

HoTMiX project is a joint French-German academic research project funded for 3 years by the ANR and DFG agencies. It brings together 6 academic labs and is supported by the St Gobain and Safran companies. The aim of the project is to provide a deep understanding of the relationships between the nonlinear mechanical response of oxide materials at very high temperature and their microstructure at the nanoscale. The relationship between microstructure and mechanical properties will be explored by combining two different approaches. In situ measurements at very high temperature or under applied stresses will be carried out using X-ray based advanced techniques at synchrotron radiation beamlines and accurate microstructural modelling based on virtual microstructures submitted to temperature and external stresses evolutions will be developed. More details on the HoTMiX project can be found here: www.bam.de/hotmix

Recruitment of a Post Doc fellow (m/f)

"Multiscale analysis of oxide nanostructured materials through *in situ* high temperature X-ray scattering using synchrotron radiation"

1. Your responsibilities include:

- ✓ Establishing 3D reciprocal space mapping and Laue microdiffraction methodologies for oxide materials at high temperature
- ✓ Driving X-ray diffraction experiments at the D2AM and IF CRG beamlines at ESRF
- ✓ Participation to the high temperature QMAX-furnace adaptation for Laue microdiffraction experiments
- ✓ Data reduction, analysis and interpretation according to physical and mechanical models
- ✓ Scientific and technical interactions with another Post Doc and 3 PhD students involved in the project
- ✓ Reporting to the interdisciplinary consortium members, Presentation and publication of the results

2. Your qualifications:

We are looking for a highly motivated applicant holding a PhD in materials science and engineering, physics, or a related discipline. The successful candidate should have a great interest in and experience with crystallography and X-ray diffraction based techniques. Programming skills in Python will be a strong asset together with good communication skills and team spirit. The ability to work well in a dynamic and collaborative research environment is essential.

3. We offer:

The Post-Doc will be employed by the CEA-IRIG in Grenoble and will be part of the F-CRG beamlines team based at ESRF (www.f-crg.fr). This full-time position is aimed to start in fall 2020 and is offered on a fixed-term 24 month contract.

4. Your application:

Applications, consisting of a detailed scientific CV, a letter of motivation and a support letter, should be sent to the following addresses: micha@esrf.fr and boudet@esrf.fr before September 30, 2020.

