EUROPEAN COMMISSION
DIRECTORATE-GENERAL HUMAN RESOURCES AND SECURITY
Directorate HR.AMC –Account management Centre
HR.DDG. AMC 8

2018-IPR-E-000-010560	**Computational analysis of fast-dynamic effects**

Position for: Trainee	As the science and knowledge service of the Commission, the mission of Joint Research Centre is to support EU policies with independent evidence throughout the whole policy cycle. The JRC is located in 5 Member States (Belgium, Germany, Italy, the Netherlands and Spain). Further information is available at: http://www.jrc.ec.europa.eu **Short description of activity:** The recent terrorist attacks have shown that protection of soft targets and buildings is important. Particular threats are the effect of explosions and the impact of vehicles. Computational models (explicit finite element method) are a fast and reliable tool to analyse mechanically fast dynamic effects like blast and impact to structures. Several scenarios are important to consider and could be further investigated by these computational models: • Failure of glass in buildings. Most fragile part of a building and result into harmful splinters • Explosions in trains. Determination of possible effects and vulnerability • Vehicle ramming. Investigation of the protection level of barriers/bollard in city centres The training consists in (a) developing models for the simulation of the structural components and (b) making parameter studies in order to investigate their behaviour. The explicit finite element software EUROPLEXUS will be used.

	Qualifications: **Essential:** • University degree in civil/structural/mechanical engineering and an MSc in a field relevant to the topic of the call (Applications from students currently preparing a thesis for an MSc degree are eligible – the subject of the thesis has to match with the project' subject) • Good knowledge of the English language (level B2) • Good analysing and problem-solving skills **Advantage:** • Previous research or professional experience relevant to the topic of the call • Experience in the use of explicit FEM software **For general eligibility requirements, please read the rules governing the traineeship scheme of the JRC:** https://ec.europa.eu/jrc/en/working-with-us/jobs/temporary-positions/jrc-trainees
Unit /Directorate	Space, security and Migration Safety and Security of Buildings Further information: https://ec.europa.eu/jrc/en
Indicative duration	5 months
JRC Site **Country**	Ispra Italy
JRC contact details	**For any technical problems with your application, please contact:** HR-AMC8-RECRUITMENT-TOOLS-SUPPORT@ec.europa.eu