The Future of Data Storage and the Future of Data Need: a PhD in Human Computer Interaction (HCI)

To start: October 2019
Deadline for Applications: Friday March 29th 2019
This is a call for applications for a three-year fully funded PhD studentship for UK and EU citizens in the Leverhulme Trust PhD Training Centre in Material Social Futures at Lancaster University.

Topic: The invention of new materials, such as nanostructures, has created much excitement as well as concern. Nanostructures are in the size range of 1 to 100 nm; minute beyond everyday understanding and capable of being assembled into new shapes and structures. In the computing industry, these structures are expected to be revolutionary; offering, amongst other things, the promise of quantum data storage. This affects not just the way data might be stored and encrypted but the scale of data storage. Indeed, with nanotechnology, manufacturers might be able to produce data storage materials at costs that are so low that the data storage becomes virtually free. However, and as any economist would observe, when the cost of a commodity becomes almost nil, demand for it is likely to become infinitely large. In this case, users (whether individuals, companies or governments) might stop asking why they want to store data or what they want to do with it once stored, and instead start saving everything – irrespective of worth or value. Indeed, with ‘nano-data-storage’, the world might become flooded with ‘digital dirt’. Is this ‘store everything’ future desirable? If not, why not? What is the alternative? Besides, is this ‘digital dirt’ scenario misrepresenting how users might leverage nano-storage? Their behaviours might be affected by, for example, innovative design that makes them think differently about purpose and value. New forms of HCI might be enabled. Indeed, how will people interact with data storage? ‘Digital housework’ that involves clearing out unwanted data might become a norm.

All these and more are legitimate topics to be investigated in this forward-thinking research project. The appointed candidate will undertake their PhD research alongside PhDs researching the materials science aspects of this topic, in particular related to the devising of nano-scale data storage materials. These and other PhDs will all be members of and participants in a multi-stranded PhD research training programme in Material Social Futures. The future of data storage and data need is one important part of this programme.

The Leverhulme PhD Training Centre for Material Social Futures brings together concepts and approaches from across the disciplines to help produce futures that people want and the world needs. The doctoral training is a major new strategic collaborative partnership between the vibrant research community of the University’s Institute for Social Futures (http://www.lancaster.ac.uk/social-futures/) and the Materials Science Institute (http://www.lancaster.ac.uk/materials-science-institute/). Lancaster University is one of the top 10 universities in the UK.

Supervisors
The PhD will be supervised by Prof. Richard Harper http://www.lancaster.ac.uk/scc/about-us/people/richard-harper; and/or Dr Bran Knowles https://www.lancaster.ac.uk/people-profiles/bran-knowles and /or Dr Mark Rouncefield http://www.lancaster.ac.uk/scc/about-us/people/mark-rouncefield

Informal enquiries are warmly welcomed, please contact r.harper@lancaster.ac.uk; b.h.knowles1@lancaster.ac.uk; or m.rouncefield@lancaster.ac.uk
Further Details

- The PhD is for 3 years duration and is awardable to any EU citizen;
- Payment of academic fees;
- A Maintenance Stipend (£14,777 pa);
- Access to a Research Training Support Grant (RTSG) (£800 pa) for reimbursement of research-related expenses including – but not limited to – conference attendance, training courses and equipment.
- Additional research costs (such as entailed in fieldwork) will be supported as appropriate;
- Access to a range of training and development provided by Lancaster University, the Material Social Futures PhD Programme, and the Institute for Social Futures and the Materials Science Institute;
- The Material Social Futures PhD programme will offer optional internships (including international placements) in the second and or third year of training.

Person Specification:

- Candidates will preferably have a background and academic interest in any combination of HCI and computer science, sociology, anthropology or related science and technology studies;
- Candidates must have qualifications of the standard of Bachelor’s degree at first or upper second class level, and may also benefit from having a suitable Master’s degree or equivalent (or will have completed a Master’s degree by the starting date October 2019) in a relevant discipline.

Application Information: Please send enquiries about the vacancy and applications by email to Richard Harper (r.harper@lancaster.ac.uk) or Mark Rouncefield (m.rouncefield@lancaster.ac.uk).

How to apply:

- A full CV, including two named referees (one of whom should be your most recent academic tutor/supervisor);
- A copy of Bachelor’s degree and Master’s degree transcript (or copy of equivalent qualifications);
- A letter of application (not exceeding two pages of A4) outlining your suitability for a PhD and explaining how you would approach the research;
- An example of postgraduate level written work (e.g. a research article, chapter, or essay).

Email applications to either of the supervisors above

Deadline: March 29th 2019

Candidates invited for an interview will be eligible to claim reasonable UK travel expenses to attend.