

DAVID GEBAUER (HE/HIM)

@ contact@gebauer.ai gebauer.ai d-gebauer 0009-0002-2889-3704



EDUCATION

M.Sc. Astrophysics

LMU Munich

April 2022 – October 2024

Final Grade: 1.15

Thesis: "Simulation Based Inference with the Integrated 3-Point Correlation Function of Cosmic Shear"

Supervisor: Dr. Stella Seitz

B.Sc. Physics

LMU Munich

October 2018 – March 2022

Final Grade: 2.12

Thesis: Dark Energy: Constraining cosmological models with extra spatial dimensions with Type Ia Supernovae

Supervisor: Prof. Dr. Jochen Weller

PROJECTS

Research Assistant

October 2024 – March 2025 MPE Garching

Applications of Symbolic Regression in Weak Lensing & Cosmology

December 2022 – April 2023 LMU Munich

PUBLICATIONS

C3NN: Cosmological Correlator Convolutional Neural Network – an interpretable machine learning tool for cosmological analyses

Z. Gong, A. Halder, A. Bohrdt, S. Seitz, D. Gebauer

14. February 2024 ApJ 971 156

doi.org/10.3847/1538-4357/ad582e

TEACHING EXPERIENCE

Lab Course Supervisor

LMU Munich

April – July 2021 & April – July 2022

- Supervising the physics lab of medicine students
- Grading the students lab reports

DIGITAL SKILLS

Python ● ● ● ● ●

C/C++ ● ● ● ● ●

CUDA ● ● ● ● ●

Julia ● ● ● ● ●

Linux ● ● ● ● ●

LaTeX ● ● ● ● ●

LANGUAGES

German ● ● ● ● ●

English ● ● ● ● ●

Latin

FELLOWSHIPS

Dark Energy Survey (DES) Spring 2024 award

2024

Awarded travel grant to attend the DES International Collaboration Meeting.

REFEREES

Dr. Stella Seitz

@ stella@usm.lmu.de

✉ Scheinerstraße 1, 81679 Munich

📍 LMU Munich

Prof. Dr. Jochen Weller

@ jochen.weller@lmu.de

✉ Scheinerstraße 1, 81679 Munich

📍 LMU Munich

Prof. Dr. Daniel Grün

@ daniel.gruen@lmu.de

✉ Scheinerstraße 1, 81679 Munich

📍 LMU Munich

CONFERENCES & TALKS

Monthly Discussion Session on Simulation Based Inference in Cosmology

📅 September 2023 – Ongoing

📍 Munich

Co-organiser, plans to expand this to include talks from experts in the field.

USM Hauptseminar

LMU Munich

📅 November 2024

📍 Munich

45 minute talk "Simulation Based Inference with Higher Order Weak Lensing Statistics".

Cosmology Seminar

Max Planck Institute for Astrophysics

📅 November 2024

📍 Garching

30 minute talk "Simulation Based Inference with Higher Order Weak Lensing Statistics".

Origins Lensing Day

Munich Institute for Astro-, Particle- and BioPhysics

📅 November 2024

📍 Garching

15 minute talk "Simulation Based Inference with Higher Order Weak Lensing Statistics".

Galaxies and Lensing Seminar

LMU Munich

📅 November 2024

📍 Munich

45 minute talk "Simulation Based Inference with Higher Order Weak Lensing Statistics".

Cambridge-LMU Cosmology Workshop

University of Cambridge

📅 October 2024

📍 Cambridge, United Kingdom

15 minute talk "Simulation Based Inference with Higher Order Weak Lensing Statistics".

Dark Energy Survey Collaboration Meeting

Dark Energy Survey

📅 May 2024

📍 S'Agaró, Spain

10 minute talk in the "Beyond 2-Point" session about the integrated 3-point correlation function.

Simulation Based Inference in Fundamental Physics

Max Planck Institute for Physics

📅 May 2024

📍 Garching

OPINAS Group Retreat

Max Planck Institute for Extraterrestrial Physics

📅 March 2024

📍 Ringberg Castle

20 minute talk on "Cosmology from Cosmic Shear with Simulation Based Inference"

Extragalactic Astrophysics Group Seminar

LMU Munich

📅 February 2024

📍 Munich

45 minute talk on source clustering in weak lensing surveys.

Cambridge-LMU Cosmology Meeting

LMU Munich

📅 December 2023

📍 Munich

15 minute talk "Cosmology from Cosmic Shear using Simulation Based Inference"

Debating the Potential of Machine Learning in Astronomical Surveys

Institut Astrophysique de Paris

📅 November 2023

📍 Paris

LMU-ETH Joint Workshop

LMU Munich

📅 September 2023

📍 Munich

10 minute talk about simulation based inference & forward modelling cosmic shear.

Extragalactic Astrophysics Group Seminar

LMU Munich

📅 August 2023

📍 Munich

45 minute talk "Simulation Based Inference: From Integrated 3PCF to cosmological parameter constraints"

Physical Cosmology Group Seminar

LMU Munich

📅 June 2023

📍 Munich

45 minute talk "Symbolic Regression: Using PySR to Discover Cosmological Relations"

Galaxies and Lensing Seminar

LMU Munich

📅 February 2023

📍 Munich

45 minute talk on "Symbolic Regression for Cosmology"