

# Matthias Samland

## Curriculum Vitae

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🌐 [Personal website](#)

### Personal Information

Position Independent post-doctoral researcher at the Max Planck Institute for Astronomy  
Languages native German, native-level English, fluent Japanese ([JLPT/N1](#))

### Education (leading expertise in high-contrast imaging)

- Nov. 2015 – **Ph.D., Astronomy**, Max Planck Institute for Astronomy, Thesis: *High-Contrast Imaging Characterization of Exoplanets*, Ruprecht-Karls University, Heidelberg, Germany. Final grade: 1.0 (top grade), “very good”, with distinction “summa cum laude”.
- Jul. 2019
- Sep. 2012 – **Master of Science, Physics**, Max Planck Institute for Astronomy, Thesis: *Principal Component Analysis in the Context of High-Contrast Imaging*, Ruprecht-Karls University, Heidelberg, Germany.
- Sep. 2015
- Nov. 2012 – **Research Project**, Infrared Astronomy Group, Osaka University, Japan, Topic: *High-contrast imaging with the SEEDS-survey*.
- Sep. 2013
- Sep. 2009 – **Bachelor of Science, Physics**, Max Planck Institute for Astronomy, Thesis: *Global-Scale Glaciation Events and the link to Exoplanets*, Ruprecht-Karls University, Heidelberg, Germany.
- Aug. 2012

### Employment History

- Oct. 2021 – Post-doctoral researcher; in Planet and Star Formation and APEX Department, MPI for Astronomy, Heidelberg, Germany  
Now
- Oct. 2019 – Post-doctoral researcher; Stars, Planets and Astrobiology Group, Stockholm University, Stockholm, Sweden  
Sep. 2021
- Aug. 2019 – Post-doctoral researcher; Planet and Star Formation Department, MPI for Astronomy, Heidelberg, Germany  
Sep. 2019
- Nov. 2015 – Ph.D. candidate; Planet and Star Formation Department, MPI for Astronomy, Heidelberg, Germany  
Jul. 2019

### Teaching Experience (4 students)

- Feb. 2024 – **Supervision of bachelor student.**  
Sept. 2024 Julian Schauber – The Search for Planets and Brown Dwarfs around B-stars in the Massive Star-forming Region Orion (VLT/SPHERE survey. PI: Samland)
- Feb. 2024 – **Supervision of internship student.**  
May. 2024 Joyce Glass – Searching for exoplanets with JWST imaging of Orion
- 2022 – 2023 **Supervision of master’s student.**  
Philipp Herz – Development of statistical method and tool to estimate likelihood of planet candidate being real based on Gaia stellar populations ([published](#))
- 2018 – 2019 **Supervision of master’s student.**  
Jonas Kemmer – Homogeneous Reduction of the SPHERE/SHINE Survey Using ANDROMEDA and PyKLIP
- Sep. 2014 – **Teaching Assistant for Undergrad Course.**  
Feb. 2015 Introduction to Astronomy II

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## Recent Talks

- Oct. 2024 **Characterizing disks and planets from the ground and space** ([link](#)).  
Origins Seminars, Tucson, USA
- Sept. 2024 **Invited talk: The MINDS gas-rich debris disk sample observed with JWST/MIRI MRS.**  
Europlanet Science Conference, Berlin, Germany
- April 2024 **Invited talk: JWST Imaging of Exoplanets.**  
Menaggio, Villa Vigoni Workshop on Protoplanetary Disks, Italy
- Aug. 2023 **Imaging of debris disks in the MINDS survey.**  
Dublin, JWST MIRI European Consortium Meeting, Ireland
- Nov. 2022 **Recent updates in high-contrast imaging of exoplanets.**  
Special Seminar, Tokyo University, Japan
- July 2022 **Highlights in high-contrast imaging of exoplanets.**  
Königsstuhl Colloquium, MPIA, Heidelberg, Germany

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## Accepted PI Proposals (8 PI proposals—68 hours on 4 instruments)

- VLT/SPHERE 2025: Search for Exoplanets in Extreme Debris Disks (14 hours)
- VLT/ERIS 2024: Confirming the youngest population of exoplanets around B-stars in Orion (6 hours)
- VLT/SPHERE 2023: Imaging the youngest population of exoplanets around B-stars in Orion (35 hours)
- LBT/LMIRC 2022: Imaging the youngest population of exoplanets around B-stars in Orion (3 hours)
- LBT/ALES 2021: IFU L-band spectroscopy of HD 206893 b (executed, but bad conditions)
- VLT/SPHERE 2020: Targeted imaging of a benchmark brown dwarf detected by Gaia and RV (pandemic loss)
- LBT/ALES 2018: IFU L-band spectroscopy of HD 206893 b (weather loss)
- LBT/LMIRC 2016: Observational confirmation of planet candidate CVSO 30 c in L-band (weather loss)

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## Observing Experience (25 nights at 3 observatories)

- 2015 **2.2m telescope/FEROS**, *La Silla*, Chile, 10 nights — high-resolution spectroscopy of RV binary candidates survey.
- 2015 **VLT/SPHERE**, *Paranal*, Chile, 11 nights — SHINE GTO exoplanet survey.
- 2013 **Subaru/HiCIAO**, *Mauna Kea*, Hawaii, 4 nights — SEEDS exoplanet survey.

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## Organisational Roles (TAC / SOC / Referee / Representative)

- TAC JWST Cycle 4 / ESO DPR veteran
- SOC **Chair of SOC for Symposium at EAS 2023:** “One year of JWST: the road from protostars to planets”
- Referee JOSS the Journal for Open Source Science / A&A
- Roles **Work environment post-docs representative** at Stockholm University

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## Computer Skills (3 published open-source packages)

- Packages [SPHERICAL](#), [TRAP](#), [VLT/SPHERE-IFS](#)
- LLMs Agentic LLM frameworks with ReAct and offline models
- Programming PYTHON (VERY ADVANCED), CYTHON (INTERMEDIATE), C++ (BASICS)
- Compute NumPy, SciPy, Pandas, astropy, scikit-learn, scikit-image, openCV
- Visualization GlueViz, Bokeh, Matplotlib, Seaborn, pyds9