

Jarred Gershon Green

PHD CANDIDATE · VERY-HIGH-ENERGY ASTROPHYSICS

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Education

Doctoral Researcher at the Max Planck Institute for Physics

Munich, Germany

IN THE GAMMA-RAY ASTROPHYSICS GROUP OF PROF. MASAHIRO TESHIMA

Jan. 2022 - present

- Doctoral thesis **Towards a Teraelectronvolt Detection of Short Gamma-Ray Burst Afterglows**, expected graduation Summer 2026
- Contribute to the Gravitational Wave followup campaign for the Cherenkov Telescope Array
- Lead developer of the Python data analysis pipeline for the MAGIC telescopes (magicpy)
- Evaluate feasibility of transformers and graph neural networks to improve background discrimination on MAGIC data

Astromunuds Programme

Innsbruck, Austria

MSC, ASTROPHYSICS

Sep. 2016 - Sep. 2018

- Two-year Erasmus+ Erasmus Mundus Joint Masters Degree program in Astronomy and Astrophysics, funded by the European Union.
- First semester at University of Innsbruck, Austria; second semester at University of Rome, Tor Vergata; third semester at University of Göttingen, Germany; fourth semester at the Italian Space Agency in Rome, Italy.
- Master thesis **"Indirect dark matter searches with the MAGIC telescopes"**: Perform data reduction and analysis of Cherenkov observations of two potential dark matter sources.
- Thesis defended on September 28, 2018 at the University of Rome Tor Vergata with **highest marks and Cum Laude (110/110 with honors)**.

Skidmore College

Saratoga Springs, New York, USA

B.A., Music

Sep. 2011 - Sep. 2015

- Music Major with a focus in composition and conducting, Physics minor.
- Graduated Summa Cum Laude with an overall GPA 3.99, Phi Beta Kappa, Sigma Pi Sigma, Dean's List
- Studied abroad at the University of Bologna and the University of Oxford, Lady Margaret Hall in 2013 and 2014, respectively

Other Research Experience

Telescope Operation

La Palma, Spain

ROQUE DE LOS MUCHACHOS OBSERVATORY

Dec. 2019 - present

- MAGIC Telescopes, Shift Leader, since 2019, 7 total shifts
- CTAO Large-Size Telescope, Shift Leader, since 2020, 3 total shifts

Italian Space Agency – Space Science Data Center (ASI-SSDC)

Rome, Italy

RESEARCH FELLOW, FUNDING FROM THE ITALIAN INSTITUTE OF ASTROPHYSICS, OBSERVATORY OF ROME (INAF-OAR)

Jan. 2019 - Jun. 2021

- A 2.5 year position under the supervision of Dr. Angelo Antonelli and Dr. Antonio Stamerra.
- Reduction and analysis of data from the MAGIC telescopes of transient events and promising dark matter targets.
- Contribute to the development of **astripipe**, a software package for analyzing data from arrays of Cherenkov telescopes.
- Simulate observations of Gamma-Ray Bursts with the upcoming ASTRI mini-array observatory.

Skidmore College

Saratoga Springs, New York, USA

UNDERGRADUATE RESEARCH

Sep. 2015 - Aug. 2015

- A yearlong project under the supervision of Dr. Mary Crone Odekon, in conjunction with the ALFALFA collaboration.
- Study elliptical galaxies in which high levels of neutral hydrogen (HI) are detected and find statistical correlations between HI content and galaxy properties using R

Selected Publications

Chasing Gamma-Ray Signals from Binary Neutron Star Coalescences with the Cherenkov Telescope Array: Prospects and Observing Strategies

CTAO Consortium

THE ASTROPHYSICAL JOURNAL (ACCEPTED), CORRESPONDING AUTHOR

Accepted, April 2026

- arXiv:2604.08748, NASA SciX

Sensipy: simulate gamma-ray observations of transient astrophysical sources

Green, et al.

JOURNAL OF OPEN SOURCE SOFTWARE, UNDER REVIEW

Submitted, March 2026

- arXiv:2602.06783, NASA SciX

Detection of TeV emission during early afterglow from poorly localized GRBs with ground based IACTs

Macera, et al.

UNDER REVIEW

Submitted, April 2026

- arXiv:2604.07582, NASA SciX

A search for dark matter in Triangulum II with the MAGIC telescopes

PHYSICS OF THE DARK UNIVERSE, VOL. 28, CORRESPONDING AUTHOR

- arXiv:2003.05260, NASA SciX

MAGIC Collaboration

May 2020

ASTRI Mini-Array Core Science at the Observatorio del Teide

JOURNAL OF HIGH ENERGY ASTROPHYSICS, VOLUME 35, P. 1-42.

- arXiv:2208.03177, NASA SciX

Vercellone, et al.

Aug. 2022

Awarded Research Proposals

2023 **50h Observing Time - Large Size Telescope**, for a potential extragalactic GW-emitting source

La Palma, Spain

Awards & Prizes

2023 **German Academic Exchange Service (DAAD) Travel Grant**, for the International Cosmic Ray Conference

Nagoya, Japan

2016 **Consortium Scholarship**, Astromundus Masters Programme (Erasmus+) €49,000

Innsbruck, Austria

2018 **Best Poster Prize**, Astromundus Retreat 2018, "Indirect Dark Matter Searches with the MAGIC Telescopes"

Obergurgl, Austria

Selected Talks and Conferences

Nov. 2025 **TeV Particle Astrophysics Conference (TeVPA)**, "Classifying Waveform MAGIC Telescope Data Using Graph Neural Networks"

Valencia, Spain

Jul. 2025 **International Cosmic Ray Conference (ICRC)**, "Classifying Waveform MAGIC Telescope Data Using Graph Neural Networks"

Geneva,
Switzerland

Jul. 2024 **The International school of Cosmic Ray Astrophysics (Erice)**, "Deep Learning for the Reconstruction of MAGIC shower events"

Erice, Italy

Mar. 2023 **German Physical Society (DPG) General Meeting**, "MAGIC Event Reconstruction with Deep Learning"

Dresden, Germany

Supervision, Teaching, & other Academic Positions

Equal Opportunity Working Group

Max Planck PhD Network

COORDINATOR

2024 - 2026

- Representative for doctoral researchers within the Max Planck Society on issues of diversity, equity, and inclusion

Masters studies supervisor

Technical University of Munich

FOR ELLI JOBST

2025 - 2026

- Deep Learning techniques for design optimization of future Imaging Atmospheric Cherenkov Telescopes

Lead Lecturer

Technical University of Munich

LEARNING DATA SCIENCE AND MACHINE LEARNING

Winter 2025

- Organize and Teach lectures
- Create and administer final exam

Teaching Assistant

Skidmore College, NY, USA

INTRODUCTORY PHYSICS

May 2015 - June 2015

- Run nightly teaching and review sessions
- Maintain office hours and lab equipment

Skills

Python	Package development and deployment (conda, PyPI, uv), CI/CD and Git
Web Development	Javascript & Typescript, Svelte/SvelteKit, React/Next.js, React Native, Astro, Django, Flask, FastAPI
ML Experience	PyTorch, scikit-learn, CNNs, GNNs, Transformers, Local LLM Deployment
DevOps	AWS, Google Cloud, Cloudflare, Vercel, Supabase, Docker, Database Management
Language: Italian	Fluent (est. C2)
Language: Spanish	Advanced (est. B2)
Language: German	B1 Certification (Telc)