CANDIDATE BRIEF

Research Fellow in Behavioural Agent Based Modelling Simulation, Faculty of Business

Salary: Grade 7 (£33,797 – £40,322 p.a.)
Reference: LUBSC1474

Fixed-term for 4 months (Funding available until 31 July 2020)
We will consider job share and flexible working arrangements
Research Fellow in Behavioural Agent Based Modelling Simulation
Faculty of Business

Are you an ambitious and enthusiastic researcher looking for your next challenge? Are you interested in an opportunity to develop your skills in agent based and behavioural simulation modelling, and keen to understand complex healthcare systems? Do you want to further your career in one of the UK’s leading research intensive Universities?

Around 40% of people over 75 in hospital are likely to have dementia (Sampson et al., 2010). People with dementia have complex needs which are often poorly met by hospital systems, process and environment (Porock et al., 2015; Crowther et al, 2017). They also have worse outcomes than people without dementia including; longer admissions, and increased falls, fractures and mortality (Dewing & Dijk, 2016) representing a significant cost to the NHS and society. It is poorly understood how hospital systems, processes and environment interact to affect outcomes. Computer simulation approaches are underutilised in healthcare, and yet have opportunities to reduce risks, and better inform decision making processes.

As a Research Fellow you will use your existing experience of computer simulation techniques (we expect to be using agent-based and process modelling and simulation) to help develop a behavioural case study that can be used to test and demonstrate the capability of simulation approaches in the domain of hospital dementia care. You will be able to able to undertake background literature searching and initial coding and analysis of exemplar incident reports to demonstrate the presence of socio-technical factors.

You will participate in stakeholder workshops to identify hospital sites for primary data collection that might be used to inform the models and develop a simulation prototype that incorporates identified factors, to establish the utility of computer modelling and simulation for examining hospital based dementia care.

What does the role entail?
As a Research Fellow in Behavioural Agent Based Modelling Simulation your main duties will include:

- Working independently and with the investigators, their wider groups and partners to deliver the project objectives;
- Working in collaboration with the project partners to understand the research problem and establish information requirements for the simulation models;
- Delivering the project’s computational modelling and simulation development activities;
- Documenting any software or models developed in line with the requirements of the investigators;
- Undertake background literature searching and initial coding and analysis of exemplar incident reports to demonstrate the presence of socio-technical factors;
- Participate in stakeholder workshops to identify hospital sites for primary data collection that might be used to inform the models;
- Providing the project team with regular feedback on progress and clearly explaining your activities to members of the team who are outside your discipline area;
- Documenting and publishing research outputs as required by the project partners;
- Communicating and presenting research results through dissemination events;
- Maintaining your own continuing professional development.

These duties provide a framework for the role and should not be regarded as a definitive list. Other reasonable duties may be required consistent with the grade of the post.

**What will you bring to the role?**

As a Research Fellow in Behavioural Agent Based Modelling Simulation you will have:

- A PhD (or be close to completion) or equivalent research and/or industrial experience in a healthcare, behavioural or a STEM discipline that involves computational methods;
- Experience of analysing real-world situations and/or data and using analysis results to inform the design of computational simulation models;
- A proven ability to write computer programmes and, if necessary, a willingness to learn to use an agent-based simulation package;
- Strong experience of writing reports for industry and/or papers of publishable quality;
- Good time management and planning skills, with the ability to work effectively and meet deadlines;
- Good written and verbal communication skills;
- A commitment to your own continuous professional development.

You may also have:
- A personal interest in health care, socio-technical systems or psychology;
- Experience of developing Agent Based Models;
- Experience in working with colleagues in other disciplines, industrial partners and the public.

**How to apply**

You can apply for this role online; more guidance can be found on our How to Apply information page. Applications should be submitted by **23.59** (UK time) on the advertised closing date.

**Contact information**

To explore the post further or for any queries you may have, please contact:

**Dr Helen Hughes, Associate Professor**
Tel: +44 (0)113 343 8285
Email: H.Hughes@leeds.ac.uk

Or

**Dr Matthew Davis, Associate Professor**
Tel: +44(0)113 343 6831
Email: M.Davis@leeds.ac.uk
Additional information

Working at Leeds
Find out more about the benefits of working at the University and what it is like to live and work in the Leeds area on our Working at Leeds information page.

Candidates with disabilities
Information for candidates with disabilities, impairments or health conditions, including requesting alternative formats, can be found on our Accessibility information page or by getting in touch with us at disclosure@leeds.ac.uk.

Criminal record information

Rehabilitation of Offenders Act 1974
A criminal record check is not required for this position. However, all applicants will be required to declare if they have any ‘unspent’ criminal offences, including those pending.

Any offer of appointment will be, in accordance with our Criminal Records policy. You can find out more about required checks and declarations in our Criminal Records information page.