Context-Aware Heterogeneous Modelling for Aerospace Systems - EPSRC NPIF PhD studentship in partnership with Rolls-Royce

University of York

**Qualification type:** PhD  
**Location:** York  
**Funding for:** UK citizens and EU citizens who have resided in the UK for the past three years (EPSRC eligibility requirements apply)  
**Duration:** Funding is available for a minimum of 3 years and up to a maximum of 4 years  
**Funding amount:** Full coverage of tuition fees and annual stipend at RCUK rate ie £14,553 for 2017/18  
**Hours:** Full Time  

**Placed on:** 2 June 2017  
**Closes:** 30 June 2017

**The project**

During the development lifecycle of an aerospace system, several models are constructed to explore design alternatives, and then analysed and simulated using heterogeneous modelling tools (e.g. SysML, UML, Simulink, SCADE) to assess fitness for purpose, safety properties etc. While some of these modelling tools provide peer-to-peer interoperability features, the lack of an overarching integration architecture facilitating lifecycle- and system-wide context awareness significantly hampers productivity and consistency.

This project shall propose a novel architecture for facilitating lifecycle- and system-wide context-awareness in heterogeneous aerospace system modelling environments.

While there is previous work on peer-to-peer interoperability between pairs of heterogeneous modelling languages and tools, a rigorous and automated approach for capturing traceability and semantic relationships across the heterogeneous models involved in the lifecycle of an aerospace system is currently missing.
Research supervision

If successful, you will conduct your research under the supervision of:

- Dr Dimitris Kolovos, Senior Lecturer in Enterprise Systems, and a world-leading expert in model-based systems engineering and model management
- Prof. Richard Paige, Chair in Enterprise Systems and an expert in Model-Driven Engineering.
- Rolls-Royce (based in Derby and Birmingham).

You will be part of large and internationally leading team who specialise in Model-Driven Engineering. The team has a substantial track record in industrial-academic research in MDE, and have been very successful at delivering research results into numerous industries. The team includes four permanent members of academic staff, five research associates, and around 20 PhD/EngD students. The team is highly supportive and encourages cross-project collaboration, especially on joint publications and developing new research projects. You will collaborate closely with software architects and engineers at Rolls-Royce in Derby and Birmingham, and there may be opportunities to spend time in either location as part of the PhD, working closely with Rolls-Royce staff.

Award funding

If successful, you will be supported for a maximum of four years. Funding includes:

- £14,553 (2017/18 rate) per year stipend
- Home/EU tuition fees
- RTSG (training/consumables/travel) provision

Funding requirements

To be considered for this funding you must:

- meet the entrance requirements for a PhD in Computer Science
- be eligible to pay home/EU fees and be able to meet the EPSRC requirements: https://www.epsrc.ac.uk/skills/students/help/eligibility/*

* EU applicants who do not meet the EPSRC residency requirements can apply to be considered for a fees only award
We will look favourably on applicants that can demonstrate knowledge of Eclipse (especially EMF/Ecore) and who have excellent Java programming skills.

Apply for this studentship

1. Apply to study
   You must apply online for a full-time PhD in Computer Science
   You must quote the project title (EPSRC NPIF Studentship) in your application.
   There is no need to write a full formal research proposal (2,000-3,000 words) in your application to study as this studentship is for a specific project.

2. Provide a personal statement
   As part of your application please provide a personal statement of 500-1,000 words with your initial thoughts on the research topic.

Deadlines

The closing date for the receipt of applications is Friday, 30 June 2017.

Interviews are expected to take place within approx. 14 days of the closing date.

The studentship must begin in October 2017.

Informal enquiries

Project enquiries
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