

## FORM FOR EMPLOYERS

INSTITUTION: Academic Centre for Materials and Nanotechnology, AGH University of Science and Technology

CITY: Kraków Poland

POSITION: Adjunct

DISCIPLINE: Metallurgy, Materials Science

POSTED: EXPIRES: 23 February 2017

WEBSITE:

KEY WORDS: Titanium alloys, thermomechanical processing, scanning electron microscopy, rheological properties

DESCRIPTION (field, expectations, comments):

### FIELD:

Successfully employed candidate will be working as a Post-doc in Academic Centre for Materials and Nanotechnology at AGH University of Science and Technology in Kraków, Poland. The main research activities will be connected with the scientific project entitled "Development of a comprehensive methodology for determination of the through scale rheological properties under accelerated microstructure recovery conditions of advanced Ti alloys for aerospace applications". The main aim of the project is to develop a new and effective way of evaluation of the through-scale rheological properties of main three constituents of aerospace titanium alloys microstructures: namely, primary alpha, secondary alpha and beta phases, as a function of temperature and deformation conditions. Exact assessment of the macro and micro deformation behaviour of Ti alloys' microstructural constituents under conditions of accelerated recovery of microstructure with connection to the morphology will provide a new insight into understanding of the fundamental phenomena governing microstructural events occurring during hot temperature deformation of complex titanium alloys.

The main task of the successfully employed Candidate will be conduction of studies concerning rheological properties' assessment at micro scale using in-situ SEM tensile stage at both, room and elevated temperatures, with simultaneous SEM imaging of deformed Ti specimens. At the same time, EBSD/EDS analysis will be performed in order to combine local rheological properties with microstructure and texture of investigated specimens.

### EXPECTATIONS:

- PhD in metallurgy, materials science or physics
- proficiency in English (B2 level or equivalent certificate),
- active participation in conferences and symposiums,
- research track record and general knowledge regarding thermomechanical processing of metals and alloys,
- experience in sample preparation for optical and scanning electron microscopy,
- ability to independent work with Scanning Electron Microscopes,
- knowledge of Electron Back Scatter techniques as well as sample preparation using Focused Ion Beam,
- ability to work in a team,
- honesty, conscientiousness, diligence and responsibility for assigned work,
- willingness to continuously improve and expand their skills,
- readiness to actively participate in scientific conferences, both at national and international scale,
- resourcefulness, motivation for scientific work, great commitment to research work.