

SARAH MARIA WAGNER

Date of birth 16th of February 1995
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Ambitious, hard working physics student specializing in astronomy and time-series analysis enjoying complex, interdisciplinary, and creative tasks

EDUCATION

JMU
Wuerzburg,
Germany

since 07/20 **Promotion/ PhD**
Particle acceleration in AGN jets and high-energy variability of the gravitationally lensed blazar PKS 1830-211

Stanford
University,
USA

05/22 - 10/22 **Visiting Researcher**
X-ray and γ -ray analysis for PKS 1830-211 and cosmic-ray transport modelled with stochastic differential equations

JMU
Wuerzburg,
Germany

05/18 - 05/20 **Master of science with distinction**
Grade overall: 1.0, thesis grade: 1.0, thesis: [Statistical properties of the gamma-ray flux variations of blazars](#)

SLAC,
USA

7/19 - 10/19 **Visiting Research Student**
Sample study and time series analysis of FERMI-LAT light curves from blazars, eg with Bayesian block algorithm

JMU
Wuerzburg,
Germany

09/14 - 05/18 **Bachelor of science**
Grade overall: 2.0, thesis grade: 1.0, thesis: [VLBI Jet Kinematics of Mrk 421 concerning the Radio Flare in 2012](#)

University of
Turku, Finland

09/17 - 12/17 **ERASMUS**
Focus on plasma astrophysics and optical astronomy, average grade: 1.3 (converted from Finnish system)

LIST OF PUBLICATIONS

- **Wagner, S. M.**, et al. (in prep). High-energy variability of the gravitationally lensed blazar PKS 1830-211. Target Journal: Astronomy & Astrophysics
- **Wagner, S. M.**, et al. (2024). [Fermi-LAT detection of enhanced gamma-ray activity from TXS 0946+181 and 3C 273](#). ATel #16698
- **Wagner, S. M.**, et al. (2024). [Fermi LAT detection of a new gamma-ray source possibly associated with the flat spectrum radio source PMN J0332-6917](#). ATel #16693
- **Wagner, S. M.**, et al. (2024). [Fermi LAT detection of a GeV flare from PMN J1303-5540](#). ATel #16689
- Abdollahi, S. ..., **Wagner, S. M.**, et al. (2023). [The Fermi-LAT Lightcurve Repository](#). The Astrophysical Journal Supplement Series, Volume 265, id. 31
- **Wagner, S. M.**, et al. (2023). [A more sustainable future for astronomy](#). Nature Astronomy, Volume 7, p. 244-246
- **Wagner, S. M.**, et al. (2023). [Statistical properties of flux variations in blazar light curves at GeV and TeV energies](#). Proceedings of Science, Volume 395, id. 868
- Gokus, A., Paliya, V. S., **Wagner, S. M.**, et al. (2021). [The first GeV flare of the radio-loud narrow-line Seyfert 1 galaxy PKS 2004-447](#). Astronomy & Astrophysics, Volume 649, id. A77
- Burd, P. R., Kohlhepp, L., **Wagner, S. M.**, et al. (2021). [Ornstein-Uhlenbeck parameter extraction from light curves of Fermi-LAT observed blazars](#). Astronomy & Astrophysics, Volume 645, id. A62
- MAGIC Collaboration, ..., **Wagner, S. M.**, et al. (2020). [Testing two-component models on very high-energy gamma-ray-emitting BL Lac objects](#). Astronomy & Astrophysics, Volume 640, id. A132

TEACHING EXPERIENCE

JMU
Wuerzburg,
Germany

05/20 - 08/23 **Teaching assistant astrophysics**

Organizing a seminar and exercises for the course contemporary astrophysics; tasks performed either fully virtual or in person for four semesters, reference: [PROF. M. KADLER](#)

JMU
Wuerzburg,
Germany

01/17 - 08/17 **Teaching asisstant and tutorials**

Didactic tutorials on thermo- and electrodynamics, in person for one semester, reference: [DR. S. HUEMMER](#)

JMU
Wuerzburg,
Germany

03/17 - 04/17 **Supervisor for lab course**

Supervisor for experiments about thermodynamics, block course in person, reference: [DR. T. KIESSLING](#)

PROFESSIONAL EXPERIENCE

Outreach
Project

2/23 - 12/23 **Radio.Galaxie Game**

Board game with telescopes detected in augmented reality to illustrate radio interferometry, supported with 10.000 euro by the Hochschulwettbewerb, reference: hochschulwettbewerb.net

Conference
Chair

11/22-12/22 **Sustainability in Astronomy**

Lead of organization for a fully-virtual, international conference on sustainability in astronomy, reference: indico.a4e

Colloquium
Talk

10.10.2022 **Gravitational Lensing**

Illustrating the concept of gravitational lensing to students at the physics colloquium of the University of San Francisco, reference: physics.sfsu.edu

Thesis
Supervisor

09/21-05/22 **Stochastic Differential Equations**

Introducing the student to stochastic differential equations as well as particle acceleration, thesis: [Time-dependent Modeling of Diffusive Shock Acceleration Using Stochastic Differential Equations](#)

Observations

10/17 - 01/20 **Tuorla Blazar Monitoring**

Weekly, photometric observations of blazars with the remotely operated 35cm telescope KVA, reference: [DR. E. LINDFORS](#)

SCHOLARSHIPS

*Stiftung der
deutschen
Wirtschaft*

since 2020 **PhD fellowship**

Awarded for showing strong commitment in science and outstanding engagement in social activities, reference: [sdw.org](https://www.sdw.org)

*Universitaets-
bund JMU
Wuerzburg*

11/2021 **SWAINE scholarship**

Awarded to talented female scientists from the JMU to perform research in the USA, reference: [unibund.de/swaine-stipendium](https://www.unibund.de/swaine-stipendium)

*Stiftung der
deutschen
Wirtschaft*

2015 - 2020 **Student scholarship**

Financial support for students with strong academic potential and outstanding engagement in social activities, reference: [sdw.org](https://www.sdw.org)

SOCIAL ACTIVITIES

Sustainability

since 06/23 **Astronomers for Planet Earth**

Vice president and founding member of the charity Astronomers for Planet Earth e.V., reference: [astronomersforplanet.earth](https://www.astronomersforplanet.earth)

Sustainability

since 05/21 **Referat fuer Oekologie**

Student organization covering all aspects of sustainability at the university, e.g. campus garden and university politics, reference: [uni-wuerzburg.de/refoeko](https://www.uni-wuerzburg.de/refoeko)

*Gender
Equality*

11/14 - 06/19 **Fachschaft Physik**

Active work for projects on gender equality, e.g. organizing the "Girls Day", reference: [fachschaft.physik.uni-wuerzburg.de](https://www.fachschaft.physik.uni-wuerzburg.de)

OTHER INTERESTS

Fire force · Scuba diving · Nature · Saxophone