Building the science and innovation base: work, skills and employment issues

Submission Deadline April 30, 2009

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This special issue of *New Technology, Work and Employment (NTWE)* seeks to explore key issues surrounding work, employment, skills, supply and demand for the scientific workforce, management strategies involved in building a national science and innovation base in the light of new initiatives, such as the UK Science City. Governments are increasingly becoming aware of the need to develop and maintain the supply of scientists, engineers, technologists and mathematicians (STEM), seeing their availability and skills as vital to national and regional research and development (R&D), technological advance, and innovation potential and capacity. In the UK, for example, the Science and Innovation Investment Framework 2004–2014 sets out a strategy to address the shortage of STEM labour supply, while at the same time, the government's Science City strategy gives prominence to the ways scientific assets can be translated into economic advantage and growth, through, for example, transfer of technology, knowledge and skills. Similar programmes and policies operate in other nations.

In this special issue, we would like to explore the implications of such policies for the acquisition, management and maintenance of scientific labour, as well as the development, role and contribution of innovation and scientific-based firms in the economy. We are particularly interested in the work and employment and other human resource management (HRM) issues that arise, and, therefore, invite contributions and encourage contributors to explore such questions as:

- What is the role of innovation and science-based firms in building the economic base, in terms of, for example, innovation capacity and scientific labour market?
- What are the unique features and challenges faced by scientific-based firms?
- What needs to be done (and does policy and initiatives such as the UK government's Science City strategy, go far enough) to develop and maintain the demand for and supply of STEM workforce?
- What are the specific issue in the management of STEM labour or scientific and R&D workers?
- How are the contribution of the scientific workers to the innovation and R&D capacity and product development of firms are recognised and rewarded, for example, in terms of career progression?
- How do individual characteristics such as gender, ethnicity and age impact on the construction and operation of STEM labour markets and innovation capacity of the firm, regions and nations?
- What are the challenges faced by science-based or R&D-based organisations in developing and implementing work-life balance, flexible working, training and other HRM polices and practices?
- What are the environmental, strategic, and management challenges and issues that face science-based firms?
What implications arise for work and employment from technological innovation?

How does new business creation and formation flow from research, development, HEI collaboration and commercialisation of new technologies?

What are key organisational and management issues in the creation, analysis and interpretation of science-based research, development and innovation?

What is the role of the Science City Initiative in the UK or similar initiatives elsewhere in assisting science-based firms in the development of new products and in addressing skills and employment issues and challenges? How do such initiatives assist such atypical firms to set up and grow?

What are the key wider national and regional issues and socio-economic factors that are affecting the supply and demand for the scientific workforce, inhibiting the effectiveness of policies and initiatives?

Other possibilities are encouraged and we invite potential contributors to discuss their ideas with either of the guest editors (pooran.wynarczyk@newcastle.ac.uk or rbarrett@dmu.ac.uk).

NTWE presents analysis of the changing contours of technological and organisational systems and processes to encourage an enhanced understanding of the many dimensions of technological change in the workplace. The journal welcomes comparative and international perspectives and aims to be eclectic and multidisciplinary, inviting contributions from all the disciplines within social science and management. Its aim is to promote understanding by conceptual debate in the context of the research and analysis of current practice. Controversy and debate are encouraged, but articles should be so written that they are intelligible to non-specialists, as well as specialists.

Submission details
Manuscripts of between 6,000 to 8,000 words must be received by April 30, 2009. Authors should prepare manuscripts in accordance with NTWE guidelines (see www.blackwellpublishing.com/ntwe). All submissions will be blind reviewed using the normal review process and selection criteria for NTWE. Submissions should not have been previously published nor be currently under consideration for publication elsewhere.

Please submit manuscripts in a Word-compatible format electronically to either of the guest editors (pooran.wynarczyk@ncl.ac.uk or rbarrett@dmu.ac.uk).