

Marie Skłodowska-Curie PostDoc Positions in Germany

“Expression of Interest” for hosting Fellows

This template should be used by institutions interested in hosting postdoctoral fellows within the Marie Skłodowska-Curie Individual Fellowship programme. Host institutions should be located in Germany.

1. Valid for the following MSCA-IF Calls¹:

<input type="checkbox"/> 2018	<input checked="" type="checkbox"/> 2019	<input checked="" type="checkbox"/> 2020
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2. Interested host institution:

Federal Institute for Materials Research and Testing (BAM), Berlin, Germany

Name of EU liaison officer (EU-Referent/in), if applicable:
Dr. Claudia Eggert(claudia.eggert@bam.de)

3. Institute/Department:

Department 8: Non-destructive Testing
Division 8.4: Acoustical and Electromagnetic Methods

Website (Hyperlink): <https://www.bam.de/Navigation/EN/About-us/Organisation/Organisation-Chart/President/Department-8/Division-84/division84.html>

4. Contact person (name and e-mail address):

Dr.-Ing. Jens Prager
Email: jens.prager@bam.de

¹ MSCA Individual Fellowships are selected on the basis of annual calls for proposals. Forthcoming and open calls for proposals can be found on the [Participant Portal](#) of the European Commission under “Funding Opportunities” and “Calls/H2020”.

5. Project idea/position (scientific requirements, topic, discipline):

Rough outline of idea/position:

INTERESTED IN A POST DOC IN NON-DESTRUCTIVE TESTING AND STRUCTURAL HEALTH MONITORING USING ULTRASOUND?

The **Federal Institute for Materials Research and Testing (BAM)** is a senior scientific and technical Federal institute with responsibility to the Federal Ministry for Economic Affairs and Energy. BAM is a world-leading centre of excellence for “Safety in technology and chemistry”. It develops and applies cutting-edge key technologies to carry out interdisciplinary research integrating material sciences, materials engineering, and chemistry.

At BAM, almost 1,700 employees work in 11 departments ranging from Analytical Chemistry to Containment Systems for Dangerous Goods and Safety of Structures. Among the 1,700 employees are approx. 200 junior scientists and almost 150 PhD students, as well as over 60 students.

Safety creates markets. Our mission statement is: We ensure safety in technology and chemistry. We set and represent high standards for Germany and its global markets, embedding a “Made in Germany” culture of quality. We test, research and advise to protect people, the environment and material goods.

In an interdisciplinary team of junior and senior scientists, we (Department 8.4 “Non-Destructive Testing - Acoustic and Electromagnetic Methods”) develop ultrasonic methods for Non-Destructive Testing (NDT) and Structural Health Monitoring (SHM) applications, e.g. for fibre reinforced composites and additive manufacturing. We are a leading institution in the field of simulating wave propagation using the Scaled Boundary Finite Element Method for guided wave propagation and wave propagation in periodic structures. Our work combines fundamental research on the physics of acoustical wave propagation and their numerical simulation with applied research on NDT and acoustic sensor technologies.

Our research priorities are

- Structural Health Monitoring, particularly using guided waves
- Development of numerical simulation methods
- Laser ultrasound for non-destructive testing

Current topics of our working group are

- Development of efficient simulation tools for ultrasonic wave propagation
- Phased array technique for ultrasonic testing
- Guided waves for Structural Health Monitoring in fibre-reinforced plastics (GFRP / CFRP), plate-like components, pipes and pressure vessels
- Material characterization with laser ultrasound
- Imaging methods for ultrasonic testing, e.g. SAFT, TFM
- Design, development and qualification of Structural Health Monitoring Systems for safety-relevant components
- Adapted guided wave excitation and detection techniques, e.g. using modulated Laser systems
- Development of maintenance and inspection methods based on ultrasonic guided waves

In this exciting and interdisciplinary field, we offer Postdocs and other experienced scientists the opportunity to do research as part of a Marie Skłodowska-Curie Fellowship or Humboldt Fellowship. BAM's research coordination office provides extensive support to minimise proposal preparation effort and increase chances of success.

We offer

- Individual consultation meetings (face-to-face, phone or Skype)
- Information packages, incl. annotated proposal templates, guidelines, text snippets, etc.
- Information on BAM services that might be useful for your project.
- Access to successful proposals as “Good-Practice-examples”.

BAM Proposal Clinic: we provide you with in-depth feedback on your application drafts to guarantee a competitive proposal.

In addition, BAM's research service unit provides support on all financial and administrative proposal preparation matters. Your supervisor at BAM will establish contact between you and the BAM research coordination office as well as BAM research services unit.

Our laboratories specialised in acoustic and electromagnetic methods for non-destructive testing, are located at the BAM headquarters in the southwest of the vibrant capital Berlin in the district of Steglitz. The capital city of Germany is a city like no other in the world, pulsating with museums, tasty beer, cultural landmarks, creative minds, an unimaginable history, and a wild nightlife. Berlin is a city celebrated for its freedom, creativity, and cool grungy attitude.

Please tick:

- Life Sciences
- Natural Sciences
- Engineering Sciences
- Social Sciences and Humanities

6. Deadline² for considering interests by postdoctoral applicants:

There is no deadline for considering interest as our projects are ongoing.

² Please consider that the preparation of a Marie Skłodowska-Curie proposal requires some time. Fellow and supervisor have to agree on a project and training opportunities for the fellow.