

Curriculum Vitae

Professional Practice

Since May 2023

Staff scientist at DZA, Görlitz

Development and implementation of transformation strategy through regional networking, science communication and knowledge transfer at the interface between DZA and research, education, and society

March 2014 – December 2025

Postdoctoral and staff researcher at DESY, Zeuthen

Supervision of MSc and PhD students; H.E.S.S. Operations & DAQ upgrade lead; Lead and implementation of H.E.S.S. transient activities; Convener of H.E.S.S. and CTA science working groups; Support and shaping of DESY role in gamma-ray astronomy; 24 journal publications as first or corresponding author (1 review, 2 publications in *Science*)

March 2011 – February 2014

Feodor-Lynen and postdoctoral researcher at the Universities of Leicester and Leeds, UK

Monte-Carlo studies for CHEC-M camera prototype and CTA camera performance requirements; organizer of the weekly astrophysics seminar; supervision of postgraduate students; 8 journal publications as first or corresponding author

May 2010 – February 2011

Postdoctoral research fellow at MPIK, Heidelberg

Supervision of diploma and PhD students; 1 journal publication as first author

University Education

April 2007 – May 2010

PhD in Physics at Ruprecht-Karls-University Heidelberg, Max-Planck-Institute for Nuclear Physics (Prof. Werner Hofmann, magna cum laude)

Thesis title: *“Development of an advanced gamma/hadron separation technique and application to particular gamma-ray sources with H.E.S.S.”*; 1 publication in *Science* journal resulting from this work (200 citations); 1 technical publication in journal of Astroparticle Physics (140 citations)

Scientific Profile

- Non-thermal processes and gamma-ray production in colliding wind binaries, massive stellar clusters, star-forming regions, and starburst galaxies, with focus on analysis and modeling.
- Non-thermal processes and gamma-ray production in superbubbles, supernova remnants and pulsar wind nebulae in the Large Magellanic Cloud, with focus on analysis and modeling.
- Gamma-ray emission from flaring stars; neutron-star binary mergers, and novae.

Technical Profile

- Expert knowledge of the concept and practical implementation of the H.E.S.S. experiment from data acquisition, calibration, data analysis to interpretation of results
- Technical development of machine-learning techniques for gamma-ray astronomy
- Development and implementation of strategies for transient follow-up with H.E.S.S.
- Extension of the H.E.S.S. real-time analysis to hybrid array operation; commissioning on site
- Simulation studies to derive CTA CHEC-M camera trigger and readout requirements
- Simulation studies to investigate impact of measurement errors on CTA system performance
- Derivation of CTA Monte-Carlo computing requirements for high-level analysis
- Simulation studies to explore CTA data reduction algorithms

Leadership and Management

- DZA regional networking and knowledge transfer lead (since 2023)
- H.E.S.S. science operations lead (2019 – 2022)
- DESY H.E.S.S. group lead (2017 – 2023)
- Deputy convener of the H.E.S.S. Galactic Working Group (2017 – 2019)
- Convener of the CTA Cosmic-Ray Science Working Group (2016 – 2018)
- Leader of the H.E.S.S. transients envelope task group (2015 – 2017)
- Deputy convener of the H.E.S.S. Analysis and Reconstruction Working Group (2013 – 2015)
- Convener of the H.E.S.S. Extended Extragalactic Working Group (2012 – 2013)

Organisation of scientific meetings

- SoC member of GAD session at ICRC (Berlin, virtual, 2021)
- SoC member of GAD session at ICRC (Madison, 2019)
- SoC member of gamma-ray session at TeVPA (Berlin, 2018)
- SoC member of Multi-messenger session at HAP topical workshop (Erlangen, 2016)
- Referee for PRL, MNRAS, A&A, ApJ, Astropart. Phys., Computer Physics Communications
- Proposal referee for JCMT, National Science Centre Poland

Awards and Memberships

- ERC Consolidator grant application “Fast optical transients as extreme particle accelerators” (2022, stage 2, grade A, no sufficient funding)
- H.E.S.S. prize for outstanding contributions to the H.E.S.S. experiment (2015)
- Feodor-Lynen research fellowship (Leeds and Leicester, UK, 2011 – 2013)
- CTA Consortium (since 2011)
- Humboldt Foundation (since 2011)
- H.E.S.S. Collaboration (since 2006)

Institutional responsibilities and commissions of trust

- Initiator 1st DESY Ukraine winter school, DESY, German (2022/2023)
- Member of Ukraine support group, DESY, Germany (since 2022)
- Member of EU working group on recognition of individuals in ApPEC (2021/2022)
- Member of the Employee Suggestions System committee, DESY, Germany (since 2020)

Teaching

- DESY summer school (Zeuthen, 2017 and 2018)
- Fermi summer school (Delaware, USA, 2017)
- Winter school on Astroparticle Physics (Ooty, India, 2016)
- KSETA topical course on machine learning (Karlsruhe, 2015)
- Astroteilchenschule (Obertrubach-Bärnfels, 2014)

Outreach and Education

- Regular internal and external public talks at DESY and in the Berlin-Brandenburg area
- Member of the DESYUM (DESY exhibition centre) [Sounding Board](#)
- Member of the Career Orientation and Skills Training for Postdocs ([COAST](#)) connector team
- Science-meets-art collaborations with Science Communication Lab and Alva Noto ([GRB190829A](#), [Eta Carinae](#), [RS Oph](#))
- Contribution to DESY press releases on [GRB190829A](#), [GRB180720B](#), [A&A special issue on H.E.S.S. Collaboration observations of the Milky Way](#), [GW170817](#), [RS Oph](#), and [discovery of TeV sources in LMC](#)
- Contribution to and coverage in [femto special issue](#) on Cosmic Particle Accelerators
- DESY Science Slam (2017)
- Contributor to the [Helmholtz astroparticle blog](#) (in german)