Candidate Information

Position:	Technical Lead Design Methods
School/Department:	BRCD AMIC
Reference:	25/112569
Closing Date:	Monday 9 June 2025
Salary:	£49,054 - £60,284 per annum
Anticipated Interview Date:	Wednesday 9 July 2025
Duration:	3 years

JOB PURPOSE:

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 methods.

You will lead and develop teams of engineers and technicians in the development and application of Design Methods (including those developed by QUB SMAE) across AMIC to undertake innovative research, design and research-support activities. You will understand the design challenges of AMIC partners, industry sectors and individual organisations to develop and apply new design approaches, methods and processes, with a focus on the concept design and detailed design process, and integration of manufacturing and materials data into design tools.

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.

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 & composites and nanotechnologies & photonics. We’re excited to be expanding the team throughout 2024.

MAJOR DUTIES:

1. To initiate, undertake, manage and supervise research and development design methods, best-practices and processes 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.
   a. Create methods to automate the generation of design and manufacturing CAD models in a range of commercial applications such as AutoCAD, CATIA, NX etc.
   b. Develop software platforms which can be used to underpin further capability developments either by the AMIC team or customers.
   c. Develop UI & UX tools to enable rapid deployment of the scripting tools and platforms in a range of industry sectors.
   d. Develop and implement supporting design technologies including integration with manufacturing data.
2. Support development and implementation of technology roadmaps and strategies, as a basis for identifying and implementing new and novel technology capabilities within AMIC Smart Design group.
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 methods with an emphasis on exploitation of digital solutions within the design space to address industrial design problems, ensuring quality of delivery at all times.
5. Lead team to develop tools for manufacturing and analysis method development embedded in detailed design, including fit-for-purpose modelling methodologies and knowledge exploitation for early design stage decision making.
6. Identification of the design tools and data requirements to support the delivery and implementation of novel and robust design methods.
7. Develop and define workflows and methods that will facilitate the exploitation of knowledge throughout the design and product development lifecycle.
8. Formally evaluate the effectiveness of new or enhanced methods arising from research.
9. Engage with industrial partners to facilitate the transfer of AMIC capabilities into commercial production / R&D teams.
10. To create and deliver applied skills content in Smart Design across a range of levels and formats.
11. 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.
12. Secure funding from industry and government sources (nationally and internationally) to grow Design Methods research in line with AMIC's long term strategic plans and financial targets (supported by CTO and Business Development function).
13. Play a leading role in developing the international reputation of Smart Design and Design Methods research at Queen's and AMIC through presentations, attendance at trade shows and through visiting major companies world-wide as required.
14. Any other duties that may reasonably be requested by management.

ESSENTIAL CRITERIA:

1. Undergraduate degree or equivalent in computing, engineering or a related discipline with significant relevant industrial experience OR minimum HND in a related discipline with extensive recent and relevant industrial experience.
2. 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:
   a. Industrial design processes and challenges.
   b. Development and application of design methods and approaches.
   c. Model-based design.
   d. Design automation.
   e. Scripting for design/analysis/manufacturing workflows.
3. Recent, relevant experience and in-depth knowledge in the application of design. technology, with clear experience of using CAD and/or FE analysis solutions.
4. Experience in a range of Industrial Digital Technologies relating to smart design.
5. Substantial relevant experience initiating, executing and managing multifaceted industrial and/or research projects within deadlines and budget, displaying strong resource management abilities.
6. Demonstrable evidence of technical excellence and understanding of fundamental engineering concepts as evidenced by major project outcomes, reports, publications, patents or product designs.
7. Strong evidence of the ability to apply digital design techniques and software, including developing new design approaches and methods in an industrial project from initial project scoping, through proposal development, project execution and successful delivery to timescale.
8. Demonstrable evidence of working within multifaceted environments delivering to deadlines and within budget.

9. Experience of using research/industrial tools and techniques resulting in high quality projects and technical reports.
10. Ability to communicate complex information to deliver effective written reports and presentations to meet audience needs.
11. Ability to build effective relationships and interact with others including senior academic staff, and senior industry and government executives.
12. Strong problem-solving skills in a complex industrial environment.
13. 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 collaborative research and effective working in a team.
4. Evidence of resource management.
5. Experience of working with international OEMs and SMEs.
6. Experience in using Digital Manufacturing technology and solutions other.