UNIVERSITY OF SUSSEX

1. Advertisement

Ref: 1848

School of Business, Management & Economics
SPRU – Science Policy Research Unit
Research Fellow in Medical Innovation
Fixed term for 36 months, part time 0.4 FTE
Salary range: starting at £32,004 and rising to £38,183 per annum, pro rata
Expected interview date: 25 April 2017
Expected start date: as soon as possible

The Science Policy Research Unit (SPRU), within the School of Business, Management and Economics at the University of Sussex, is seeking a Research Fellow to work on a new European Research Council funded grant ‘Screening for cancer in the post-genomic era: diagnostic innovation and biomedicalisation in comparative perspective’ (CANCERSCREEN, grant agreement nbr 716689). The project Principle Investigator is Dr Stuart Hogarth at University of Cambridge. The Sussex team lead is Dr Michael Hopkins. The project explores how new diagnostic tests find their way into practice and what are the relative roles of industry and the public sector in the discovery, development and adoption of new biological markers of disease (i.e., biomarkers).

There is now an extensive body of interdisciplinary research on the political economy of pharmaceutical innovation, and the role of drug firms as corporate “engines of medicalisation”, but we know relatively little about the part played by diagnostics firms in bringing new technologies into routine clinical practice, or their impact on the creation of new disease categories. Building on previous research by the PI and collaborators, and mapping industry dynamics, technological trajectories and regulatory developments in cancer screening, the aim of the project is to address this empirical gap and provide a new conceptual framework for understanding the changing dynamics of diagnostic innovation.

The successful candidate, who will have a background in novel network analysis methods, will play a central role in the project and contribute to development of novel bibliometric approaches for study of medical innovation. The ideal candidate will have (or be about to obtain) a relevant PhD and will be able to conduct bibliometric analysis of English and French language scientific publications and conduct research interviews in English and French.

If you wish to discuss the project and position, please contact Michael Hopkins m.m.hopkins@sussex.ac.uk.

Closing date for applications: 4 April 2017

For full details and how to apply see www.sussex.ac.uk/jobs

The University of Sussex is committed to equality of opportunity
2. Senior leadership and management

The Vice-Chancellor (Professor Adam Tickell) is the senior academic officer and, as Chief Executive, is responsible to the University Council for management of the University. He is supported by an executive group, which includes the three Pro Vice-Chancellors, the Registrar and Secretary, the Director of Finance and the Director of Human Resources. The Heads of the Schools of Studies at Sussex report to the Pro-Vice-Chancellors.

The Registrar and Secretary head the Professional Services of the University. In addition, under the University Statutes, the Registrar and Secretary is Secretary to the University Council. The Director of Finance reports to the Vice-Chancellor. The Director of ITS reports to the Registrar and Secretary, and the Librarian reports to one of the Pro-Vice-Chancellors.

3. The School & SPRU

The School of Business, Management and Economics (BMEc)

The School of Business, Management and Economics (BMEc) was formed in 2009 and comprises the Department of Business and Management, the Department of Economics and SPRU (Science Policy Research Unit). With a new home in the Jubilee Building, a state-of-the-art academic building at the heart of the campus, BMEc is a vibrant, ambitious and dynamic School with a strong research focus.

SPRU (Science Policy Research Unit)

Founded in 1966 by Christopher Freeman, SPRU was one of the first interdisciplinary research centres in the field of science and technology policy and management. Today, with over 50 faculty members, SPRU remains at the forefront of new ideas, problem-orientated research, inspiring teaching, and creative, high impact engagement with decision makers across government, business and civil society. Our research addresses pressing global policy agendas, including innovation challenges posed by the digital economy, the future of industrial policy, inclusive economic growth, the politics of scientific expertise, energy policy, security issues, entrepreneurship, and pathways to a more sustainable future.

SPRU researchers are driven by a desire to tackle real-world questions, whilst also contributing to a deeper theoretical understanding of how science, technology and innovation is shaping today’s world. A 2012 study published in the journal ‘Research Policy’ ranked SPRU second only to Harvard University in terms of its research impact in innovation studies. With a community of over 140 MSc and doctoral students from all over the world, SPRU is also well known for its high quality, research-led teaching programmes.
4. The project

Screening for cancer in the post-genomic era: diagnostic innovation and biomedicalisation in comparative perspective

Diagnostic innovation has generally been characterised as a process emerging at the interface between academic science and clinical practice, but recent evidence suggests that industry is taking a more central role in the process. In our current research on the development and adoption of molecular diagnostics for cervical cancer screening in India, the USA and UK, we have suggested that this corporatisation of R&D can be linked to two other dynamics. Firstly, diagnostics firms are adopting the business models and marketing practices of their counterparts in the pharmaceutical sector (pharmaceuticalisation). Secondly, there has been a proliferation of new regulatory mechanisms governing diagnostic innovation (regulatory expansion). These trends are coterminal with, and at least in part driven by, the growth of the molecular diagnostics sector in the post-genomic era (molecularisation). Cumulatively these four interlinked dynamics may constitute a major socio-technical transition in the diagnostics industry. This transition may be understood as a sectoral-specific instance of a broader transformation in the global medical-industrial complex which a growing body of recent scholarship has characterised as a new era of biomedicalisation.

Understanding this socio-technical transition is important, given the weight of expectations surrounding diagnostic innovation in the post-genomic era. Researchers are discovering new biomarkers in the genome, the proteome, and the metabolome, which together may form the basis of a new molecular taxonomy of disease. However, hopes for a new “age of diagnostics” are accompanied by concerns about scientific standards in biomarker research and much uncertainty about how best to use public policy to steer innovation in the diagnostics sector. Some commentators urge more financial incentives for industrial R&D: others defend the value of a largely public sector innovation process; some express concerns about under-regulation: others warn of over-regulation. However, due to the paucity of research on diagnostic innovation, this policy discussion is driven more by anecdote and expert opinion than empirical evidence.

Our aim is to test the generalisability of our conceptual model and explore the nature, causes, and effects of this putative socio-technical transition across a range of diseases and technologies by mapping industry dynamics, technological trajectories and regulatory developments in cancer screening.

• Using a comparative and longitudinal method, we will explore how transnational dynamics have interacted with local factors to influence the scale and pace of socio-technical transition in the diagnostics sector across France, the UK and the USA from 1996 to the present day.

• Through a novel integration of conceptual insights from the literature on biomedicalisation and scholarship on socio-technical regime change, this project aims to advance both fields of research by applying a new multi-scale multi-level model of socio-technical transition.
• Finally, we hope this ground-breaking contribution to our understanding of diagnostic innovation can establish a platform for a broader body of research, and inform deliberation on responsible research and innovation in the sector.

Research questions

Our research questions reflect our conceptual model of socio-technical transition in the diagnostics sector:

1) Corporatisation of Research & Development (R&D): How are relationships between public and private sector actors in diagnostic R&D changing? What is driving these changes? What is the effect on the distribution of risks and rewards among actors, and how is this justified?

2) Pharmaceuticalisation of business models: Are diagnostics firms adopting pharmaceutical industry business strategies to capture value, including through biomarker patenting, or new marketing and pricing strategies? What rationales justify different business models, and how do other actors respond?

3) Regulatory expansion: How are the regulatory regimes for new health technologies evolving with diagnostic developments? What pressures are being responded to, and how (and to whom) is the regime’s legitimacy and accountability demonstrated? How coordinated is this regime across mechanisms (i.e., market access, coverage, clinical guidelines) and across clinical areas and jurisdictions?

4) Molecularisation: To what extent are the dynamics of corporatisation, pharmaceuticalisation and regulatory expansion being driven by the emergent molecular diagnostics sector of the IVD industry? Do molecular tests supplant or supplement existing diagnostic technologies? How are these technologies reconfiguring disease categories and redrawing the boundaries between health and sickness?
3. **Job Description**

**Job Title:** Research Fellow in Medical Innovation  
**Grade:** Research Fellow I, Grade 7  
**School:** Business, Management and Economics - Science Policy Research Unit  
**Location:** Jubilee Building  
**Responsible to:** Principal Investigator through to Head of School  
**Direct reports:** n/a  
**Key contacts:** Members of research group, members of faculty within the School and University.

**Role description:** Research Fellow I is an early career-grade research position. Post-holders will be expected to contribute to the work of the research team, and also to develop their research skills with support from more experienced members of staff.

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**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.

**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.

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

2.3 Assist in the development of student research skills, for example as part of a postgraduate supervision team.

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 Contribute to development of novel bibliometric approaches for study of medical innovation.

4.2 Bibliometric data analysis.

4.3 Contribute to development of publications on the topic of medical innovation, drawing on the innovation studies literature.

4.4 Conduct research interviews with research subjects in the UK, US and France.

4.5 Contribute to development of research proposals.

4.6 Contribute to stakeholder interactions.
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.

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.
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. PhD (obtained or near to completion) in Science, Technology and Innovation Studies or related relevant area.

2. Expert in development and use of novel network analysis methods.

3. Experience of designing and analysing results from bibliometric searches.

4. Ability to conduct desk based research and research interviews in French.

5. Interest and ability to work in a team.

DESIRABLE CRITERIA

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

2. Experience of generating research or knowledge exchange income.

3. Experience of reporting findings to non-academic audiences e.g. funders, lay audiences.

4. Experience of researching medical innovation, particularly in the domain of cancer.

5. Experience of topic modelling using scientometric data e.g. of emerging technologies.