# Job Related Information

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

## 1. Role Details

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| Vacancy reference | 13413 |
| Job title: | Research Assistant / Associate |
| Reports to: | Professor of Computer Science |
| Salary: | Ranging from £29,301 to £38,183 |
| Terms and conditions: | Full time Research Staff |
| Grade | AC1 / AC2 |
| Duration of post: | Until 31 December 2018 |
| Working hours: | 37 hours per week (full time, Monday to Friday) |
| Location: | Milton Keynes |
| Closing date: | 20 March 2017 |
| Type of application form accepted: | Standard / Accessible version (plus covering letter) |
| Number of referees required: | Three |
| Unit recruitment contact: | Ortenz Rose |

## 2. Summary of duties

We are looking for a Research Assistant or a Research Associate (depending on qualification) to work jointly on the HUB4FIRE and Up2U projects. The appointment will be made on the Academic Grade 1 or 2 Salary Scales for Research Staff, ranging from £29,301 to £38,183 pa depending on qualifications and experience. Appointment as a Research Associate requires a PhD or three years equivalent in quality of achievement.

The HUB4FIRE project will be strengthening and coordinating the work done by ongoing and upcoming projects focusing on Next Generation Internet Experimentation (NGI-E). The main goal of the HUB4FIRE project is to transform the current NGI-E setting into an increasingly dynamic, collaborative and participatory Innovation Ecosystem capable of effectively supporting and coordinating activities across the whole NGI landscape and provide a collaborative platform, including content, tools and processes, to turn potential experimenters into NGI-E users and promoters. HUB4FIRE will give a major impulse to the NGI community by providing an animated  interactive platform, assisting  and empowering all NGI stakeholders,  including newcomers and outside players in related  domains, via a rich and comprehensive set of  activities, tools and processes. The selected and  carefully designed services will be at the core of the  HUB4FIRE collaborative platform, which will  improve exchange and promotion of know-how,  coordination of strategic and technical activities, establishment of liaisons among NGI actors and  with external players, and monitoring of NGI-E projects' progress and performance, while boosting  engagement through value creation activities.

The key objective of the Up2U project is to bridge the gap between secondary schools and higher education and research by better integrating formal and informal learning scenarios and adapting both the technology and the methodology that students will most likely be facing in universities. The project will be focusing on the context of secondary schools, often referred to as high schools, which provide secondary education between the ages of 11 and 19 depending on the country, after primary school and before higher education. The learning context from the perspective of the students is the intersection of formal and informal spaces, a dynamic hybrid learning environment where synchronous activities meet in both virtual and real dimensions. For this, we propose to develop an innovative Up to University (Up2U) ecosystem – based on proven experiences in higher education and big research – that facilitates open, more effective and efficient co-design, co-creation, and use of digital content, tools and services adapted for personalized learning and teaching of high school students preparing for university. We will address project based learning and peer-to-peer learning scenarios.

*JOB DESCRIPTION*

In the context of HUB4FIRE, the work will support the knowledge sharing, education and training activities of the project. More specifically, a Common Information Model based upon a set of NGI-E vocabularies will be developed for describing the outputs of NGI-E projects represented as Linked Data in RDF and OWL. Automatic annotation facilities will be provided to NGI-E projects for their outputs based on the Common Information Model and a portal will be developed, which will aggregate and index relevant materials across NGI-E projects to support the sharing of knowledge and learning around the latest NGI-E developments. Additionally, building on the results of the FORGE project, an eBook will be developed for introducing the NGI-E facilities and testbeds to potential users. Finally, a series of face-to-face educational events will be organized, including tutorials and training.

In the context of Up2U, the work will target the development of the front-end user interface to Up2U for teachers and students, i.e., the Integrated Application Toolbox. This toolbox will be web portal-based where all the tools and applications will be accessible according to the project's actor-driven methodological approach. This approach will enable the definition of a personalized, dynamic learning path with social sharing and interactions (i.e. project based and peer-to-peer learning and assessment). Internally, the application toolbox will intermediate between the cloud-based service infrastructure and the tools managed inside.

The work will also involve research on Blockchain technology and its applications on education. Blockchain is most commonly known as the technology underpinning the Bitcoin cryptocurrency. In recent years, the open source code of the Bitcoin Blockchain has been taken and extended by many groups to expand its capabilities. Blockchain technology and smart contracts can be used in education in a variety of interesting and potentially revolutionary scenarios, such as enhancing standards for badging, certification and reputation on the Web with the use of the Blockchain as a trusted ledger.

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 publications below are available from http://kmi.open.ac.uk/publications/

Mikroyannidis, A., Domingue, J., Pareit, D., Gerwen, J., Tranoris, C., Jourjon, G. and Marquez-Barja, J. (2016) Applying a methodology for the design, delivery and evaluation of learning resources for remote experimentation, IEEE Global Engineering Education Conference (EDUCON), Abu Dhabi, UAE, IEEE Education Society Publications http://ict-forge.eu/wp-content/uploads/2013/11/EDUCON-2016-full-paper.pdf

Mikroyannidis, A., Domingue, J., Maleshkova, M., Norton, B. and Simperl, E. (2014) Developing a Curriculum of Open Educational Resources for Linked Data, 10th annual OpenCourseWare Consortium Global Conference (OCWC), Ljubljana, Slovenia http://conference.ocwconsortium.org/2014/wp-content/uploads/2014/04/Paper_15-Curriculum.pdf

Third, A., Domingue, J., Bachler, M. and Quick, K. (2016) Blockchains and the Web Position Paper, A W3C Workshop on Distributed Ledgers on the Web, MIT Media Lab, Cambridge, Massachusetts https://www.w3.org/2016/04/blockchain-workshop/interest/third.html

Sharples, M. and Domingue, J. (2016) The Blockchain and Kudos: a Distributed System for Educational Record, Reputation and Reward, 11th European Conference on Technology Enhanced Learning, Lyon, France, Springer http://oro.open.ac.uk/46663/

*USEFUL URLS*

FORGE: a project on the development of multi-platform open educational resources for online experimentation - http://ict-forge.eu

The FIRE portal - https://www.ict-fire.eu

The Next Generation Internet (NGI) Experimentation white paper - https://www.ict-fire.eu/next-generation-internet-ngi-experimentation-fire-white-paper-published/

Open Blockchain - http://blockchain.open.ac.uk

EUCLID: a project on creating open educational resources based on eBooks for Linked Data - http://www.euclid-project.eu/

# 3. Person specification

| Requirements (E = Essential/ D = Desirable) | |
|---|---|
| **Education, qualifications and training** | |
| Master in Computer Science or a related field, or 2+ years of Research & Development experience in IT. Appointment as a Research Associate requires a PhD or three years equivalent in quality of achievement. | |
| **Knowledge, work and other relevant experience** | |
| **Essential:** | • Strong software and Web development skills;<br>• Familiarity with existing Semantic Web standards and technologies, e.g. RDF(S), OWL, SPARQL;<br>• Familiarity with eBook formats, such as Apple iBooks and ePUB;<br>• Experience in eLearning technologies and pedagogy. |
| **Desirable:** | • Experience with PHP, Java and JavaScript;<br>• Experience in the development of technology-enhanced learning applications and widgets for Learning Management Systems and other educational platforms;<br>• Experience in the use of technology-enhanced learning standards and specifications, such as SCORM and IMS LTI;<br>• Experience in the design and implementation of practical Semantic Web-based or ontology-driven applications;<br>• Familiarity with Blockchain technology;<br>• Experience working in (higher) education. |
| **Personal abilities and qualities** | |
| **Essential:** | • 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);<br>• Ability to quickly demonstrate understanding of the project aims and specific tasks as requested;<br>• Self-starter in providing solutions to meet project needs;<br>• Ability to work in complex team relationships;<br>• Excellent written and oral communication skills;<br>• Work to challenging targets and deadlines;<br>• Ability to handle constructive feedback. |
| **Desirable:** | n/a |

# 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 +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

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| Please ensure that your application reaches the University by: | 20 March 2017 |
| Post it to: | Ortenz Rose |
| Name/Job title: | KMi Senior Co-ordinator - Staffing & Recruitment |
| Department/Unit: | STEM, The 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

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| The interview panel will be chaired by: | Professor John Domingue |
| The other members of the interview panel will be: | Dr Allan Third<br><br>Dr Alexander Mikroyannidis |
| The interviews will take place on: | To be advised |

| The selection process for this post will include… | …a review of applications by the Chair and selected members of the interview panel. |
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| | a) Please ensure you complete all relevant sections of the application form. You are encouraged to also include a curriculum vitae; however **any CV submitted <u>without</u> a completed application for employment form <u>will not</u> be accepted**. |
| | 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 also be sent to shortlisted candidates.

Applications received after the closing date will not be accepted.