Host departments

Prof. David Jones, Computer Science and Dr. James Hetherington, RITS.
Also support from Prof. Christine Orengo, Structural and Molecular Biology Department.

Outline of the aims and activities of the fellowship

There are a wide range of excellent outputs related to RSE at large: software, algorithms and data sets of great scientific value. These are however too often produced, developed and exploited in isolation, limiting their dissemination and full potential across disciplines. The aim of the project is to enable individual experimental, computational scientists and RSEs to broaden up the relevance of their research outputs to different fields of applications. The project centres around the following activities: (1) data collection of relevant resources across scientific disciplines; (2) data mining and modelling to effectively inform users of most relevant interlinked data, software and publication records; (3) efforts in standardisation and automation, to facilitate more rigorous and systematic meta-analysis; and (4) the project will foster scientific and RSE community involvement to assure that most relevant resources and results are served for the communities.

Justification of the choice of host department and fit to UCL's wider initiatives in RSE

The UCL is at the forefront of research software engineering, recognising the unique set of skills and experience stemming from computational sciences and software engineer. The Research IT Services and the Department of Computer Science constitute the ideal environment for such as applied projects, that aims at making best use of existing data sources and infrastructure skills to produce a usable and useful service to the global RSE and research communities. UCL's efforts in new technologies and analytics as applied to scholarly content, data and software in the frame of the Big Data Institute are particularly relevant too. This combination of departments at the UCL is the ideal environment for my professional development to reinforce my experience is research software engineering and improve my skills in large scale infrastructure serving the science community.

Importance of fellowship in terms of science and engineering research enabled, including contributions to EPSRC's priorities

The EPSRC recognises the importance of software and data sets as primary research outputs in their own rights. It has invested millions of pounds per year in software over the last 5 years to promote RSE activities. The project offers a way to maximise these investments by promoting discoverability, re-use and new application of existing software.

The project enables and promotes collaboration by identifying relevant and reusable data and software, both for software/data users and producers, in particular with respect to more effective dissemination and collaboration across communities. Software and data re-use, and in particular across disciplines, is a major hallmark of success and impact. The action of the project lies at the interface of experimental and computational research outputs and can support researchers to cross these fields and thus promote opportunities and innovation in software provision and maximise the academic and economic impact of RSE outputs. By means of software re-use promotion and discovery, the project will promote open dissemination of sustainable and trustworthy software and facilitate the development of communities of users and developers across disciplines.