Postdoctoral Position in Experimental Nuclear Physics

The **Johannes Gutenberg University Mainz** invites applications for a **postdoc position in experimental nuclear physics** within the newly funded **Collaborative Research Center (CRC) "Hadrons and Nuclei as Discovery Tools."** (http://www.sfb1660.de) As part of a large research community, successful candidates will have access to cutting-edge local research infrastructure. The position includes funding for research and travel, with opportunities to participate in CRC activities such as lecture courses, workshops, retreats, and social events.

Project's objectives

Our project explores nuclear reactions relevant to astrophysics, aiming to provide precise cross-section data for stellar models. We use **high-intensity electron beams** to induce photo-dissociation reactions—time-reversed analogs of radiative capture such as (γ, α) and (γ, p). Detecting scattered electrons in coincidence with recoil particles using high-resolution spectrometers enables strong background suppression and access to previously unexplored regimes. These measurements provide critical input for astrophysical models and test modern nuclear theory. Candidates with experience in simulations (e.g., GEANT4), charged-particle detection and photo-nuclear or electron-induced reactions will find this project an exciting opportunity to apply their skills to groundbreaking research.

Your Role

You will lead experimental design, simulation, and data analysis for these measurements. The position is initially for two years, with the possibility of extension, offering a **unique opportunity to drive high-impact research** and collaborate with global experts in the field.

Your Qualifications

- PhD in Physics (with a focus on Nuclear or Particle Physics)
- Experience in experimental nuclear physics and simulation tools for detector and reaction modeling (e.g., GEANT4)
- Experience with beam experiments, charged particle detection and nuclear astrophysics measurements is desirable

Why Join Us?

- **State-of-the-art facilities**: Work with the world-class MESA accelerator and participate in groundbreaking experiments.
- **International Collaboration**: The CRC fosters strong international partnerships, providing opportunities for collaborative projects, research visits, and networking with institutions across the globe.
- **Professional Development**: Benefit from career mentoring, workshops, and opportunities to lead projects and develop key experimental skills within the CRC framework.
- **Flexible Work Environment**: JGU is committed to work-life balance and offers flexible working arrangement and a supportive, family-friendly atmosphere, ensuring work-life balance.

Application Instructions

Submit your motivation letter, CV and a description of your research experience to **Prof. Dr. Concettina Sfienti** at sfienti@uni-mainz.de. Please arrange for two signed letters of recommendation, on institutional letterhead, to be sent separately to the same address.

Applications will be reviewed on a rolling basis, with a final deadline of **August 25th 2025**.