

# 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  $\mu$ ROSI · Max-Planck Institute for Extraterrestrial Physics

Munich, Germany

2010 – 2013

## Publications

first author: 3 — refereed co-author: 7 — citations: 98 (2020-10-15) — [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

- 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

- 7 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](#))
- 6 Jahnke, K. et al. (incl. **Schlecker, M.**), *An astronomical institute's perspective on meeting the challenges of the climate crisis*, ArXiv, 2020 ([arXiv:2009.11307](#))
- 5 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)*, ArXiv, 2020 ([arXiv:2009.10432](#))
- 4 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](#))
- 3 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 LTT 3780*, ArXiv, 2020 ([arXiv:2003.01140](#))
- 2 **Schlecker, M.**, *lcps: Light curve pre-selection*, Astrophysics Source Code Library, 2018
- 1 Tiedemann, L. et al. (incl. **Schlecker, M.**), *The development of the  $\mu$ ROSI X-ray telescope*, SPIE, **8859**, 885905, 2013

## Selected Presentations

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### 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

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

## Teaching, Leadership, and Outreach

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### 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

[Berufshochschule 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

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### 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

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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](#)