Connectivity Theme Lead

Centre	National Manufacturing Institute Scotland (NMIS) (www.nmis.scot/)		
Faculty	Faculty of Engineering (www.strath.ac.uk/engineering/)		
Staff Category	Knowledge Exchange	Reference No	631417
Reports To	Team Lead	Grade	8
Salary Range	£45585 - £56021	Contract Type	Open Contract
FTE	1	Closing Date	21/07/2024
Working Arrangements	Hybrid. The standard requirement across the University is that at least three days per week (based on 1FTE) will be spent working on-site (with flexibility as appropriate).	On Site Facilities	Car parking, on-site shower facilities, reflection room.
Holidays	31 days + 11 statutory days Option to purchase additional holidays.		
Pensions	Contributory pension scheme available to all staff including generous employer contribution.		
Training	Professional Development with Organisational and Staff Development Unit (OSDU) plus external training if required.		
Family Friendly Benefits	Generous parental leave provision, on-campus nursery and options for flexible working.		
Health and Wellbeing	University Sport centre, Occupational Health service, access to health and wellbeing events, cycle to work scheme, Employee Assistance Programme, agile working and established carers support network and carer friendly policies.		

Job Advert

The University of Strathclyde is a leading international technological institution and has a long history of working with industry to deliver strong business growth from access to research and innovation expertise. The latest major initiative continuing to deliver on this track record is through the National Manufacturing Institute Scotland (NMIS).

As a magnet for innovation in advanced manufacturing, the National Manufacturing Institute Scotland (NMIS) group of specialist R&D centres, supports manufacturing, engineering and associated tech businesses of all sizes, to thrive domestically and internationally through accelerating productivity, embracing new digital technologies and achieving net-zero targets.

We turn smart ideas into reality and deliver ground-breaking research.

Coming from diverse backgrounds and disciplines, our passionate team works alongside industry, academia, and the public sector to solve problems, train the workforce of the future and generate the creative ideas that will transform manufacturing.

Ultimately, we are growing the economy, developing a vibrant and skilled talent pool and helping create prosperous, sustainable communities.

The NMIS Digital Factory Team is seeking to appoint an experienced and enthusiastic Connectivity Theme Lead, to lead and manage delivery of high value research and knowledge exchange programmes, and lead the improvement of manufacturing

processes related to the Industrial Internet of Things (IIoT) through applied experimental research activity and introduce the outcomes into manufacturing environments. This will involve the candidate anticipating the direction of manufacturing capability to develop a credible technical roadmap and research strategy and deliver industrial research projects.

The Connectivity Theme Lead will also lead, manage and develop the Connectivity Theme team with the aim of building a world-leading community of IIoT experts in Strathclyde. The post holder will be expected to work between NMIS and its industrial partners and there will be a strong emphasis on knowledge exchange and process improvement.

To achieve the above the Connectivity Theme Lead will require significant research and/or industrial experience in at least two of the following technical areas:

- A broad knowledge of connecting data streams from industrial equipment including PLC integration to access real time data from embedded sensors
- Good understanding of digital twins and the various levels of twinning from basic through to autonomous systems
- A broad knowledge of Smart Factory infrastructure including the required networks, storage and compute requirements to enable a data driven manufacturing environment
- Knowledge and experience of an industrial manufacturing environment including the various kinds of manufacturing equipment and technologies common across industry
- Knowledge of a range of process modeling/simulation approaches for verification and validation of manufacturing processes

An awareness of more than one area of NMIS engineering capability is desirable for the role.

The post holder will require the knowledge, skills and experience normally associated with a first degree and PhD for example in mechanical/materials engineering or design engineering. We are also interested in candidates with equivalent industrial experience. The post holder will have an established track record in leading the delivery of engineering solutions in an industrial context, as well as experience of taking a leading role in research and development of manufacturing processes.

The post holder will have the ability to work autonomously, plan and prioritise own workload with minimal inputs from higher management, and deal with complex problems presented to them by colleagues. The post holder will also need experience of project planning and delivery, as well as excellent communication and interpersonal skills, with a proven ability to interact with a range of stakeholders from industry and academia. The post holder will be required to make a significant contribution to the administrative activities of NMIS including membership/chair of relevant committees and acting in senior departmental/school administrative positions. As part of the role involves managing staff members within the theme, the post holder will have the ability to line manage and lead a team, including undertaking capability development, recruitment activities, allocating work, managing outputs and performance management.

Job Description

Brief Outline of Job:

With minimal guidance from an NMIS Team Lead, the Connectivity Theme Lead will lead, manage and develop Manufacturing Engineers, research, and other staff, with the aim of building a world-leading community of IIoT experts in Strathclyde. The Connectivity Theme Lead will build a credible research direction through appropriate technology road-mapping techniques and deliver a portfolio of industry based knowledge exchange and development projects, which will be delivered predominantly by working closely with NMIS staff, industrial partners and colleagues across the wider University and through strategic alliances with other institutions.

The post holder will be responsible for ensuring the successful delivery of a range of direct and CR&D funded projects, to pursue and establish high quality knowledge exchange programmes, including securing research funding and contracts; to lead or support research programmes to ensure delivery of associated objectives; to engage as appropriate in relevant research activities; and to carry out administrative tasks assigned by the NMIS Research Director through the Team Lead.

Duties will include: technology road-mapping and direction setting; line management of staff members of the Connectivity Theme, including capability development, supporting recruitment with the Team Lead, and tasking, training and target-setting; technical consultancy, including acting as a point of contact for customer technical enquiries and developing/costing of work proposals; and Project delivery.

Main Activities/Responsibilities:

1.	Lead on the development of new and innovative connectivity applications within manufacturing, undertake/lead experimental trials; applying knowledge of IIoT and associated technologies in manufacturing; liaising with NMIS industrial partners to implement optimisation strategies and problem solving into their processes.

2.	Lead individual and/or collaborative engineering research or knowledge exchange activities to determine appropriate connectivity strategies for different industrial applications and contribute to the development of new research areas on IIoT for industrial applications.
3.	Identify new approaches/techniques or technologies and ensure that any IP generated is recognised and managed appropriately.
4.	Provide expert guidance to research teams in area of connectivity (i.e. hardware/software, data sets, architectures) to ensure robust and valuable solutions are developed in response to research challenges.
5.	Enhance the NMIS digital manufacturing capability by anticipating future technical requirements and research needs and providing direction in state of the art connectivity approaches, including sensor deployment, PLC integration and live data feed monitoring.
6.	Line manage staff members of the Connectivity technology theme, providing direction, support and guidance. Ensure capability development, support recruitment activities with the Team Lead, allocate work, manage outputs and performance manage, as required.
7.	Responsible for developing relationships in support of digital and data driven manufacturing, including NMIS member companies, to maintain positive working relationships and partnerships and the development of collaborative project opportunities.
8.	Respond to industrial enquiries for assistance in support of challenges and preparation of statements of work, quotations and funding applications.
9.	Lead larger project teams to deliver against specific requirements of research and knowledge exchange programmes.
10.	Plan and manage workload, with minimal guidance from NMIS Team Lead. Provide leadership by coordinating the work of others to ensure delivery of programmes.
11.	Identify opportunities for strategic development of new projects by building contacts internally and externally, participating in networks for the exchange of information, form relationships with customers, suppliers and colleagues for future collaboration. Identify and initiate substantial funding opportunities (commercial and CR&D) in the relevant technology area and develop consortia around funding opportunities.
12.	Write up reports, individually or in collaboration with colleagues, for external organisations, and further write up findings for additional dissemination (e.g. professional publications or peer review journal publication) as appropriate.
13.	Assist in the training and development of staff and external clients in manufacturing engineering methods and processes.
14.	Lead on collaborative decision making with colleagues on academic/engineering content in areas of research.
15.	Contribute to the overall NMIS growth by working as an integral part of the NMIS team effort, inputting to the research programme and capability development, as necessary, to meet strategic objectives.
16.	Contribute to and play an active role in the growth and development of the Theme Lead Community, sharing good practice and expertise, and supporting colleagues through shared experience.
17.	Engage in continuous professional development.

Person Specification

Educational and/or Professional Qualifications (E=Essential, i.e. a candidate must meet all essential criteria to be considered for selection, D=Desirable)
E1 Good first degree in a relevant engineering discipline, e.g. mechanical, manufacturing or design engineering
E2 PhD in a relevant engineering discipline or equivalent industrial experience
D1 Chartered Engineer/Scientist, Member of professional body in an appropriate discipline
Experience
E3 Significant knowledge of digital manufacturing processes and Industry 4.0
E4 Knowledge and experience of different types of manufacturing equipment and their associated data feeds, protocols and connectivity requirements
E5 Good knowledge, understanding and experience of data acquisition, handling and consumption

E6 Experience in leading and taking technical ownership of specific areas to research independently and manage the work of teams
E7 Experience of high value complex manufacturing processes in an academic or industrial context
E8 Demonstrable track record in developing and delivering high quality proposals and playing a leading role in attracting funding for project initiatives (internally/externally)
E9 Significant knowledge and skills to be able to establish and maintain a network of relevant contacts, and ensure credibility within external partnerships
E10 Significant experience and track record in defining and implementing manufacturing optimisation techniques using a data driven approach
D2 Knowledge and experience of manufacturing and/or supply chain engineering
Job Related Skills and Achievements
E11 Significant professional experience of problem solving and addressing manufacturing process challenges within an academic or industrial enterprise
E12 Ability to plan and organise own workload effectively with general supervision from senior colleagues.
E13 Ability to plan and organise programmes in an academic or industrial setting, and to pull together teams of academic professional staff and others as appropriate, to ensure project delivery for the client.
D4 Experience of multi/inter-disciplinary knowledge exchange and research
Personal Attributes
E14 Excellent written and verbal communication skills, with an ability to interact with a range of stakeholders in both industry and academia.
E15 Ability to influence stakeholders, internally and externally, at varying levels and ability to convey compelling arguments with complex technical information.
E16 Demonstrable ability to line manage and lead a team, including undertaking capability development, recruitment activities, allocating work, managing outputs and performance management, as required
E17 Experience of disseminating results and contributing to research and commercial proposals
E18 An ability to work as part of a team, through participation in collaborative projects
E19 Ability to develop new areas and manage associated ambiguity as new research themes emerge
Other Relevant Factors
E20 An ability to listen, engage and persuade, and to present complex information in an accessible way to a range of audiences

Application Procedure

Applicants are required to complete an application form including the name of three referees who will be contacted without further permission, unless you indicate that you would prefer otherwise. Applicants should also submit a Curriculum Vitae and a covering letter detailing the knowledge, skills and experience you think make you the right candidate for the job. Applicants should also complete the Equal Opportunities Monitoring Form.

Other Information

Further information on the application process and working at Strathclyde can be found on our website (http://www.strath.ac.uk/hr/workforus).

Informal enquiries about the post can be directed to Richard Millar, Team Lead: Digital & Metrology (richard.millar@strath.ac.uk).

Conditions of Employment

Conditions of employment relating to the Knowledge Exchange staff category can be found at: Conditions of Employment.

Rewards and Benefits

Our staff have access to a wide range of outstanding benefits that include financial rewards, family friendly and wellbeing benefits and career development opportunities, details of which can be found here.

Pre-employment health screening

An offer of appointment will be subject to a medical assessment by Occupational Health. An individual who accepts an offer of employment must complete a confidential medical questionnaire and forward it to the Occupational Health Nurse within 5 days of receipt. If further information is required the individual may be contacted by the OHN or a Medical Advisor and a personal appointment with the individual may be arranged. An unconditional contract of employment will not be issued until Human Resources receives confirmation that applicant is fit to undertake the duties of the post.

Probation

Where applicable, the successful applicant will be required to serve a 12 month probationary period.

Pension

The successful applicant will be eligible to join the Universities' Superannuation Scheme. Further information regarding this scheme is available from Payroll and Pensions.

Relocation

Where applicable, the University offers a relocation package to support new employees who meet the eligibility criteria. The relocation package is offered as a contribution towards costs incurred, and is designed to be flexible, allowing staff to use the financial support available in the way that will be most helpful to them. Further details are outlined in the Relocation Policy.

Interviews

Formal interviews for this post will be held on a date to be confirmed.

Equality and Diversity

The University of Strathclyde is a socially progressive institution that strives to ensure equality of opportunity and celebrates the diversity of its student and staff community. Strathclyde is people-oriented and collaborative, offering a supportive and flexible working culture with a deep commitment to our equality, diversity and inclusion charters, initiatives, groups and networks.

We strongly encourage applications from Black, Asian and minority ethnicity, women, LGBT+, and disabled candidates and candidates from lower socio-economic groups and care-experienced backgrounds.

University Values

The University's Values capture what we're all about: who we are, what we believe in and what we stand for. Our Values have been derived from how we act and how we expect to be treated as part of Strathclyde.