**2 Research Associates in `REMS: Rigorous Engineering of Mainstream Systems’**

Department of Computing, Imperial College London

**2 fixed term appointments for up to 3 years, proposed start date 1st October 2013.**

**Salary in the range: £32,100 to £40,720 per annum**

**Closing Date: 31st May 2013**

An opportunity has arisen for two Research Associates to work with Prof. Philippa Gardner

(http://www.doc.ic.ac.uk/~pg/) on the verification of concurrent systems (theory, tools and applications), as part of the project *REMS: Rigorous Engineering of Mainstream Systems* with Cambridge (PI: Peter Sewell) and Edinburgh (Ian Stark).

The Department of Computing at Imperial is a strong, vibrant place to do analysis and verification of concurrent systems: other academics include Cristian Cadar, Alistair Donaldson, Sophia Drossopoulou and Nobuko Yoshida, with Cristiano Calcagno (Monoidics) part-time. Imperial hosts the National Research Institute in Automated Program Analysis and Verification funded by EPSRC and GCHQ, with Gardner as the Director. It is a leading Department of Computer Science among UK Universities. It has consistently been awarded the highest research rating (5\*) in Research Assessment Exercises (RAE), coming 2nd in the 2008 RAE, and was rated as "Excellent" in the previous national assessment of teaching quality.The positions will be based at the South Kensington campus, a lovely part of London next to Hyde Park, many amenities and several museums.

The overall aim of the project at Imperial is to develop the fundamental theory of concurrency verification, including the design of verification tools and the study of real-world applications such as the C11 library, java.util.concurrent and the POSIX file system.

Candidates should have an interest in concurrency verification and a strong track record in some of: separation logics, linearizability, weak memory, Coq, verification tools and concurrent programming. Gardner is looking for two researchers whose research spans the breadth of these areas, from theory through to practice. On the practical side, this project provides an exciting opportunity to work with the Cambridge systems researchers. For further details, see http://www-lrr.doc.ic.ac.uk/ca/ for Gardner’s work on concurrency verification and http://www.cl.cam.ac.uk/~pes20/rems/ for the overall REMS project.

The purpose of the `REMS’ project is to develop and apply rigorous semantic techniques to real-world systems. It comprises:

• researchers in semantics and systems at Cambridge: Mike Gordon, Magnus Myreen, Andrew Pitts and Peter Sewell (PI) for semantics, and Jon Crowcroft, Steve Hand, Anil Madhavapeddy, Simon Moore and Robert Watson for systems;

• Philippa Gardner at Imperial;

• Ian Stark at Edinburgh;

• project partners include ARM, IBM, Microsoft Research, the FreeBSD foundation, INRIA, and the Universities of Pennsylvania, Purdue and Texas Austin.

To be considered, applicants should have a PhD in a relevant area (which should be submitted by the start date) or equivalent experience, and relevant publications in leading peer-reviewed conferences and/or journals. For candidates with exceptional experience, it may be possible to appoint one position at a more senior level and extend the appointment beyond the three years.

The proposed start date is 1st October 2013 with some flexibility.

The position is funded by EPSRC grant EP/K008528/1.Academic enquires should be addressed to Philippa Gardner (pg@doc.ic.ac.uk). Enquiries about the application process should be addressed to Joanne Day (research.officer@doc.ic.ac.uk).

**How to apply:**

Our preferred method of application is online via our website: http://www3.imperial.ac.uk/employment (please select “job search” then enter the job title or vacancy reference number **EN20130144TT** into “keywords”). Please complete and upload a college application form as directed.

Applications must include:

• A college application form, quoting reference number **PG CO0413**

• A full CV including publication list and research summary

• A cover letter detailing how this project relates to your current research.

*Committed to equality and valuing diversity.  We are also an Athena Bronze SWAN Award winner, a Stonewall Diversity Champion and a Two Ticks Employer*