The Social Lives of Batteries and New Energy Materials

3 year, fully funded PhD opportunity for UK and EU Citizens, based in the Leverhulme Material Social Futures Doctoral Training Centre, and Sociology Department at Lancaster University, UK.

Enquiries to: Dr Nicola Spurling, n.spurling@lancaster.ac.uk
Closing date: 30th April 2019

One of the most profound changes to society over the next 20 years will be the replacement of conventional fossil-fuelled vehicles with electric vehicles (EVs) for public and personal transport. The key enabling technology for EVs is the rechargeable battery, which is one of the great success stories of materials science, and continues to be intensively developed and optimised for future EV applications. However, many assumptions framing current materials research for EV batteries are based around the notion that present travel demand will be undisrupted, with new technologies providing the same services as private fossil-fuelled cars, but in less carbon intensive ways. This is problematic. Despite the advances that have been made in battery materials, it is doubtful that EVs will ever match conventional vehicles in terms of vehicle range and ease of refuelling. Additionally, many materials used in current battery technology are either toxic, difficult to recycle, or increasingly scarce. And in any case, the demand for travel is changing, and in some cases private car is declining as new forms of mobility and ways of life emerge.

Specifically focused on new energy materials, battery technologies and electric vehicles, the PhD will follow batteries through the laboratory and into the possible forms of mobility and everyday futures which they might be part of. To achieve this aim, the successful candidate will i) conduct empirical research on how ‘the battery’ exists in the discourse and practices of material scientists that are working on new energy materials; ii) analyse how such assumptions have implications for the development of new materials and battery technologies; and, iii) creatively develop ‘everyday futures’ drawing on resources from the social sciences and design, mobilities research and debates on futures of travel. The ultimate aim is to explore some of the alternative socio-technical lives of future batteries through focussing on futures of travel in different countries, in transformed vehicle ecologies, and in relation to changed end use practices (e.g. online shopping and third space working). Through the Material Social Futures doctoral training centre, there will be many opportunities to engage in dialogue with material scientists (both staff and students), for example, through the MSF training programme, and with a thematically linked PhD in Chemistry on sustainable battery materials.

The position will suit a candidate with a background in Sociology, Anthropology, Material Culture or Science and Technology Studies. Experience of qualitative and ethnographic methods, and an interest in fields such as mobilities, science and technology studies, social practice theory, sociology of the future, and design anthropology are desirable.

Informal enquiries prior to submitting an application are encouraged and can be made directly to Dr Nicola Spurling (n.spurling@lancaster.ac.uk). Applications should be made via Lancaster University’s online application system (http://www.lancaster.ac.uk/study/postgraduate/how-to-apply-for-postgraduate-study/).

Further Information >>
The Social Lives of Batteries and New Energy Materials

Funding and Support

- The PhD is for 3 years duration and is awardable to any EU citizen;
- Payment of academic fees; A Maintenance Stipend (£15,009 pa);
- Access to a Research Training Support Grant (£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 the Sociology Department, the Faculty of Arts and Social Sciences, the **Material Social Futures PhD Programme**;
- Access to research seminars, workshops, reading groups and intellectual parties through the Centre for Mobilities Research and Practice Theory group in the Sociology Department, and the Institute for Social Futures.
- 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 sociology; anthropology, material culture; or, science and technology studies, and there is scope for the PhD to develop in relation to these existing interests. **Experience of qualitative and ethnographic methods, and an interest in fields such as mobilities, science and technology studies, social practice theory, sociology of the future, and design anthropology are desirable.**

Knowledge of relevant academic debates will be a significant advantage. Candidates must have qualifications of the standard of Bachelor’s degree at first or upper second class level, and must also have 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.

The successful candidate will need to demonstrate the desire to work in a multidisciplinary environment, willingness to learn, a collaborative attitude, and excellent written and oral communication skills.

How to Apply

Applications should be made via Lancaster University’s online application system ([http://www.lancaster.ac.uk/study/postgraduate/how-to-apply-for-postgraduate-study/](http://www.lancaster.ac.uk/study/postgraduate/how-to-apply-for-postgraduate-study/)).

This consists of:

- Online application form
- A copy of Bachelor’s degree and Master’s degree transcript (if masters study has been completed) (or for non-UK a copy of equivalent qualifications)
- A full CV, including two named referees (one of whom should be your most recent academic tutor/supervisor)
- 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).
Supervisor

Dr Nicola Spurling (Sociology, Lecturer in the Theories and Methods of Social Futures) has a background in Anthropology, Sociology and Innovation Studies, and her interests continue to span the social sciences. Her research focus is futures of mobility and everyday futures, and she is exploring the potential contributions of anthropology and sociology to these debates. She is currently pioneering an approach to future mobility which focuses on forms of dormancy and their implications for people, place and planet.

Leverhulme Centre for Material Social Futures

This project is funded through the Leverhulme Centre for Material Social Futures Research at Lancaster University. This is a major new strategic collaborative partnership between two of the University’s recently formed research institutes – the Materials Science Institute and the Institute for Social Futures. Based in the Sociology Department, you will be part of a growing team of PhDs working across the university to create more sustainable and socially beneficial futures. In addition to training in social research, you will be part of a vibrant programme of workshops designed to engage students from diverse disciplines in aspects of materials discovery and the analysis of social and economic structures to achieve these ends. In short, the goal of PhDs in Material Social Futures will be to help produce futures that people want and the world needs.

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