Fully-funded PhD studentship opportunity at Sheffield University Management School

PhD Project: Industry 4.0 and intelligent future systems

Research Group: Advanced Resource Efficiency Centre (AREC)

The Advanced Resource Efficiency Centre (AREC) promotes collaboration between industry and academia, and provides a platform for access to policy makers in order to meet the challenge of promoting resource efficiency and sustainability across supply chains.

AREC supports the development of resource sustainable supply chains by proposing new ways of reducing risk for partners in overcoming the challenges of resource availability. Through AREC, Small & Medium sized Enterprises (SMEs) can join in collaboration with larger industrial partners and benefit from cutting edge academic research and skills. This provides the mechanism for achieving the aims of the UK Government and EU policy, in supporting an environment in which the 4.8 million UK-based SMEs can flourish with their supply chains in Europe and internationally.

Project Description

The UK Industrial Strategy has clearly identified priority areas where capabilities in energy, self-driving automotive, food, construction, materials and manufacturing, robotics and Artificial Intelligence (AI), aviation, healthcare, battery technology and next generation services are to be supported in industry, with major investment in the Industrial Strategy Challenge Fund to encourage joint research and innovation. In line with this strategy, this studentship will focus on advancing the understanding of how digitalisation transforms industry and future supply chain. With the core value of maximising resource efficiency and sustainability, Sheffield University Management School’s Advanced Resource Efficiency Centre (AREC) is looking for someone to investigate the transformation of future supply chain into intelligent future systems by exploring the role of Industry 4.0 and Internet of Things (IoT). How data will be valued, why ethics will be key, what social valuation are put upon disruptive digital technology, the co-existence model of man-machine to understand the future machine economy are also areas of investigation. The research will integrate management theories and existing and new methods; and apply technology advances to deliver new tools for Industry 4.0 and intelligent future systems, with strong lens to understand the societal and humanity implications from these advances. Possible projects may include:

1. New business model and indicators for managing supply chains transition to Industry 4.0 and intelligent future systems (focus on global, cases include major industry from our existing network, data analytics and value assessment will be part of this)
2. New forms of decision support methodology and tools for Industry 4.0 and intelligent future systems (focus on global, involves Microsoft, expand from SCEnAT suites)
3. Intelligent future systems: valuation of behavioural and social interactional management processes (focus on impact from autonomous vehicles, AI and robotics cases)
4. Data learning and Cloud-based intelligence sharing towards future inclusive autonomous resource management systems: a techno-societal transformation (focus on global, cases
include social media type sentiment and AI for industry and management science of communication and decision, involvement of companies such as Microsoft and Amazon)

Application Process:

Applicants should submit a 1000 word research proposal which directly addresses the theme and/or specific topic to which they are applying. The proposal should contain a brief background to the topic, which demonstrates knowledge of existing work in the field, and potential contributions to knowledge. It should also explain the proposed research methods and include a plan of the research, and a timeline. We are seeking applications from exceptional UK/EU/International students with an outstanding academic record (distinction/high merit or equivalent) as well as a proven record in research training. Scholarships are awarded on a competitive basis - applications are assessed on the basis of academic success and qualifications, experience, research background, a clear well-articulated research proposal, the potential impact of the research and a good match with supervisor/ departmental expertise.

Closing date for applications is 17.00 (UK time) on Friday 7th December 2018. Interviews will be held week commencing 7th January 2019.

Proposed Supervision Team:

The supervisory team may include two of the following academics: Prof Lenny Koh, Dr Andrea Genovese, Dr Sonal Choudhary, Prof David Oglethorpe, Prof Andrew Simpson, Dr Erica Ballantyne, Dr Chantal Cantarelli, Dr Antonino Sgalambro, Dr Mike Simpson, Dr Rob Marchand, Dr Andrew Brint, Prof John Cullen, Prof Jonathan Linton, Dr Stuart Maguire, Prof Elaine Toms, Prof Panos Ketikidis. The selection of supervisors would depend on which project(s) is pursued and staff availability.

Funding Notes:

This scholarship is offered on a full-time basis for three years from 1st February 2019 subject to satisfactory progress. It will provide a tax free bursary of £14,777 and cover the University tuition fees for UK/EU/international students.