

## 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 Calls<sup>1</sup>:**

2018

2019

2020

#### **2. Interested host institution:**

Technische Universität Darmstadt

Karolinienplatz 5  
64289 Darmstadt  
Germany

Name of EU liaison officer (EU-Referent/in), if applicable:  
Dr. Barbara Köhler

#### **3. Institute/Department:**

Technische Universität Darmstadt  
Material Science  
Functional Materials  
Alarich-Weiss-Str. 16  
64287 Darmstadt  
Germany

Website (Hyperlink): [www.mawi.tu-darmstadt.de/fm](http://www.mawi.tu-darmstadt.de/fm)

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

Prof. Dr. Oliver Gutfleisch ([gutfleisch@fm.tu-darmstadt.de](mailto:gutfleisch@fm.tu-darmstadt.de))

Dr. Franziska Scheibel ([scheibel@fm.tu-darmstadt.de](mailto:scheibel@fm.tu-darmstadt.de))

---

<sup>1</sup> 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:

The Functional Materials group at TU Darmstadt lead by Prof. Oliver Gutfleisch is a highly recognized, dynamic, internationally oriented research group focussing on resource-efficient development of new functional magnetic materials for new cooling concepts, efficiency improved electricity transmission and utilisation, and E-mobility and wind energy. The focus is on basic research and application-oriented development of novel permanent and soft magnets, ferromagnetic shape memory and magnetostrictive alloys and magneto-caloric materials as well as magnetic nanoparticles for biomedical applications. We are particularly interested in the synthesis and multiscale characterization and modeling of magnetic, thermal and (micro)-structural properties and the integration of new materials in demonstrators.

The development of such materials with improved properties requires advanced processing and high resolution characterization techniques. The preparation is mainly done using various melting and none-equilibrium processing techniques which can be combined with nitrogenation and hydrogenation processes. A large number of characterization options is available to measure magnetic properties in wide field and temperature ranges, electronic and thermal transport, magnetostriction and the adiabatic temperature change. Furthermore, a lot of different microscopy techniques are available like scanning and transmission electron microscopy, atomic and magnetic force microscope, and magneto-optical Kerr microscopy.

A more detailed list of research activities, of preparation and characterization techniques is given on our webpage [www.mawi.tu-darmstadt.de/fm](http://www.mawi.tu-darmstadt.de/fm), where you can also find a list of the recent publications on the various topics.

We are happy to support and host a Marie Skłodowska-Curie PostDoc fellow who is highly talented and motivated and of course interested in one of these research topics.

Please tick:

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

**6. Deadline<sup>2</sup> for considering interests by postdoctoral applicants:**

We do not have any detailed deadline. Interested postdoctoral applicants can contact us any time. However, we ask that applicants contact us as early as possible in order to plan and support the project in the best possible way (no later than three months before the deadline of the call).

---

<sup>2</sup> 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.

