Dr. phil. nat. Sophia Florence Dellmann

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PROFESSIONAL CAREER

Postdoctoral Research Associate
Los Alamos National Laboratory, Los Alamos, NM, USA *since August 2024*

Postdoctoral Research Scholarship
Goethe University, Frankfurt, Germany *April 2024 - July 2024*

EDUCATION

Ph.D. in Experimental Astrophysics, *May 2021 - February 2024*
Goethe University, Frankfurt, Germany
Thesis: First proton capture reactions on stored radioactive ions

M.Sc. in Physics, Goethe University, Frankfurt, Germany *October 2019 - April 2021*
Thesis: Determination of the ^{179}Ta(n,γ) cross section

B.Sc. in Physics, University of Cologne, Germany *October 2016 - September 2019*
Thesis: Carbon embedding of metal clusters on Gr on Ir(111)

Dual study, Central bank of the Federal Republic of Germany *January 2015 - January 2016*

EXPERIENCE AND ACTIVITIES

Softskill course, Leading teams in a research environment, online *July 2023*
Hands-on experience in stellar modelling, *May 2023*
Konkoly Observatory, Budapest, Hungary
Participation in the DAAD Programm, exchange program with Greece *December 2022*
Upgrading an atomic physics setup by developing coincidence techniques
Nuclear Physics in Astrophysics School, *August 2022*
CERN, Geneva, Switzerland
Softskill course, Making an impact as an effective researcher *April 2022*
HGS-HIRe for FAIR participant, *2021 - 2024*
Helmholtz Graduate School for Hadron and Ion Research, Germany
MESA Summer School, Louisiana State University, Baton Rouge, USA *June 2022*
Stellar Modelling for Nuclear Astrophysics
Member of the equal opportunity council, *2021 - 2023*
Goethe University Frankfurt, Germany
Gravity-Related Research Summer School, European Space Agency *June 2020*

TEACHING AND MENTORING EXPERIENCES

Co-supervision of Bachelor and Master students, *since 2022*
Goethe-University Frankfurt, Germany
Teaching a lecture on nuclear astrophysics *summer semester 2023*
part of a lecture series "moderne Physik" , Goethe University Frankfurt, Germany
Teaching Assistant in the lecture "Thermodynamik im Alltag", *winter semester 2021*
Goethe University Frankfurt, Germany
Student assistant, *September 2018 - September 2019*
German Aerospace Center (DLR), Cologne, Germany
Student assistant, Center for Teacher Education at the University of Cologne, Germany *June 2016 - August 2018*

PUBLICATIONS

All 34 publications can be found at my **ORCID, https://orcid.org/0000-0002-6348-858X**

First/lead author publications (5)

First Proton-Induced Cross Sections on a Stored Rare Ion Beam: Measurement of ^{118}Te(p,γ) for Explosive Nucleosynthesis *submitted to PRL*
S. F. Dellmann, J. Glorius, Y. A. Litvinov, R. Reifarth et. al.

^{179}Ta(n,γ) cross-section measurement and the astrophysical origin of the ^{180}Ta isotope *2023*
R. Garg, S. F. Dellmann, C. Lederer-Woods, et. al.
Physical Review C, Vol. 107, p.45805-45811

Gamma intensities for the β-decay of ^{97}Zr *2023*
M. Weigand, S. F. Dellmann, et. al.
Nuclear Instruments and Methods in Physics Research A, Vol. 1048, p.167891

Proton capture on stored radioactive Te ions *2023*
S. F. Dellmann, J. Glorius, Y. A. Litvinov, R. Reifarth et. al.
EPJ Web of Conferences, Vol. 279, p. 11018

Reactor activations to constrain astrophysically relevant cross sections *2022*
S. F. Dellmann, R. Reifarth, M. Weigand, et. al.
EPJ Web of Conferences, Vol. 260, p.11035

EXPERIMENTS

Co-lead of the first neutron target experiments at Texas A&M , *November 2024*
Texas A&M, Texas, USA
Participation in an experiment to measure KLL Auger electrons, utilizing boron He-like projectiles impinging on He gas targets *March 2023*
Tandem Accelerator Facility of NCSR "Demokritos", Athens, Greece
Participation in multiple nTOF experiments *since September 2022*
nTOF, CERN, Geneva, Switzerland
Participation in the experiment: Indirect measurements of neutron-induced reaction cross sections at storage rings *June 2022*
ESR, GSI, Darmstadt Germany
Participation in the experiment: Investigating the destruction of deuterium during the Big Bang *February 2022*

CRYRING, GSI, Darmstadt, Germany
Participation in the experiment: Coulomb Dissociation of ^{16}O into ^{12}C and ^{4}He, GSI, Darmstadt Germany — *June 2022*
Participation in the experiment: Proton capture on ^{118}Te, ESR, GSI, Darmstadt Germany — *May 2021*
In charge of the data analysis and beam time participant
Participation in multiple neutron activation experiments, Van-de-Graff Accelerator, Goethe-University Frankfurt, Germany
TRIGA Reactor, Mainz, Germany — *October 2020 - July 2024*

CONFERENCES AND SCHOOLS

Invited contributions

NuGrid Collaboration Meeting, online — *June 2023*
EuNPC 2022, Santiago de Compostela, Spain — *October 2022*
AP Seminar, GSI, Darmstadt,Germany, online — *October 2022*
NUSTAR Collaboration Meeting, GSI, Darmstadt,Germany — *September 2022*

Oral contributions

Second DONES User's workshop, Granada, Spain — *October 2023*
Nuclei in the Cosmos XVII, Daejeon, Korea — *September 2023*
Advances in Radioactive Isotope Science - ARIS, Avignon, France — *June 2023*
Seminar, Konkoly Observatory — *May 2023*
NPA-X, Geneva, Switzerland — *September 2022*
ELEMENTS - W3-W4 Meeting, GUF, Frankfurt, Germany — *March 2022*
DPG-Frühjahrstagung, Mainz, Germany, online — *March 2022*

AWARDS AND SCHOLARSHIPS

Giersch Award for an Outstanding Doctoral Thesis — *2024*
Giersch Excellence Award — *2023*
Awarded for outstanding achievements in the doctoral thesis project
Abiturpreis der Deutschen Physikalischen Gesellschaft — *2014*
Recognized for exceptional achievements in high school physics
Hochbegabtenstiftung scholarship, University of Cologne — *2013*
Granted for early initiation into university physics studies, funded by the Hochbegabtenstiftung of the Kreissparkasse Köln.

SKILLS

Programming Languages and Frameworks
Python, C++, Julia
Linux, macOS, Windows
GEANT3, MOCADI, NuGridPy
MS Office, Typo3, Piwik Analytics, SAP
Languages
German, Mother tongue
English, fluent in speech and writing (C1)
Latin, examen latinum
Spanish, basic knowledge (A2)
French, basic knowledge (A1)