

# BIBIANA PRINOTH

PhD student in Astronomy & Astrophysics  
at Lund Observatory



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[bprinoth.github.io](https://github.com/bprinoth)



[@bibianaprinoth](https://twitter.com/bibianaprinoth)

## EDUCATION



2020 - present

**PhD student in**

**Astronomy & Astrophysics**

Lund University, Sweden

2018 - 2020

**Master of Science in Physics**

ETH Zürich, Switzerland

2015 - 2018

**Bachelor of Science in Physics**

ETH Zürich, Switzerland

## AWARDS & GRANTS



2022

**Seminar Grant (SEK 50,000)**

The Royal Physiographic Society of Lund,  
Gunnar and Gunnel Källén's Memorial Fund

2021

**Research Grant (SEK 100,000)**

The Royal Physiographic Society of Lund,  
The Fund of the Walter Gyllenberg  
Foundation

2020

**Research Grant (SEK 105,000)**

The Royal Physiographic Society of Lund,  
The Fund of the Walter Gyllenberg  
Foundation

2020

**VMP Assistentenaward: Award for  
excellent teaching**

Association of mathematics and physics  
students at ETH Zurich

## RESEARCH INTERESTS

I study the atmospheres of ultra-hot exoplanets using ground-based and hopefully soon also space-based observatories.

## PUBLICATIONS

- **Titanium Oxide, Metals and Chemical Inhomogeneity in the Atmosphere of the Exoplanet WASP-189 b**  
Bibiana Prinoth, H. Jens Hoeijmakers, Daniel Kitzmann et al.  
Nature Astronomy, 6, 449–457 (2022)  
<https://doi.org/10.1038/s41550-021-01581-z>
- **3D Radiative Transfer for Exoplanet Atmospheres. gCMCRT: A GPU-accelerated MCRT Code**  
Elspeth K. H. Lee, Joost P. Wardenier, Bibiana Prinoth et al.  
ApJ, 929, 180 (2022)  
<https://iopscience.iop.org/article/10.3847/1538-4357/ac61d6/meta>
- **The Mantis Network II: Examining the 3D high-resolution observable properties of the UHJs WASP-121b and WASP-189b through GCM modelling**  
Elspeth K. H. Lee, Bibiana Prinoth, Daniel Kitzmann et al.  
MNRAS, 517, 1 (2022),  
<https://doi.org/10.1093/mnras/stac2246>
- **The Mantis Network I: A standard grid of templates and masks for cross-correlation analyses of ultra-hot Jupiter transmission spectra**  
Daniel Kitzmann, Jens H. Hoeijmakers, Simon L. Grimm, Nicholas W. Borsato, Anna Lueber, Bibiana Prinoth  
accepted for publication in A&A  
<https://arxiv.org/abs/2112.11380>

## SEMINARS, TALKS & PRESENTATIONS

- **What else is there to see? Revisiting the transmission spectrum of WASP-189 b**  
Astronomdagarna, Oct 4-6, 2022 (contributed talk)  
<https://www.chalmers.se/en/conference/astronomdagarna2022/Pages/default.aspx>
- **Titanium oxide and chemical inhomogeneity in the atmosphere of WASP-189 b**  
EAS 2022, Jun 27 - Jul 2, 2022 (poster presentation)
- **Titanium oxide and chemical inhomogeneity in the atmosphere of WASP-189 b**  
Exoplanets IV, May 1-6, 2022 (poster presentation)
- **Revealing dynamics, atmospheric stratification and chemical inhomogeneities in the atmosphere of WASP-189 b**  
UU Astronomy/Space physics seminar (invited seminar)
- **Revealing Dynamics, Three-Dimensional Stratification, and Chemical Inhomogeneities in the Atmosphere of an Ultra-Hot Jupiter**  
Astronomdagarna, Oct 22-23, 2021 (contributed talk)  
<https://indico.cern.ch/event/1016890/contributions/4498334/>
- **Interpreting Detections of Metals in the Transmission Spectra of Ultra-hot Jupiters**  
ESO Atmospheres Conference & Workshop, Aug 23-27, 2021 (contributed talk)  
<https://eso.org/sci/meetings/2021/Atmo2021/program/Prinoth.html>



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## OBSERVATIONS ——— EXPERIENCE / PROPOSALS

### ESPRESSO @ the Very Large Telescope (VLT)

Transit observation in designated Visitor  
Mode (dVM) during SC107, PI: Prinoth, PID:  
107.22QF

### FIES @ the Nordic Optical Telescope (NOT)

Two transit observation in Visitor Mode (VM)  
during semester 21B, PI: Johansen

### FIES @ the Nordic Optical Telescope (NOT)

Two transit observation in designated Visitor  
Mode (dVM) during semester 22B, PI:  
Johansen, PID:

### HRS @ the Southern African Large Telescope (SALT)

Transit in Service Mode (SM) during  
semester 22B, PI: Prinoth

## OUTREACH & SCIENCE COMMUNICATION ———

### Skype A Scientist

Talks to several school classes

<https://www.skypeascientist.com/>

### The Interplanetary Podcast

Guest on a podcast, talking about Ultra-hot  
Jupiters

<https://www.interplanetary.org.uk/>

### The Meridian

Field reporter on the podcast of Lund  
Observatory during season 2

<https://www.astro.lu.se/TheMeridian>

### Outreach Talk @ Polhemskola, Lund

Invited talk at a high school in Lund

### NMT Days @ Lund University

Lecture during the NMT (naturvetenskap,  
medicin, teknik) days at Lund University

<https://www.nmt.lu.se/app/?nav>

## WORK EXPERIENCE

- **Social Media Internship at the Europlanet Science Congress** (Sep 18-23, 2022)  
Europlanet Science Congress in Granada, Spain
- **Teaching assistant in ASTB01 - Introduction to Astrophysics**  
(Sep 2022 - Jan 2023)  
Department for Astronomy and Theoretical Physics, Lund University
- **Teaching assistant in FYSB21 - Mathematical Methods for Waves, Vibrations and Diffusion** (Apr 2021 - Jul 2021, Nov 2021 - Jan 2022, Apr 2022 - Jul 2022, upcoming: Nov 2022 - Jan 2023)  
Department for Astronomy and Theoretical Physics, Lund University
- **Teaching assistant in ASTC01 - Astrobiology** (Nov 2020 - Jan 2021, Nov 2021 - Jan 2022, upcoming: Nov 2022 - Jan 2023)  
Department for Astronomy and Theoretical Physics, Lund University
- **Teaching assistant in Physics II** (Feb 2020 - Aug 2020)  
Department for Particle Physics and Astrophysics, ETH Zürich
- **Teaching assistant in Physics I & II** (Sep 2018 - Jan 2020)  
Department for Particle Physics and Astrophysics, ETH Zürich
- **Substitute Teacher in Mathematics** (02/15/16 - 02/19/16, 09/21/15 - 09/25/15)  
Kantonsschule Sargans (Gymnasium), Switzerland

## VOLUNTARY WORK & STUDENT REPRESENTATION

- **Founding Member of SENECA — The Swedish Network for Early Career Astronomers** (Sep 2022 - present)  
<https://bprinoth.github.io/seneca/>
- **NDR Working Committee Member** (Jul 2022 - present)  
Naturvetenskapliga Doktorandrådet (NDR)
- **NDR Chair** (Jul 2021 - Jun 2022)  
Naturvetenskapliga Doktorandrådet (NDR)
- **PhD representative @ Nämnden för utbildning på forskarnivå (Research Education Board)** (Jan 2021 - present)  
Naturvetenskapliga Doktorandrådet (NDR)
- **Co-Secretary General of IDEALiStiC** (Feb 2018 - Oct 2020)  
IDEA League Students in Conference
- **President of the Council for Student Associations** (Sep 2018 - Feb 2019)  
Verband der Studierenden an der ETH Zürich
- **Board member for communication at VSETH** (Sep 2017 - Mar 2018)  
Verband der Studierenden an der ETH Zürich
- **President of VMP** (Oct 2016 - Oct 2017)  
Verein der Mathematik- und Physikstudierenden an der ETH Zürich