

CURRICULUM VITAE – SASCHA P. QUANZ

(AS OF SEPTEMBER 2023)

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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 (Assistant); 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)
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

01 / 2019 – PRESENT Principal Investigator (PI) of 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 second generation 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/>)
12 / 2017 – PRESENT Co-Investigator (Co-I) for METIS, the mid-infrared (3–13 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

LARGE SCIENCE

COLLABORATIONS

2022 – PRESENT International Collaborator in the Leverhulme Centre for Life in the Universe at the University of Cambridge (<https://www.lclu.cam.ac.uk>)
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 – 2022 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)
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”

PI OF GRANTS & PROPOSALS

07 / 2023	PI of Research Grant from ETH Centre for Origin and Prevalence of Life (~150 kCHF)
03 / 2023	Co-PI of PRODEX project “Nulling Interferometry Cryogenic Experiment for the Large Interferometer for Exoplanets” funded by the Swiss Space Office (~3000 kEUR)
07 / 2021	PI of SNF FLARE grant “ELT METIS” (~2050 kCHF) to contribute to the development of the METIS instrument for the ELT
06 / 2021	Latsis Foundation Grant (40 kCHF) to support the 2022 Latsis Symposium “Origin and Prevalence of Life”
06 / 2021	Project leader (“Towards the direct detection of terrestrial exoplanets”) within NCCR “PlanetS” Phase 3 (~570 kCHF)
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)

SUPERVISION OF POSTDOCS & 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 16 PhD students (J. Hansen, Ph. Huber, E. Garvin, Th. Birbacher, F. Dannert, J. Hayoz, B. Konrad, A. Gheorghe, M. Bonse, J.-N. Mettler, T. Gebhardt, P. Patapis, G. Cugno, M. Reggiani, H. Avenhaus, A. Garufi); supervision of >40 undergraduate students
2017 – PRESENT	PhD-committee member for Carlos Gomez Gonzalez (U. of Liege), Emily Rickman (U. of Geneva), Silvan Hunziker (ETH Zurich), Óscar Carrión González (TU Berlin)

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, 2022, 2023)</i>- <i>Earth – A (unique?) habitable planet? (Fall 2021, Fall 2023)</i>- <i>Host of Lecture Series: Space Research and Exploration (Fall 2021, 2022, 2023)</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; Fall 2022/Spring 2023)</i>- <i>Student Lab 1 (Fall 2016, 2017) and Student Lab 2 (Spring 2017)</i>- <i>Astronomie (Fall 2017, 2018, 2020, 2021, 2023)</i>
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CONFERENCE ORGANIZATION & COMMUNITY SERVICE /

11 / 2022	Team Lead for Keck Institute for Space Studies (KISS) workshop “Exploring Exoplanets with Interferometry”, Pasadena, USA (https://kiss.caltech.edu/workshops/Interferometry/Interferometry.html)
09 / 2022	Co-convenor for EXOA5-session “Devolatilization During Rocky (Exo)planet Formation: Mechanisms, Simulations, and Observations” at the European Science Congress 2022
09 / 2022	SOC Co-Chair and main organizer of the international Latsis Symposium 2022 “Origin and Prevalence of Life”, Zurich, Switzerland (https://latsis-origin-of-life.ethz.ch)
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)
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, Nature Astronomy, Astrophysical Journal (Letters), Astronomical Journal, Astronomy & Astrophysics, Publications of the Astronomical Society of Japan, and Astronomy & Computing

INSTITUTIONAL & COMMITTEE ROLES

08 / 2023 – PRESENT

President of Strategy Commission of the Physics Department and member of the Department Management Team, ETH Zurich

03 / 2023 – PRESENT

Chair of the Switzerland Hub of the Europlanet Society (<https://www.europlanet-society.org>)

09 / 2022 – PRESENT

Deputy director at the ETH Centre for Origin and Prevalence of Life (<https://copl.ethz.ch>)

09 / 2022 – PRESENT

Co-lead of ETH | Space, a platform to foster and coordinate space activities at ETH Zurich

01 / 2022 – PRESENT

Deputy Head of Institute, Institute for Particle Physics and Astrophysics, ETH Zurich

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 / 2022 – 07 / 2023

Member of the departmental PhD committee, Department of Physics, ETH Zurich

04 / 2022 – 03 / 2023

Member of Swiss Commission for Astronomy (SCFA) of the Swiss Academy of Sciences

2019 – 2022

Member of the departmental award committee, Department of Physics, ETH Zurich

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

>150 refereed articles published in internationally recognized 1st-tier journals; >100 major non-refereed publications and conference contributions; total [ADS citation count](#): >8150, H-index: 53

TALKS

(SELECTED)

09 / 2023

Invited speaker at the “Life in the Universe II” meeting of the Origin Federation, Boston, USA

09 / 2023

Invited speaker at Annual Meeting of the German Astronomical Society (“Exploring the diversity of Exoplanets” splinter session); Berlin, Germany

09 / 2023

Invited speaker at the Astrophysics colloquium at ISAS/JAXA, Tokyo, Japan

09 / 2023

Invited speaker at the Annual Meeting of the Astronomical Society of Japan, Nagoya, Japan

07 / 2023

Invited speaker at lunch seminar, Jet Propulsion Laboratory, Pasadena, USA

07 / 2023

Invited lecture “Exoplanet science with interferometry”, [2023 Sagan Exoplanet Summer Workshop](#), Pasadena, USA

07 / 2023

Invited speaker at the University of Göttingen “Astrophysical colloquium”, Göttingen, Germany

06 / 2023

Invited speaker at the [“Breakthrough Discuss 2023”](#) meeting organized by Breakthrough Foundation, University of California Santa Cruz, Santa Cruz, USA

06 / 2023

Invited speaker at the RSAA / ANU astrophysics colloquium, Canberra, Australia (virtual)

06 / 2023

Invited speaker at the French Society of Astronomy & Astrophysics Annual Meeting, Strasbourg, France

04 / 2023

Invited speaker at the [Space Community Days Switzerland 2023](#), Bern, Switzerland

04 / 2023

Contributed talk at the EGU General Assembly, Vienna, Austria

03 / 2023

Contributed talk “The LIFE initiative - atmospheric characterization of terrestrial exoplanets in the mid-infrared with a large space-based nulling interferometer”, [PLANET ESLAB Symposium](#), ESA/ESTEC

01 / 2023

Invited speaker at the IPAG/IRAM astrophysics colloquium in Grenoble, France

10 / 2022

Invited speaker at [“Life in the Universe”](#) workshop sponsored by NSF, Sofia, Bulgaria

10 / 2022

Keynote speaker at [2022 Space Symposium DSI-TNO-SRON](#), TU Delft, The Netherlands

07 / 2022

Invited speaker at [“Rocky Worlds II”](#), Oxford, UK

07 / 2022

Solicited speaker and contributed talk at two sessions at COSPAR Scientific Assembly, Athens, Greece

06 / 2022

Invited review speaker at the European Astronomical Society Meeting EAS2022, Valencia, Spain

06 / 2022

Invited speaker at the launch event of the Leverhulme Centre for Life in the Universe, University of Cambridge, UK

06 / 2022

Invited speaker at the “Thanks Giving 2022” event organized by the ETH Foundation

05 / 2022

Invited speaker in the Pasadena-Heidelberg workshop “Exoplanets in the 21st century”, Heidelberg, Germany

01 / 2022

Contributed talk *“The LIFE mission”* at virtual workshop “The next generation mid/far-IR space missions – Formulating a European perspective”

01 / 2022

Invited signature speaker at Koenigstuhl Colloquium, Heidelberg, Germany

09 / 2021

Contributed talk *“The LIFE initiative - developing a space mission to search for life outside the Solar System”* at the Virtual Meeting of the German Physical Society (DPG) Fachverband Extraterrestrische Physik

07 / 2021

Invited seminar *“Towards the direct detection of terrestrial exoplanets”*, University of Bayreuth, Bayerisches Geoinstitut, Bayreuth, Germany (virtual)

07 / 2021

Invited talk *“Detecting and characterizing exoplanets in the mid-infrared with the ELTs and beyond”* at the European Astronomical Society annual meeting in Session S14 “Exoplanets in the 2020s: theories, observations, and instrumentation”, Leiden (virtual)

04 / 2021

Invited lecture *“Towards the direct detection of terrestrial exoplanets”* at the Swiss Young Physicists Forum 2021 (virtual)

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

**RELEVANT OUTREACH
(SELECTED)**

09 / 2023	Public special event “Vom Wetter in der Schweiz und Leben auf anderen Planeten” as part of the <i>Scientifica 21</i> outreach event co-organized by ETH Zurich and the University of Zurich (https://scientifica.ch/event/vom-wetter-in-der-schweiz-und-leben-auf-anderen-planeten/)
03 / 2023	Public podium discussion “Die Menschheit: eine kurze Geschichte?” at <i>Treffpunkt Science City</i> a regular public outreach event organized by ETH Zurich (https://www.youtube.com/watch?v=QgozuDjc248)
06 / 2022	Lecture “Auf der Suche nach der zweiten Erde” at the <i>ETH Nacht der Physik</i> (https://video.ethz.ch/events/2022/physik/44b7eef6-4f16-4821-9462-5b5ee30344c3.html)
06 / 2022	Lecture “Auf der Suche nach der zweiten Erde” at the Physikalischen Gesellschaft Zürich (https://video.ethz.ch/events/2022/phys_abendvortraege.html)
03 / 2022	Public lecture “Apfelbäume im Weltall?” at <i>Treffpunkt Science City</i> a regular public outreach event organized by ETH Zurich (https://www.youtube.com/watch?v=2qihw7X02jo)
03 / 2022	Public talk “Exoplaneten – auf der Suche nach der zweiten Erde” at the Thurgauische Naturforschende Gesellschaft
09 / 2021	Public short lecture “Auf der Suche nach ausserirdischem Leben” as part of the <i>Scientifica 21</i> outreach event co-organized by ETH Zurich and the University of Zurich (https://scientifica.ch/en/event/auf-der-suche-nach-ausserirdischem-leben/)
03 / 2019	Kid’s lecture “Extrasolare Planeten - Auf der Suche nach der zweiten Erde” as part of TecJuniors by SATW program organized by “Kinderlab Landquart”
04 / 2018	Department of Physics research highlight “An amazingly wide variety of disks” in coordination with ESO Photo Release (eso1811) “SPHERE Reveals Fascinating Zoo of Discs Around Young Stars”
03 / 2017	Kid’s lecture “Traumberuf Forscher” as part of ETH’s outreach program “Treffpunkt Science City”
06 / 2015 – PRESENT	Main organizer for the astrophysics program within the ETH Studienwochen, a program allowing high-school students to spend one week at ETH working on a scientific project
03 / 2015 – PRESENT	Member of the Board of the Astronomische Gesellschaft Urania Zürich (AGUZ) (https://aguz.astronomie.ch)
02 / 2013 – PRESENT	Member of the Scientific Advisory Board for “Sterne und Weltraum” a popular astronomy journal from “Spektrum der Wissenschaft”
02 / 2013	ESO / ETH Zurich press release “The Birth of a Giant Planet?”
07 / 2010	ESO / ETH Zurich press release “New Mode for VLT’s NACO to image exoplanets”
2005 – PRESENT	Frequent radio/TV interviews, public talks and public lectures related to astronomical topics