

Further Particulars

This document includes information about the role for which you are applying and the information you will need to provide with the application.

1. Role details

Vacancy reference:	10673
Job title:	Research Assistant / Associate
Reports to:	Professor of Computer Science
Salary:	Ranging from £28,695 – £37,394
Terms and conditions of service:	Full time Research Staff
Grade:	AC1 / AC2
Duration of post:	Until 31 st May 2016
Working hours:	37 hours per week (full time Monday to Friday)
Location:	Knowledge Media Institute of The Open University
Closing date:	23 rd October 2014
Type of application form accepted:	Standard / long version (plus covering letter)
Number of referees required:	Three
Unit recruitment contact:	kmi-recruitment@open.ac.uk

2. Summary of duties

Massive Open Online Courses (MOOCs) have recently come to the fore through high profile providers such as Udacity, Coursera, edX and the OU's own FutureLearn. According to some commentators this new initiative will radically change the higher education landscape through the provision of high quality freely available educational materials.

The Future Internet Research and Experimentation (FIRE) initiative is intended to ensure that the European Internet Industry evolves towards a Future Internet which embodies European technology, services and values. Through the FIRE initiative and other similar regional and global initiatives a variety of facilities have been established to enable such experimentation.

These facilities cover a plethora of different domains belonging to the Future Internet ecosystem, such as cloud computing platforms, wireless and sensor network testbeds, infrastructures for High Performance Computing, smart cities and so on. As the cost for the establishment and operation of these infrastructures is high there is a need to maximise the uptake and utilisation of the associated resources.

The FORGE project will directly address the above by transforming FIRE into an educational resource through three specific technologies:

- Rich interactive eBooks containing multimedia and interactive segments whereby students will be able to setup and run FIRE experiments within dedicated pages.
- Social media to:
 - Give learners easy access to a wider variety of learning content;
 - Allow learners to create and publish their own digital content easily;
 - Enable learners to connect to each other and to experts and teachers; and
 - Support collaboration between learners on joint common projects for example on assignments or publications.
- Building on the Linked Universities initiative and EU projects such as LinkedUp we will use Linked Open Data to support:
 - The delivery and navigation of learning materials – the rich structure provided by Linked Data-based descriptions supports the creation of easy-to-use navigation schemes. Additionally, semantic links and a uniform data format enable heterogeneous resources to be easily combined into a single space or page. Linked Data will enable us to combine data and services from multiple FIRE facilities into a single easy-to-navigate place.
 - Discovery and recommendation of learning materials – using semantic links we can highlight related resources. For example, the DiscOU tool, from the OU, automatically displays OU courses that are related to the content of web pages as they are browsed. Linked Data will provide support for discovering FIRE facilities related to course materials and vice-versa.

The weSPOT project aims at propagating scientific inquiry as the approach for science learning and teaching in combination with current curricula and teaching practices. It lowers the threshold for linking everyday life with science teaching in schools by technology. weSPOT supports the meaningful contextualization of scientific concepts by relating them to personal curiosity, experiences, and reasoning. weSPOT addresses several challenges in the area of science learning and technology support for building personal conceptual knowledge. The project focuses on inquiry-based learning with a theoretically sound and technology supported personal inquiry approach. In inquiry based-learning learners take the role of an explorer and scientist and are motivated by their personal curiosity, guided by self-reflection, and develop knowledge personal and collaborative sense-making and reasoning.

weSPOT will work on a meta-inquiry level in that it will:

- Define a reference model for inquiry-based learning skills;
- Create a diagnostic instrument for measuring inquiry skills; and
- Implement a working environment that allows the easy linking of inquiry activities with school curricula and legacy systems.

The foreseen weSPOT Toolkit gives smart support for personal scientific inquiry to address a lack of scientific inquiry skills in an age group of 12-25. Furthermore, weSPOT will unleash support for the triggering of and leveraging of curiosity that is missing in today's learning technology. In summary weSPOT will develop:

- An open source service framework for inquiry workflows;
- Tools for mobile data collection and personal experience sampling,
- Learning analytics tools for collaborative and personal reflection, and
- A badge system for linking formal and informal learning activities via social media.

These products will be customized and evaluated in at least 8 primary test-beds in a European wide approach within 8 European member states.

We are currently looking for a Research Assistant or a Research Associate (depending on qualification) to work on both of these projects.

The appointment will be made on the Academic Grade AC1 or Grade AC2 Salary Scales for Research Staff, ranging from £28,695 – £37,394 pa depending on qualifications and experience. Appointment as a Research Associate requires a PhD or three years equivalent in quality of achievement.

Job Description

Within FORGE the research will aim at applying rich interactive eBooks, social media, and linked data technologies to transform FIRE into an educational resource. Successful applicants will be expected to collaborate with our FORGE partners in constructing a platform which connects eBooks, social media and Linked Data to the FIRE facilities. Ideally candidates should have knowledge of all three technologies as well as expertise in pedagogy.

Within weSPOT the work will target the development of a web platform for inquiry-based learning. The platform will be based on the Elgg social networking framework and will enable learners to build, share and enact inquiry workflows individually and/or collaboratively with their peers. Successful applicants will be expected to collaborate with weSPOT partners in order to build a web services API allowing interoperability with tools and mobile apps provided by these partners.

We expect successful applicants to fit into our Computer Science REF profile depending on previous experience. The REF is a UK research assessment exercise whereby research departments are evaluated for their research contribution through their publications, income generation and non-academic impact.

You will be working as part of a team of dynamic researchers in the field of knowledge technologies, Semantic Web and Web services within KMi, and in the context of a European project consortium. There will be the opportunity to develop your research profile, to travel to give demos and presentations, and to write academic papers.

Relevant Publications and Further Information

All the publications below are available from <http://kmi.open.ac.uk/publications/>

Mikroyannidis, A. and Domingue, J. (2013) Interactive learning resources and linked data for online scientific experimentation. World-Wide-Web Conference, Rio de Janeiro, Brazil

(Companion Volume) 2013: 431-434 <http://www2013.org/companion/p431.pdf>

Mikroyannidis, A., Okada, A., Scott, P., Rusman, E., Specht, M., Stefanov, K., Protopsaltis, A., Held, P. and Hetzner, S. (2012) weSPOT: A Cloud-based Approach for Personal and Social Inquiry, Workshop: 1st International Workshop on Cloud Education Environments, Antigua, Guatemala, 945, pp. 7-11, CEUR Workshop Proceedings <http://ceur-ws.org/Vol-945/paper2.pdf>

Useful URLs

FIRE - <http://cordis.europa.eu/fp7/ict/fire/>

Euclid a currently running project which is creating open educational resources based on eBooks for Linked Data - <http://www.euclid-project.eu/>

Linked Universities - <http://linkeduniversities.org/lu/>

LinkedUp project - <http://linkedup-project.eu/>

DiscOU - <http://discou.info/>

SocialLearn – <http://sociallearn.open.ac.uk/>

FutureLearn - <http://www.futurelearn.com/>

WeSpot - <http://wespot-project.eu>

Elgg – <http://elgg.org>

3. Person specification

Essential Skills

- Strong software and Web development skills;
- Familiarity with existing Semantic Web standards and technologies, e.g. RDF(S), OWL, SPARQL;
- Familiarity with Social Media platforms;
- Familiarity with eBook formats, such as Apple iBooks and ePUB;
- Experience in eLearning technologies and pedagogy;
- Proven ability to fit into the OU's Computer Science REF profile (depending on level and experience: publications, supporting income generation and non-academic impact);
- Ability to quickly demonstrate understanding of the project aims and specific tasks as requested;
- Self-starter in providing solutions to meet project needs;
- Ability to work in complex team relationships;
- Excellent written and oral communication skills;
- Work to challenging targets and deadlines;
- Ability to handle constructive feedback.

Desirable Skills

- PhD in Computer Science or a related field, or 2+ years of Research & Development experience in IT;
- Experience with Java and JavaScript;
- Experience in the design and implementation of practical Semantic Web-based or ontology-driven applications;
- Experience in the design and implementation of Web services and/or RESTful services;
- Experience working in (higher) education.

4. Role specific requirements e.g. Shift working

n/a

5. About the unit/department

The Knowledge Media Institute (KMi) of the UK's Open University is a highly successful interdisciplinary research centre founded at The Open University in 1995, and located in attractive premises at The Open University's main campus in Milton Keynes, UK. We offer a stimulating environment, widely acknowledged to be at the leading edge of research and development, particularly in Semantic Technologies, Human Computer Interaction, New Media and Information Retrieval. The style, impact and content of our work can be seen at <http://kmi.open.ac.uk/>

6. How to obtain more information about the role or application process

If you would like to discuss the particulars of this role before making an application please contact Professor John Domingue on Tel: +44 (0)1908 653800 or email john.domingue@open.ac.uk

If you have any questions regarding the application process please contact Ortenz Rose on

+44 (0)1908 654774 or email ortenz.rose@open.ac.uk

7. The application process and where to send completed applications

Please ensure that your application reaches the University by: **23rd October 2014**

Post it to:

Name/Job title: **Ortenz Rose – Senior Staffing Coordinator**

Department/Unit: **Knowledge Media Institute**

Address: **The Open University
Walton Hall
MILTON KEYNES
Bucks**

Post Code: **MK7 6AA**

Or e-mail your application to: kmi-recruitment@open.ac.uk

8. Selection process and date of interview

The interview panel will be chaired by Professor John Domingue. Other members of the interview panel will include members of both project teams. The interviews will take place as soon as possible after the closing date.

The selection process for this post will be by review of applications by the Chair and selected members of the interview panel. There may be a telephone interview before a formal interview.

- a) Please ensure you complete all relevant sections of the application form. You are welcome to also include a curriculum vitae, however **CVs will not be accepted on their own**.
- b) You are also asked to provide a covering letter describing how your skills make you a suitable candidate for the post.

We will let you know as soon as possible after the closing date whether you have been shortlisted for interview. Further details on the selection process will be sent to shortlisted candidates.

Applications received after the closing date will not be accepted!