

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 **1cps** for transit detection in *Kepler* photometry

Garching, Germany

2015 – 2017

MSc: Technical University of Munich

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

Munich, Germany

2013 – 2017

BSc: Technical University of Munich

BACHELOR OF SCIENCE IN PHYSICS

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

Munich, Germany

2010 – 2013

Selected Presentations

PLATO Extrasolar Planet 2020

CONTRIBUTED CONFERENCE TALK

virtual

planned: Dec. 2020

MIT Exoplanet Tea

INVITED SEMINAR

MIT Kavli Institute (virtual)

planned: Nov. 2020

Exoplanet Demographics Conference

CONTRIBUTED CONFERENCE TALK

NExSci, IPAC/Caltech (virtual)

planned: Nov. 2020

CfA Stars & Planets Seminar

INVITED SEMINAR

Harvard & Smithsonian (CfA) (virtual)

planned: 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

2016 **Mobility grant**, TUM Physics Department

Garching, Germany

2013 **Travel Award**, TUMexchange Program

Munich/Singapore

2012 **Best Business Plan**, 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 Lead: EDEN Transit Survey

- + Coordinating a team of 12 student observers; managed ~180 nights (CAHA 1.23m)

[MPIA Heidelberg/University of Arizona](#)

Jun. 2018 – Present

Research Advisor: Summer Student Dang Pham (Cornell)

- + Designed and guided summer project (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. 2018, 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

[Berufsboberschule Technik, Augsburg](#)

Apr. 2017

Team Lead: MOVE II Cubesat

- + Head of communications and ground control; successful launch in Dec. 2018

[Scientific Workgroup for Rocketry and Spaceflight](#)

Jan. 2011 – Apr. 2015

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

IMPRS: PhD Student Representative

- + Organized recreational and scientific retreats

[Heidelberg](#)

2017 – present

Scientists for Future: Climathon Organizer

- + Co-organizing a hackathon to tackle climate challenges

[Heidelberg](#)

2020

HGSFP Winter School: SOC+LOC

- + Co-organized a winter school for 60 participants

[Oberurgel](#)

2018 – 2019

Japanese-German Meeting on Planet Formation: SOC+LOC

- + Co-organized an international workshop

[Edesheim](#)

2018

IMPRS: Fellowship Selection Board

[Heidelberg](#)

2017 – Present

Observing Experience

15 nights **1.23 m telescope**

[Calar Alto Observatory](#)

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

[La Silla Observatory](#)

4 nights **1.22 m telescope**

[Asiago Astrophysical Observatory](#)

2 nights **1.8 m telescope**

[Asiago Astrophysical Observatory](#)

1 nights **92 cm telescope**

[Asiago Astrophysical Observatory](#)

Publications

first author: 3 — refereed co-author: 10 — citations: 106 (2020-11-05) — [ads search](#)

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 (in press)
- 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 with a strong architecture-composition link*, A&A (in press)

Refereed Co-Author

- 10 Brahm, R. et al. (incl. **Schlecker, M.**), *TOI-481 b and TOI-892 b: Two Long-period Hot Jupiters from the Transiting Exoplanet Survey Satellite*, AJ, **160**, 235, 2020 (arXiv:2009.08881)
- 9 Kemmer, J. et al. (incl. **Schlecker, M.**), *Discovery of a hot, transiting, Earth-sized planet and a second temperate, non-transiting planet around the M4 dwarf GJ 3473 (TOI-488)*, A&A, **642**, 2020 (arXiv:2009.10432)
- 8 Nowak, G. et al. (incl. **Schlecker, M.**), *The CARMENES search for exoplanets around M dwarfs. Two planets on opposite sides of the radius gap transiting the nearby M dwarf LTT 3780*, A&A, **642**, 2020 (arXiv:2003.01140)
- 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 (arXiv:2009.11307)
- 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 Dreizler, S. et al. (incl. **Schlecker, M.**), *The CARMENES search for exoplanets around M dwarfs – LP 714-47b (TOI 442.01): Populating the Neptune desert*, ArXiv, 2020 (arXiv:2011.01716)
- 4 Stock, S. et al. (incl. **Schlecker, M.**), *The CARMENES search for exoplanets around M dwarfs. Three temperate to warm super-Earths*, ArXiv, 2020 (arXiv:2010.00474)
- 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