



**UNIVERSITY OF LINCOLN
JOB DESCRIPTION**

JOB TITLE	Post Doctoral Research Associate in Manufacturing Metrology				
DEPARTMENT	School of Engineering and Physical Sciences, College of Health & Science				
LOCATION	Lincoln Campuses				
JOB NUMBER	CHS192	GRADE	7	DATE	January 2025
REPORTS TO	Dr Samuel Liu				

CONTEXT

A Post-Doctoral Research Associate (PDRA) position has become available at the School of Engineering and Physical Sciences at the University of Lincoln.

We are seeking a highly motivated and enthusiastic PDRA to join our team and contribute to a cutting-edge research project funded by The Royal Society. This exciting project will involve the application of machine learning techniques, optical metrology, and advanced manufacturing techniques to develop in-process measurement methods. The successful candidate will collaborate with a diverse, international team to lead research projects integrating sensors, optics, mechatronics, and algorithms to achieve in-process monitoring of manufacturing processes. Investigate the fundamental mechanics of different manufacturing processes, optical imaging theories and applications of machine learning algorithms. Your goal is to develop an in-process metrology system for manufacturing process monitoring, contributing to the advancement of manufacturing metrology.

You will have, or will soon obtain, a PhD in manufacturing, optics, computer science, data science or a related field. You will have previous experience dealing with manufacturing, metrology and data processes. This includes knowledge of the development of hardware and software.

We are strongly committed to equality and diversity, and to creating an inclusive working environment where all can thrive. We encourage applications from any interested candidate.

JOB PURPOSE

The Post Doctoral Research Associate is responsible for conducting research on the project, as directed by the Principal Investigator, and is expected to operate with a significant degree of autonomy. S/he is not expected to operate as an independent researcher.

The post holder may be required to help supervise the work of more junior researchers.

KEY RESPONSIBILITIES

Literature Surveys

Conduct research in the field of manufacturing metrology, including optical modelling, advanced sensing techniques, advanced algorithms, and instrumentation.

Communicate research to non-specialist audiences as well as to scientists and researchers in other disciplines.

Disseminate the results at international and national conferences.

Publish research in high-impact journals.

Contribute to application and attracting of external funding/grants.

Conceive and design new projects, in line with the PI's research focus.

Supervise and help the junior members of the team.

Programme of Research

Undertake a programme of research under the direction of the Principal Investigator, demonstrating a significant level of autonomy.

Lead in the production of high quality research outputs, including reports, papers and other publications of national/international standing.

Project Management

Perform project management activities, planning, scheduling, monitoring and reporting on progress of research projects.

Liaison and Networking

Identify and liaise with internal and external collaborators, and with colleagues in the Department, maintaining positive and effective working relationships.

Internal Research Activities

Participate in and help to organise internal research activities, including seminars, research meetings and conferences.

Continuous Professional Development

Undertake continuous professional development activities.

Grant Applications

Contribute to the production of grant applications.

Teaching Support

Engage in teaching support activities, up to a maximum of six hours per week, possibly including leading a small number of units (no more than two per annum).

Aid in the supervision of postgraduate research students.

In addition to the above, undertake such duties as may reasonably be requested and that are commensurate with the nature and grade of the post.

ADDITIONAL INFORMATION

Scope and dimensions of the role

The successful candidate will develop their skills and knowledge in a range of areas of metrology and advanced manufacturing. There will be opportunities to write up their results for publication and to present their work at leading national and international conferences.

Key working relationships/networks

Internal	External
<ul style="list-style-type: none">• Principal Investigator• Head of Research Centre• Head of School• Other research and academic staff within the school	<ul style="list-style-type: none">• Research collaborators• Sponsors and clients



**UNIVERSITY OF LINCOLN
PERSON SPECIFICATION**

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Selection Criteria	Essential (E) or Desirable (D)	Where Evidenced Application (A) Interview (I) Presentation (P) References (R)
Qualifications:		
PhD or equivalent (good candidates may be accepted with a PhD pending, subject to publication record)	E	A
Extensive knowledge specific to project/area	E	A/I
Experience:		
Extensive experience of relevant research methods	E	A/I
Authorship of research outputs of national/international standing	E	A/I
Experience of research in specific project area	E	A/I
Teaching support	D	A/I
Skills and Knowledge:		
Ability to design, conduct and project manage original research in the subject area	E	A/I
Excellent written communication, including the ability to write reports and research outputs	E	A/I
Ability to prioritise own workload and work to specified deadlines under pressure	E	A/I
Ability to communicate complex subjects orally	E	A/I
Skills specific to project/area	E	A/I
Competencies and Personal Attributes:		
Flexible approach to workload	E	I
Ability to work on own and as part of a team	E	I
Enthusiasm and commitment	E	I

Essential Requirements are those, without which, a candidate would not be able to do the job. **Desirable Requirements** are those which would be useful for the post holder to possess and will be considered when more than one applicant meets the essential requirements.

Author	SL	PBP	AH
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