Laura Herold | CV

Karl-Schwarzschild-Str. 1, 85748 Garching, Germany
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EDUCATION

Anticipated PhD in Physics (06/2023)
Max Planck Institute for Astrophysics, Garching, Germany, *10/2019 – present*
Supervisor: Prof. Dr. Eiichiro Komatsu,
Thesis: The Hubble tension with complementary statistical tools (preliminary),

Visitor at Kavli IPMU, University of Tokyo, Kashiwa, Japan (06/2022 – 08/2022).

M.Sc. in Physics
Friedrich-Alexander-Universität Erlangen-Nürnberg, Germany, *04/2017 – 09/2019*
Supervisor: Prof. Dr. Kristina Giesel,
Thesis: Cosmological perturbation theory with Gaussian dust reference fields,
Grade: 1.03 mit Auszeichnung (with distinction),

Visitor at Louisiana State University, Baton Rouge, USA (02/2019 – 04/2019).

B.Sc. in Physics
Friedrich-Alexander-Universität Erlangen-Nürnberg, Germany, *10/2013 – 03/2017*
Supervisor: Prof. Dr. Stefan Funk,
Thesis: An analysis of the Fermi bubbles at low latitudes,
Grade: 1.35,

Visitor at Shanghai Jiao Tong University, Shanghai, China (02/2016 – 04/2016).

DUTIES, OUTREACH & TEACHING

Member of the HETDEX Collaboration *2019 – present*
Tasks: Measuring clustering of Lyman-alpha emitting galaxies in Fourier space (power spectrum) and cosmological parameter inference.

Organizational tasks *2020 – present*
Organizer of MPA/MPE "Large-Scale Structure Journal Club", "Joint Cambridge-Munich Cosmology Journal Club".

Referee tasks *2022 - present*
Referee for PRD.

Outreach Article *2022*
MPA Research Highlight August 2022: https://www.mpa-garching.mpg.de/1059369/hl202208.

Teaching assistant for different lectures at Friedrich-Alexander-Universität *2016 – 2018*
Tasks: Correcting homework sheets and presenting the solutions in a weekly class of ca. 15 students in the following courses (one semester each): Theoretical Physics I (Mechanics); Theoretical Physics II (Electrodynamics); Theoretical Physics III (Statistical Physics and Thermodynamics); Experimental Physics VI (Nuclear and Particle Physics).

AWARDS

Physics Elite Graduate Program of Friedrich-Alexander-University *2015 – 2019*
Research-oriented B.Sc./M.Sc. program by "Elitenetzwerk Bayern" for physics students with very strong performance.

Leonardo-Kolleg of Friedrich-Alexander-Universität *2016 – 2017*
Travel grant awarded to 5% best students at Friedrich-Alexander-Universität.

Abitur-Preis of Deutsche Physikalische Gesellschaft (German Physical Society) *2012*
Awarded to students with very good performance in physics at high school.

e-fellows stipend *2012*
German stipend awarded to students with excellent general performance at high school.

SKILLS

Programming skills
Proficient in python; Git; Slurm; HTML; HPC unix systems; basic skills in C, Java.

Cosmology codes
CLASS; CAMB; MontePython; nbodykit; MIGRAD; HEALPix.

Languages
English: fluent - spoken and written; German: native; Spanish: A1.

TALKS & CONFERENCES

- 09/2022 – Talk at conference "Tensions in Cosmology", Corfu, Greece.
- 07/2022 – **Invited** talk at "Workshop on Cosmology and Fundamental Physics", Kobe University, Japan.
- 06/2022 – Talk in YITP Seminar, Yukawa Insitute for Theoretical Physics, Kyoto, Japan.
- 06/2022 – Talk in C-Lab Seminar, University of Nagoya, Japan.
- 06/2022 – **Invited** talk in Astro Lunch Seminar, Kavli IPMU, University of Tokyo, Kashiwa, Japan.
- 05/2022 – **Invited** talk in Cosmology Sem., Inst. of Cosmology & Gravitation, Portsmouth, UK (virtual).
- 05/2022 – **Invited** talk in Cosmology Group Meeting, University of Michigan, Ann Arbor, USA (virtual).
- 05/2022 – Talk at conference "16. Kosmologietag", Bielefeld University, Germany.
- 03/2022 – **Invited** talk in Opinas Seminar, MPI for Extraterrestrial Physics, Garching, Germany (virtual).
- 02/2022 – **Invited** talk at "Axion Day", Origins Excellence Cluster, Garching, Germany (virtual).
- 02/2022 – **Invited** talk in Institute Seminar, Max Planck Institute for Astrophysics, Garching, Germany.
- 01/2022 – Poster at "Moriond Cosmology Conference", La Thuile, Italy.
- 11/2021 – **Invited** talk at conference "The Accelerating Universe 2.0", MIAPbP, Garching, Germany.
- 03/2019 – Talk in Quantum Gravity Seminar, Louisiana State University, Baton Rouge, USA.
- 10/2017 – Participant talk at "Astroparticle Physics School", Obertrubach-Bärnfels, Germany.

PUBLICATIONS

7. E. B. Holm, **L. Herold**, S. Hannestad, A. Nygaard, T. Tram: *Discovering a new well: Decaying dark matter with profile likelihoods*, arXiv:2211.01935.
6. **L. Herold**, E. G. M. Ferreira: *Resolving the Hubble tension with Early Dark Energy*, arXiv:2210.16296.
5. A. Reeves, **L. Herold**, S. Vagnozzi, B. D. Sherwin, E. G. M. Ferreira: *Restoring cosmological concordance with early dark energy and massive neutrinos?*, arXiv:2207.01501.
4. **L. Herold**, E.G. M. Ferreira, E. Komatsu: *New constraint on Early Dark Energy from Planck and BOSS data using the profile likelihood*, arXiv:2112.12140, ApJL 929 L16 (2022).
3. K. Gebhardt et al. (HETDEX collaboration, including **L. Herold**): *The Hobby-Eberly Telescope Dark Energy Experiment (HETDEX) Survey Design, Reductions, and Detections*, ApJ 923 217 (2021).
2. K. Giesel, **L. Herold**, B. F. Li, P. Singh: *Mukhanov-Sasaki equation in manifestly gauge-invariant linearized cosmological perturbation theory with dust reference fields*, arXiv:2003.13729, Phys. Rev. D 102, 023524 (2020).
1. **L. Herold**, D. Malyshev: *Hard and bright gamma-ray emission at the base of the Fermi bubbles*, arXiv:1904.01454, A&A 625, A110 (2019).

Munich, November 4, 2022