



<b>RESEARCH UNIT:</b>	<b>SCHOOL OF COMPUTING</b>
<b>RESEARCH CENTRE:</b>	<b>LERO – THE IRISH SOFTWARE RESEARCH CENTRE</b>
<b>POST TITLE:</b>	<b>POSTDOCTORAL RESEARCHER IN SOFTWARE SYSTEMS AND ANALYTICS</b>
<b>LEVEL ON FRAMEWORK:</b>	<b>LEVEL 2A</b>
<b>DURATION:</b>	<b>12 MONTHS FULL TIME FIXED TERM CONTRACT</b>

### **Background**

The Irish Software Research Centre Lero (<http://www.lero.ie>) brings together leading software research teams from Universities and Institutes of Technology in a coordinated centre of research excellence with a strong industry focus. Lero has raised the level and profile of Irish software research with such effect that it is now one of the best known and highly regarded software research centres in the world. Lero specifically focuses on the key challenges of Evolving Critical Systems.

### **The Project**

A vacancy exists for the positions of postdoctoral researchers who will be involved in undertaking software research relating to smart cities and cloud computing analysis. The researchers will be based in the School of Computing at DCU and will work under the supervision of Dr. Markus Helfert. The researchers will join a team of Lero PhD students and Postdoctoral researchers as well as researchers and developers in partner companies.

The ideal candidates will have research experience in the area of Systems and Software Architecture Analytics or a related technology field. Experience in empirical methods and design science would also be an advantage.

QoS-driven Software Systems Architecture Configuration : This research complements our Usage-Analytics Work and investigates specifically the use of architectural refactoring driven by performance/scalability. In addition, techniques for dynamic system-level configuration based on

workload pattern mining, matching and fuzzy logic to cover uncertainty aspects should be investigated. Aims is to provide insights into performance/scalability gain from novel architecture refactoring techniques and develop a demonstrable system configuration prediction accuracy and acceptable runtime performance.

### **Principal Duties and Responsibilities**

Reporting to his/her project coordinator, the Postdoctoral Researcher main duties will include:

- To contribute to literature reviews and the development of the research design
- To collect and collate the research data
- To analyse and support the interpretation of the research data
- To maintain accurate project records and project confidentiality
- To contribute to academic articles, conference papers and other publications
- To engage and support other researchers working on projects affiliated to the Centre's research programme

### **Research Career Framework**

As part of this role the researcher will be required to participate in the DCU Research Career Framework <http://dcu.ie/hr/ResearchersFramework/index.shtml> . This framework is designed to provide significant professional development opportunities to researchers and offer the best opportunities in terms of a wider career path.

### **Criteria**

Applicants should have a PhD in a relevant discipline, evidence of strong empirical research skills and a knowledge of some of the relevant academic literature on software architecture and analysis. In addition, it is desirable that the candidate has experience in the respective application domains smart cities and cloud computing.

Candidates should have skills in the design, management and conduct of research, a high level of interpersonal skills, team working skills, report writing, time management skills and ability to work to deadlines. Desirable attributes include experience in industry-led research, presentation skills and academic article writing skills.

### **Salary Scales:**

**\*Postdoctoral Researcher:** €37,013- €47,255

*\* Appointments will be commensurate with qualifications and experience, and will be made on the appropriate point of the salary scales, in line with current Government pay policy*

**Closing Date:** 15th April 2018 **Start Date:** As soon as possible

**Candidates will be assessed on the following competencies:**

**Discipline knowledge and Research skills** – Demonstrates knowledge of a research discipline and the ability to conduct a specific programme of research within that discipline.

**Understanding the Research Environment** – Demonstrates an awareness of the research environment (for example funding bodies) and the ability to contribute to grant applications.

**Communicating Research** – Demonstrates the ability to communicate their research with their peers and the wider research community (for example presenting at conferences and publishing research in relevant journals) and the potential to teach and tutor students.

**Managing & Leadership skills** - Demonstrates the potential to manage a research project including the supervision of undergraduate/postgraduate students.

**Informal Enquiries to:**

Dr. Markus Helfert, DCU School of Computing - Email: [markus.helfert@dcu.ie](mailto:markus.helfert@dcu.ie), Tel: +353 (0)1 700 5620

*Please do not send applications to this email address, instead apply as described below.*

**Application Procedure:**

Application forms are available from the DCU Current Vacancies (Open Competitions) website at <http://www4.dcu.ie/hr/vacancies/current.shtml> and also from the Human Resources Department, Dublin City University, Dublin 9. Tel: +353 (0)1 700 5149.

**Please clearly state the role that you are applying for in your application and email subject line: Job Ref: #843 Postdoctoral Researcher, Lero – the Irish Software Research Centre.**

Applications should be submitted by email to [hr.applications@dcu.ie](mailto:hr.applications@dcu.ie) or by Fax: +353 (0) 1 7005500 or by post to the Human Resources Department, Dublin City University, Dublin 9.

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