar disks*”, Invited talk at the IAU General Assembly Division H meeting, Honolulu, USA