1 Advertisement

**Post Title:** Research Fellow in Informatics  
**School/department:** Engineering and Informatics, Informatics  
**Hours:** Full time or part time hours considered up to a maximum of 1.0 FTE  
**Contract:** fixed term until 31 December 2022  
**Reference:** 6119  
**Salary:** starting at £33,797 to £40,322 per annum, pro rata if part time.  
**Placed on:** 3 June 2021  
**Closing date:** 21 June 2021. Applications must be received by midnight of the closing date.  
**Expected start date:** 1 July 2021 or as soon as possible thereafter

We are recruiting a research fellow to develop and evaluate software systems for a challenging project entitled *Cybersecurity visualization: collaborative graphical tools for security policies.* The project is a collaboration between the University of Sussex and Qatar University.

The project’s goal is to test alternative approaches to supporting the collaboration between managers who devise access control policies for computing resources and IT specialists who implement those policies digitally. Communication between managers and IT specialists is a substantial problem, because they don’t share technical languages and are unfamiliar with each other’s contexts and systems.

The project is investigating how innovative graphical tools, interactive information visualizations, can solve the communication and collaboration problem. The visualizations will serve as a common language for managers and IT specialists, through which they can share meaningful, precise and detailed specifications of policies and explore the implications for the security of digital resources.

The principal role of the post-holder will be to work on design of the visualizations, lead the software implementation of interactive graphical tools, and to contribute to their evaluation.

You will be based at Sussex, work under the supervision of Prof Peter Cheng, and be a member of the Representational Systems (RepSys) Laboratory within the Creative Technology Research Group. Locally you will work closely members of the RepSys Lab, and at a distance you will collaborate with the team members in Qatar University.

Applicants should have qualifications in computer science or a cognate discipline.

We are seeking someone with substantial software systems development experience and diverse skills, especially: JavaScript, Java, HTML5, PHP, databases, graphical user interface design, and HCI. Some knowledge of access control systems would be advantageous. A PhD in a subject area relevant to the project is desirable, but not essential. Additionally, skill in programming for data analysis is desirable (Python, MatLab), as would be a knowledge of cognitive science.

When applying, please fill in the application form and attach a full CV. Use the space for
additional information to explain how your skills are suited to the project, making reference to the essential and desirable sets of criteria outlined in the Job Description.

Please contact Professor Peter Cheng, p.c.h.cheng@sussex.ac.uk for informal enquiries.

The University is committed to equality and valuing diversity, and applications are particularly welcomed from women and black and minority ethnic candidates, who are under-represented in academic posts in Science, Technology, Engineering, Medicine and Mathematics (ST Emm) at Sussex.

Please note that this position may be subject to ATAS clearance if you require visa sponsorship.

For full details and how to apply see our vacancies page

The University of Sussex values the diversity of its staff and students and we welcome applicants from all backgrounds.

2. The School / Division

Please find further information regarding the department an school http://www.sussex.ac.uk/informatics/ and http://www.sussex.ac.uk/ei/

3. Job Description

Job Description for the post of: Research Fellow in Informatics

Department: Informatics
Section/Unit/School: Engineering and Informatics
Location: Chichester I
Grade: 7
Responsible to: Professor Peter Cheng
Responsible for: –

The primary activities for the post are to contribute to the design, implement and evaluation of software systems for the project Cybersecurity visualization: collaborative graphical tools for security policies. The project is a collaboration between the University of Sussex and Qatar University. The purpose of the systems is to enable effective communication and collaboration between organization managers who devise access control policies and IT specialists who implement the policies digitally. The novel information visualization will reveal relations between proposed access control policies and actual allocations of access privileges to hierarchies of users and resources. Graphical interaction allows the managers and the IT specialists to control access assignments, monitor the consistency of policy implementation and to explore the efficacy of policies.

The systems that you will develop will be research prototypes so, in addition to skills
spanning the full life cycle of software development, you must be able to demonstrate ingenuity and flexibility in order to identify and solve unique and challenging problems.

The appointee will also occasionally support the research activity in other the projects in the RepSys lab. This may include the writing of code to support the processing and analysis of research data.

A PhD in a subject relevant to the project is desirable but not essential.

Web sites for further information:
- RepSys Lab – http://users.sussex.ac.uk/~peterch/
- Department of Informatics – http://www.sussex.ac.uk/informatics/

4. Person Specification

4.1 PRINCIPAL ACCOUNTABILITIES

1. To engage in individual and/or collaborative research activity resulting in high-quality publications; and to develop research funding and knowledge exchange income individually or in collaboration with others, as appropriate, depending on the size and scope of the bid.

2. To contribute to School teaching activities.

4.2 KEY RESPONSIBILITIES

1. Research, Scholarship & Enterprise

1.1 Develop research objectives and proposals for own or joint research, at acceptable levels, with assistance if required.

1.2 Conduct research projects individually and in collaboration with others.

1.3 Analyse and interpret research findings and draw conclusions on the outcomes.

1.4 Produce high-quality research outputs for publication in monographs or recognised high-quality journals, or performance/exhibition, as appropriate, and contribute to the School's REF submission at acceptable levels of volume and academic excellence.

1.5 Contribute to the preparation of proposals and applications to external bodies, for example for funding purposes.

1.6 Individually or with colleagues, explore opportunities for enterprise activity, knowledge exchange income and/or consultancy, where permissible.

1.7 Build internal contacts and participate in internal networks and relevant external networks in order to form relationships and collaborations.

1.8 Continually update knowledge and understanding in field or specialism, and engage in continuous professional development.
2. Teaching & Student Support

2.1 Undertake teaching duties, if required. (RF only)

2.2 Assist in the development of student research skills, for example as part of a postgraduate supervision team. (RF only)

2.3 Assist in the assessment of student knowledge and supervision of student projects if required.

3. Contribution to School & University

3.1 Attend and contribute to relevant School and project meetings.

3.2 Undertake additional duties, as required by the Principal Investigator and/or Head of School.

4. Role-specific duties

4.1 Develop research-prototype software applications, which will encompass design, implementation, documentation, testing, evaluation, and reporting.

4.2 Collaboration with members of the RepSys Lab and across the wider project teams.

This Job Description sets out current duties of the post that may vary from time to time without changing the general character of the post or level of responsibility entailed.

4.3 INDICATIVE PERFORMANCE CRITERIA

- A PhD or equivalent scholarly or relevant professional activity.
- Pursuing a line of independent research within a research group.
- Publishing research (either from a recently completed PhD or new original research).
- Other forms of externally recognised professional practice of creative output of a standing equivalent to regular publication of original research.
- Initiating, developing or participating in links between the University and external bodies such as business and industry, the professions, community organisations and policy-makers.
- Evidence of successful engagement in teaching or supervision.
4.4 PERSON SPECIFICATION

ESSENTIAL CRITERIA

1. Normally educated to doctoral level, or other equivalent qualification, or appropriate level of experience, as appropriate to the discipline (see role-specific criteria below).

2. Evidence of engagement in high-quality research activity.

3. Excellent presentation skills, with the ability to communicate effectively, both orally and in writing, with students, colleagues and external audiences.

4. Ability to work individually on own initiative and without close supervision, and as part of a team.

5. Ability to exercise a degree of innovation and creative problem-solving.

6. Excellent organisational and administrative skills.

7. Ability to prioritise and meet deadlines.

8. Excellent IT skills.

ESSENTIAL ROLE-SPECIFIC CRITERIA

1. Significant experience in developing substantial interactive graphical web-based applications, with particular expertise in JavaScript, Java, databases, HTML5, PHP.


DESIRABLE CRITERIA

1. Knowledge of access control systems and practice.

2. Experience of code development in Python and Matlab.

3. Emerging track record of high-quality publications in reputable journals and other appropriate media of similar standing.

4. Experience of generating research or knowledge exchange income.

5. Willingness to travel occasionally, with overnight stays, within the UK and internationally.