

# Job advertisement

Vacancy ID: 061/2022

Closing date: 15. March 2022



**FRIEDRICH-SCHILLER-  
UNIVERSITÄT  
JENA**

Friedrich Schiller University is a traditional university with a strong research profile rooted in the heart of Germany. As a university covering all disciplines, it offers a wide range of subjects. Its research is focused on the areas Light–Life–Liberty. It is closely networked with non-research institutions, research companies and renowned cultural institutions. With around 18,000 students and more than 8,600 employees, the university plays a major role in shaping Jena’s character as a cosmopolitan and future-oriented city.

The Institute of Solid-State Physics seeks to fill the position of a

## Doctoral Researcher (m/f/d) “Ion beam doping of metasurfaces”

in the group of Prof. Ronning ([www.nano.uni-jena.de](http://www.nano.uni-jena.de)) at the earliest possible date.

Metasurfaces are ultra-thin planar optical elements that are composed of arrays of subwavelength-sized nanostructures modulating the amplitude, phase, and polarization of light. They have already been integrated into functional devices enabling numerous applications such as beam shaping, optical modulation, and hologram generation. The incorporation of optically active impurities in metasurfaces would even extend the potpourri of applications. Thus, strategies for the doping of metasurfaces using ion beams should be explored and investigated within this project. This is in particular interesting, as ion beam technologies are standard tools in semiconductor industry for e.g. precise doping, enabling modern computer processors.

### Your responsibilities:

- Performing high-quality research in an emerging field
- Present your results at local meetings and national and international conferences
- Assist with training other researchers, including Masters' and undergraduate project students, and further teaching activities, where required
- Work on an own scientific qualification project, .e.g. doctorate

### Your profile

- An MSc (or equivalent) degree in physics, materials science or related discipline. Candidates in the final stages of obtaining their degree are also eligible to apply.
- Readiness and enthusiasm to do experimental work.
- Readiness to stay for 12 months at the Australian National University (ANU) in Canberra.
- Highly self-motivated and creative personality.
- Capacity for teamwork in an international team.
- You have very good written and oral communication skills in English.

### We offer:

- A communicative atmosphere within a scientific network providing top-level research facilities and training program, including participation in international and national conferences, summer schools, workshops and/or research stays at international partners.
- Dual-PhD degree with the Australian National University (ANU).
- The place of work is Jena, Germany, a young and lively university town with dynamic business activities, successful scientific centres of innovation, and a vibrant cultural scene around a university with a rich tradition.
- Comprehensive mentoring program of hard and soft skills



- Remuneration based on the provisions of the Collective Agreement for the Public Sector of the Federal States (TV-L) at salary scale 13 – depending on the candidate's personal qualifications—, including a special annual payment in accordance with the collective agreement.

The advertised position is a part-time position (50%, 20 hours per week / increases are possible) and (initially) limited to 3 years.

Candidates with severe disabilities will be given preference in the case of equal qualifications and suitability.

Are you eager to work with us? Then submit your detailed written application by email (one PDF file), stating the vacancy ID **061/2022** by **15. March 2022** to:

**Prof. Carsten Ronning**  
**Institute of Solid-State Physics**  
**Friedrich Schiller University Jena**  
**Helmholtzweg 3**  
**07743 Jena**

**E-Mail: [carsten.ronning@uni-jena.de](mailto:carsten.ronning@uni-jena.de)**

For further information for applicants, please also refer to [www4.uni-jena.de/stellenmarkt\\_hinweis.html](http://www4.uni-jena.de/stellenmarkt_hinweis.html) (in German)  
Please also note the information on the collection of personal data at [www4.uni-jena.de/en/jobs\\_information\\_collecting\\_personal\\_data.html](http://www4.uni-jena.de/en/jobs_information_collecting_personal_data.html)

# Job advertisement

Vacancy ID: 062/2022

Closing date: 15. March 2022



FRIEDRICH-SCHILLER-  
UNIVERSITÄT  
JENA

Friedrich Schiller University is a traditional university with a strong research profile rooted in the heart of Germany. As a university covering all disciplines, it offers a wide range of subjects. Its research is focused on the areas Light–Life–Liberty. It is closely networked with non-research institutions, research companies and renowned cultural institutions. With around 18,000 students and more than 8,600 employees, the university plays a major role in shaping Jena's character as a cosmopolitan and future-oriented city.

The Institute of Solid-State Physics seeks to fill the position of a

## Doctoral Researcher (m/f/d) “Ion beam processing of quantum materials”

in the group of Prof. Ronning ([www.nano.uni-jena.de](http://www.nano.uni-jena.de)) at the earliest possible date.

Ion beam technologies are standard tools in semiconductor industry for e.g. precise doping, enabling modern computer processors, which needs multiple ion irradiation steps. Quantum materials, such as phase-change materials and correlated electron oxides, are promising candidates for novel electronic and photonic devices – especially, if the properties can be tuned via ion beam irradiation. Thus, the damage formation, doping and recovery processes of such materials need to be investigated in detail, for example by means of in-situ electrical, optical, or mechanical measurements and accompanying simulations, which is the frame of this doctoral research position.

### Your responsibilities:

- Performing high-quality research in an emerging field
- Present your results at local meetings and national and international conferences
- Assist with training other researchers, including Masters' and undergraduate project students, and further teaching activities, where required
- Work on an own scientific qualification project, .e.g. doctorate

### Your profile

- An MSc (or equivalent) degree in physics, materials science or related discipline. Candidates in the final stages of obtaining their degree are also eligible to apply.
- Readiness and enthusiasm to do experimental work.
- Highly self-motivated and creative personality.
- Capacity for teamwork in an international team.
- You have very good written and oral communication skills in English.

### We offer:

- A communicative atmosphere within a scientific network providing top-level research facilities and training program, including participation in international and national conferences, summer schools, workshops and/or research stays at international partners.
- The place of work is Jena, Germany, a young and lively university town with dynamic business activities, successful scientific centres of innovation, and a vibrant cultural scene around a university with a rich tradition.
- Comprehensive mentoring program of hard and soft skills
- Remuneration based on the provisions of the Collective Agreement for the Public Sector of the Federal States (TV-L) at salary scale 13 – depending on the candidate's personal qualifications—, including a special annual payment in accordance with the collective agreement.



The advertised position is a part-time position (50%, 20 hours per week / increases are possible) and (initially) limited to 3 years.

Candidates with severe disabilities will be given preference in the case of equal qualifications and suitability.

Are you eager to work with us? Then submit your detailed written application by email (one PDF file), stating the vacancy ID **062/2022** by **15. March 2022** to:

**Prof. Carsten Ronning**  
**Institute of Solid-State Physics**  
**Friedrich Schiller University Jena**  
**Helmholtzweg 3**  
**07743 Jena**

**E-Mail: [carsten.ronning@uni-jena.de](mailto:carsten.ronning@uni-jena.de)**

For further information for applicants, please also refer to [www4.uni-jena.de/stellenmarkt\\_hinweis.html](http://www4.uni-jena.de/stellenmarkt_hinweis.html) (in German)  
Please also note the information on the collection of personal data at [www4.uni-jena.de/en/jobs\\_information\\_collecting\\_personal\\_data.html](http://www4.uni-jena.de/en/jobs_information_collecting_personal_data.html)