Project sheet reference number:	Research Project Title:
2012-PTT-F-30-000-00327	**Microstructural characterisation of materials and mechanical property correlation**

Position for:	**Short description of activity:**
CATEGORY 30	In line with the Joint Research Centre's mission to provide customer-driven scientific and technical support, the Institute for Energy and Transport (IET) in Petten (NL) contributes to the conception, development, implementation and monitoring of community policies related to energy. Special emphasis is given to scientific research in support of the security of energy supply and sustainable and safe energy production, both in the nuclear and non-nuclear fields. Further information can be found at http://www.jrc.ec.europa.eu The reactors operating in Europe can be used beyond their original life-time through plant-life management programmes and future nuclear reactors need to be designed for at least 60 years and with higher temperatures, higher irradiation damage and different coolants. This requires a thorough understanding of the long-term material performance under the relevant conditions. The Action MATTINO is looking for a motivated scientist or engineer at post-doctoral level to work on characterization of materials using a combination of techniques such as scanning and transmission electron microscopy (SEM and TEM), energy-dispersive X-ray spectroscopy (EDX), X-ray diffraction (XRD), and 3D X-ray tomography. The candidate will work in close collaboration with scientists developing physics-based constitutive models with an ultimate goal to understand how material structure and defects at different length scales affect the material properties. **Qualifications:** The ideal candidate should have a Ph.D. or a minimum of 5 years of research experience after the first degree giving access to doctoral studies A master's degree and PhD in physics, materials engineering or in a related field, or equivalent is strongly desired. Experience with material characterization methods is necessary. Computer programming skills as well as some experience with modelling of material behaviour are considered an asset. Very good command of the English language is essential. Willingness to work in a team, combined with the capacity to execute the assigned tasks independently is required. Candidates are asked to provide, together with the CV and supporting documentation, one or two references and a list of their publications.

Institute **Unit** **Action**	Institute for Energy and Transport - IET Nuclear Reactor Integrity Assessment and Knowledge management - F.04 Materials Performance Testing for Innovative Reactor Systems-MATTINO Further information: http://iet.jrc.ec.europa.eu/
Indicative duration **Preferred starting date**	max. 36 months 16/10/2012
JRC Site **Country**	Petten The Netherlands
Rules	Grantholders: http://ec.europa.eu/dgs/jrc/downloads/jrc_grantholder_rules.pdf