

Candidate Information

Position:	Technical Lead - Smart Design - Data Integration
School/Department:	AMIC
Reference:	24/111763
Closing Date:	Sunday 14 April 2024
Salary:	£46,497 - £57,141 per annum
Anticipated Interview Date:	Thursday 25 April 2024
Duration:	3 years in the first instance

AMIC

AMIC - a £100M investment through the Belfast Region City Deal - is a collaborative, innovative powerhouse of advanced manufacturing set to elevate our region globally.

We are supporting economic growth and prosperity for Northern Ireland by creating high quality jobs and increasing inward investment through high value manufacturing innovation clusters.

We are driving industrial transformation, paving the way for future technologies and competing globally with a more sustainable focus.

When you join our team, you will have access to the latest advanced industrial technologies, and have the opportunity to grow and develop as an engineer and technology leader. Our mission is to provide you with the environment to innovate and create impact.

Our launch team of over 40 staff has core capabilities in digitalising manufacturing, smart design, sustainable polymers and composites and nanotechnologies and photonics. We're excited to be expanding the team throughout 2024.

JOB PURPOSE AND IMPACT

We are seeking a team-player who is passionate about innovative technology to play a major role in the leadership, management and expansion of applied research, innovation and knowledge transfer in smart design data integration.

You will lead and develop teams of engineers and technicians in the development of Smart Design project-related activities across AMIC to undertake innovative research, design and research-support activities, carrying out multi-disciplinary simulations including costing and scheduling for complex engineered products and to build software platforms and tools to support design decision-making. This requires working in collaboration with different technology areas, technology providers, national technology centres, academia and industry to deliver key projects, developing regional and international links and securing partnerships and funding.

You will lead a proactive approach in the identification, technical specification and delivery of new and novel technology capabilities and strategies that will have a direct technical, economic and reputational benefit to AMIC, industry and Northern Ireland.

MAJOR DUTIES:

Technical Leadership for Research, Innovation and Knowledge Transfer

1. To initiate, undertake, manage and supervise research and development in the integration of design and manufacturing tools, models and data of the highest international quality, to sustainably grow AMIC as a world class centre that successfully combines leading edge research with knowledge transfer, commercialisation and economic impact.
2. Support development and implementation of technology roadmaps and strategies, as a basis for identifying and implementing new and novel technology capabilities within AMIC.
3. Manage and provide leadership for multi-disciplinary research projects and related activities, including staff training and development, monitoring performance and reporting.

4. Work collaboratively with industry to plan and deliver key projects related to concept and detailed design and manufacturing process and factory simulation, ensuring quality of delivery at all times.
5. Lead team to develop tools for manufacturing method development embedded in detailed design, including fit-for-purpose modelling methodologies and knowledge exploitation for early design stage decision making.
6. Develop automated workflows and toolset interoperability best-practices to support the modelling of complex engineered products using tools such as finite element analysis and computational fluid dynamics etc.
7. Understanding and building the necessary data pipelines to facilitate the interoperability of design and manufacturing tools and integrate the data between toolsets, allowing for more intelligent knowledge sharing.
8. To create and deliver applied skills content in Smart Design across a range of levels and formats.

Building Collaboration and Partnerships

1. To work closely with AMIC staff, technology providers, national centres, Queen's academic staff, with industry and government agencies in all aspects relating to technology transfer.
2. To work closely with senior academic staff to create new cross-disciplinary groupings and projects of strategic importance to AMIC and Queen's University Belfast.
3. To develop R&D links with industry nationally and internationally.

Contribute to AMIC's Success

1. Secure funding from industry and government sources (nationally and internationally) to grow Smart Design Data Integration research in line with AMIC's long term strategic plans and financial targets (supported by CTO and Business Development function).
2. Play a leading role in developing the international reputation of Smart Design and Data Integration research at Queen's and AMIC through presentations, attendance at trade shows and through visiting major companies world-wide as required.
3. Any other duties that may reasonably be requested by management.

ESSENTIAL CRITERIA (Education, Experience, Skills, Knowledge, etc.):

1. Honours Degree, or equivalent, in related engineering discipline.
2. Substantial relevant experience initiating, executing and managing multifaceted industrial and/or research projects within deadlines and budget, displaying strong resource management abilities.
3. Demonstrable evidence of technical excellence and understanding of fundamental engineering concepts as evidenced by major project outcomes, reports, publications, patents or product designs.
4. Extensive breadth and depth of specialist knowledge in the discipline and of research and development methods and techniques to work within established research programmes, with proven competence and technical expertise in:
 - Theory and implementation of Digital Manufacturing processes and tools.
 - Development and integration of tools to support sustainability and sustainable design decisions including LCA and carbon accounting.
5. Strong evidence of the ability to apply digital manufacturing techniques and software, including factory simulation, cost modelling and robotics offline programming in an industrial project from initial project scoping, through proposal development, project execution and successful delivery to timescale.

ESSENTIAL CRITERIA (Personal Qualities):

1. Ability to communicate complex information to deliver effective written reports and presentations to meet audience needs.
2. Ability to build effective relationships and interact with others including senior academic staff, and senior industry and government executives.
3. Strong problem-solving skills in a complex industrial environment.
4. Some working outside of standard working times and national or international travel may be required to meet the responsibilities of the post and needs of stakeholders. It should be possible to plan and schedule for this activity 90% of the time.

DESIRABLE CRITERIA:

1. Postgraduate qualification in a relevant discipline.
2. Relevant professional qualifications e.g. technology, project management, leadership.
3. Experience of working with international OEMs and SMEs.
4. Understanding theory and demonstrated application of process mapping, Lean thinking and modern manufacturing philosophies.
5. Demonstrable experience of developing cost modelling frameworks and integration with manufacturing simulation and design tools.