24-month Postdoc

The *Laboratoire d'Étude des Microstructures et de Mécanique des Matériaux*, LEM3, was founded in 2011 by merging two CNRS laboratories located in Metz (France). From this fusion has emerged a center for transdisciplinary experimental and theoretical research combining mechanics of solids and metallurgy, materials science, chemistry, and physics, to ensure a better visibility of research in France and an effective knowledge transfer to industrial partners, while maintaining the balance between basic and applied approaches. The *Ingénierie des Microstructures, Procédés, Anisotropie, ComportemenT*, IMPACT department studies microstructures (with their 3D topology) and crystallographic textures (at micro- and macro-scales) of polycrystalline materials, with focus on changes induced by phase transitions during thermal, mechanical and/or physical processing, to better understand how the changes alter macroscopic behavior of materials, especially their anisotropy.

The *Max-Planck-Institut für Eisenforschung GmbH*, MPIE, with its international team conducts basic research on metallic alloys and related materials to enable progress in these fields. The MPIE is financed by the Max Planck Society for the Advancement of Science and the Steel Institute VDEh, the representative of the steel industry in Germany. In this public-private partnership, which is unique for the Max Planck Society as well as for the European industry, the institute pursues an approach where materials systems are studied under consideration of their highly complex underlying nanostructures on the one hand and their exposure to extreme environmental conditions on the other hand.

To support our research, we are looking for a

24-month Postdoc

Influence of the microstructure on the internal stress field within grains.

Project team:

- Dr. Vincent TAUPIN (LEM3, France)
- Dr. Antoine GUITTON (LEM3, France)
- Prof. Dierk RAABE (MPIE, Germany)

Your tasks

- You will perform detailed analyses of deformation microstructures. You will explore cutting-edge techniques for characterizing defects.
- You will perform numerical simulations of microstructures evolution.
- You will share your time between Metz (France) and Düsseldorf (Germany).
- Your results will be discussed in the framework of fundamental deformation mechanisms of materials.

Your profile

- You should be a PhD in materials science. (PhD defense must be in 2016, 2017, 2018 or 2019)
- You should have good knowledge of deformation physics and plasticity of materials.
- Experience with electron microscopes is expected.
- Experience with numerical simulations will be a plus.
- As you will be part of international teams, good communication skills in English and teamwork practices are expected.

We offer

This is a 24-month postdoc position.

For further information and application, please contact:

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