

Martin Schlecker

PHD CANDIDATE · EXOPLANETEER · STATISTICS ENTHUSIAST

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Education

Max Planck Institute for Astronomy

PHD CANDIDATE IN ASTRONOMY; IMPRS FELLOW

- + Advisors: Thomas Henning, Hubert Klahr
- + Expected Graduation: August 2021

Heidelberg, Germany

2017 – Present

European Southern Observatory

MASTER'S THESIS: IRREGULAR VARIABILITY IN KEPLER PHOTOMETRY

- + Created the Python package **lcps** for transit detection in *Kepler* photometry
- + Discovered and characterized a new planetary candidate

Garching, Germany

2015 – 2017

MSc: Technical University of Munich

MASTER OF SCIENCE IN PHYSICS (NUCLEAR, PARTICLE AND ASTROPHYSICS), MARCH 2017

Munich, Germany

2013 – 2017

National University of Singapore

STUDY ABROAD (ASTROPHYSICS AND NUMERICAL METHODS)

Singapore

2014

BSc: Technical University of Munich

BACHELOR OF SCIENCE IN PHYSICS, SEPTEMBER 2013

- + Thesis: Alignment and Calibration of the X-Ray Telescope ROSI, Max-Planck Institute for Extraterrestrial Physics

Munich, Germany

2010 – 2013

Publications

refereed: 10 — first author: 3 — citations: 87 (2020-09-22) — [ads search](#)

Refereed first author

- 3 **Schlecker, M.**; Pham, D.; Alibert, Y.; Mordasini, C.; Emsenhuber, A. *et al.*, *The Determinism of Global Planet Formation Models*, advanced draft in prep.
- 2 **Schlecker, M.**; Kossakowski, D.; Brahm, R.; Espinoza, N.; Henning, T. *et al.*, *A Highly Eccentric Warm Jupiter Orbiting a Solar-Type Star*, AJ (subm.)
- 1 **Schlecker, M.**; Mordasini, C.; Emsenhuber, A.; Klahr, H.; Henning, T. *et al.*, *The New Generation Planetary Population Synthesis (NGPPS). III. Warm super-Earths and cold Jupiters: a weak occurrence correlation, but a strong architecture-composition link*, A&A (in press)

Refereed

- 7 Jahnke, K. *et al.* (incl. **Schlecker, M.**), *An astronomical institute's perspective on meeting the challenges of the climate crisis*, Nature Astronomy, **4**, 812, 2020
- 6 Bluhm, P. *et al.* (incl. **Schlecker, M.**), *Precise mass and radius of a transiting super-Earth planet orbiting the M dwarf TOI-1235: a planet in the radius gap?*, A&A, **639**, 2020 ([arXiv:2004.06218](#))
- 5 Gibbs, A.; Bixel, A.; Rackham, B. V.; Apai, D.; **Schlecker, M.** *et al.*, *EDEN: Sensitivity Analysis and Transiting Planet Detection Limits for Nearby Late Red Dwarfs*, AJ, **159**, 169, 2020 ([arXiv:2002.10017](#))
- 4 Espinoza, N. *et al.* (incl. **Schlecker, M.**), *HD 213885b: a transiting 1-d-period super-Earth with an Earth-like composition around a bright (V = 7.9) star unveiled by TESS*, MNRAS, **491**, 2982, 2020 ([arXiv:1903.07694](#))
- 3 Kossakowski, D. *et al.* (incl. **Schlecker, M.**), *TOI-150b and TOI-163b: two transiting hot Jupiters, one eccentric and one inflated, revealed by TESS near and at the edge of the JWST CVZ*, MNRAS, **490**, 1094, 2019 ([arXiv:1906.09866](#))

- 2 Morales, J. C. et al. (incl. **Schlecker, M.**), *A giant exoplanet orbiting a very-low-mass star challenges planet formation models*, Science, **365**, 1441, 2019 ([arXiv:1909.12174](#))
- 1 Luque, R. et al. (incl. **Schlecker, M.**), *Planetary system around the nearby M dwarf GJ 357 including a transiting, hot, Earth-sized planet optimal for atmospheric characterization*, A&A, **628**, 2019 ([arXiv:1904.12818](#))

Preprints & other

- 5 Brahm, R. et al. (incl. **Schlecker, M.**), *TOI-481 b & TOI-892 b: Two long period hot Jupiters from the Transiting Exoplanet Survey Satellite*, ArXiv, 2020 ([arXiv:2009.08881](#))
- 4 Nowak, G. et al. (incl. **Schlecker, M.**), *The CARMENES search for exoplanets around M dwarfs. Two planets on the opposite sides of the radius gap transiting the nearby M dwarf LP 729-54*, ArXiv, 2020 ([arXiv:2003.01140](#))
- 3 **Schlecker, M.**, *lcps: Light curve pre-selection*, Astrophysics Source Code Library, 2018
- 2 **Schlecker, M.**, *Irregular Variability in Kepler Photometry*, Master's Thesis, 2016
- 1 Tiedemann, L. et al. (incl. **Schlecker, M.**), *The development of the μ ROSI X-ray telescope*, SPIE, **8859**, 885905, 2013

Selected Presentations

MIT Exoplanet Tea

INVITED SEMINAR

[MIT Kavli Institute \(virtual\)](#)

Nov. 2020

Exoplanet Demographics Conference

CONTRIBUTED CONFERENCE TALK

[NExSci, IPAC/Caltech \(virtual\)](#)

Nov. 2020

CfA Stars & Planets Seminar

INVITED SEMINAR

[Harvard & Smithsonian \(CfA\) \(virtual\)](#)

Nov. 2020

Exploring the Diversity of Extrasolar Planets

CONTRIBUTED CONFERENCE TALK

[DLR/FU Berlin \(virtual\)](#)

Sep. 2020

Pebbles, Planetesimals, and Protoplanets Conference

CONTRIBUTED CONFERENCE TALK

[Ringberg Castle](#)

Mar. 2020

11th CARMENES Scientific Meeting

CONSORTIUM MEETING

[Jena](#)

Nov. 2019

Institute Colloquium

INVITED SEMINAR

[Tautenburg Observatory](#)

Jun. 2019

Planet Formation and Evolution Conference

CONTRIBUTED CONFERENCE TALK

[University of Rostock](#)

Mar. 2019

Japanese-German Meeting on Exoplanets and Planet Formation

CONTRIBUTED CONFERENCE TALK

[Edesheim](#)

Sep. 2018

IAU General Assembly

CONFERENCE FLASH TALK

[Vienna](#)

Aug. 2018

Ad Valvas Seminar

INVITED SEMINAR

[KU Leuven, Belgium](#)

Jul. 2018

Honors & Awards

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| 2016 | Mobility grant , TUM Physics Department | Garching, Germany |
| 2013 | Travel Award , TUMexchange Program | Munich/Singapore |
| 2012 | Business Plan Award , UnternehmerTUM Business Plan Seminar | Garching, Germany |
| 2011 | Outstanding Performance Award , MAN Training Center | Augsburg, Germany |
| 2007 | Talent Promotion , "Begabtenförderung Berufliche Bildung", Chamber of Trade and Industry | Augsburg, Germany |

Teaching, Leadership, and Outreach

Team Coordinator

PROJECT EDEN

- + Leading a team of 12 student observers; managed >150 nights for a transit survey (CAHA 1.23m telescope)

MPIA Heidelberg/University of Arizona

Jun. 2018 – Present

Research Advisor

SUMMER STUDENT DANG PHAM (CORNELL)

- + Designed and guided project “The Determinism of Global Planet Formation Models” (paper in preparation)

MPIA Heidelberg

Jul. 2019 – Present

Teaching Assistant

NUMERICAL METHODS BLOCK COURSE

- + Hold lectures and tutorials on numerical methods for BSc/MSc students

Heidelberg University

Feb. 2020

Author

Q&A FEATURE

- + Wrote a short article about planet formation around Population III stars

All About Space Magazine

Nov. 2019

Invited Speaker

STUDENT INFORMATION DAY

- + Advised senior grade students on perspectives in the natural sciences

Berufshochschule Technik, Augsburg

Apr. 2017

Tutor

MATH PREP COURSE FOR PHYSICS STUDENTS

- + Taught 30 first year students in mathematical concepts in physics

Technical University of Munich

Sep. 2011

Invited Speaker

OUTREACH TALK AT VDI/VDE FORUM

- + Gave a talk on the supermassive black hole at the Galactic Center

University of Applied Sciences Augsburg

Mar. 2009

Community Services

PhD Student Representative

INTERNATIONAL MAX PLANCK RESEARCH SCHOOL ON ASTRONOMY AND COSMIC PHYSICS

- + Organized a four-day retreat for 19 PhD students
- + Promoted salary increase for future PhD students of IMPRS Heidelberg

Heidelberg

2017 – present

S4F Climathon Organizer

SCIENTISTS FOR FUTURE

- + Co-organizing a hackathon to tackle climate challenges

Heidelberg

2020

HGSFP Winter School SOC+LOC

HEIDELBERG GRADUATE SCHOOL OF FUNDAMENTAL PHYSICS

- + Co-organized a winter school for ~ 60 participants

Obergurgl

2018 – 2019

Workshop SOC+LOC

JAPANESE-GERMAN MEETING ON EXOPLANETS AND PLANET FORMATION

- + Co-organized an international workshop

Edesheim

2018

Fellowship Selection Board

INTERNATIONAL MAX PLANCK RESEARCH SCHOOL ON ASTRONOMY AND COSMIC PHYSICS

Heidelberg

2017 – Present

Journal Club Organizer

EUROPEAN SOUTHERN OBSERVATORY

Garching

2016

Observing Experience

15 nights **1.23 m telescope**

13 nights **2.2 m MPG/ESO telescope**

4 nights **1.22 m telescope**

2 nights **1.8 m telescope**

1 nights **92 cm telescope**

Calar Alto Observatory

La Silla Observatory

Asiago Astrophysical Observatory

Asiago Astrophysical Observatory

Asiago Astrophysical Observatory