Candidate Information

Position:	Senior Engineers - Design Methods
School/Department:	AMIC
Reference:	25/113047
Closing Date:	Monday 5 January 2026
Salary:	£41,519 - £49,536 per annum.
Anticipated Interview Date:	Friday 16 January 2026
Duration:	3 years

JOB PURPOSE:

AMIC - a £100M investment through the Belfast Region City Deal - is a collaborative, innovative powerhouse of advanced manufacturing set to elevate our region globally. (https://we-are-amic.com/)

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 experienced team of staff has core capabilities in digitalising manufacturing, smart design, sustainable polymers & composites and nanotechnologies & photonics. We're excited to be expanding the team throughout 2025/26 and beyond.

We are seeking engineers who want to innovate and apply their knowledge to the challenges of industry and society to support Smart Design activities within AMIC's advanced manufacturing activities.

You will apply your specialist knowledge and experience of engineering design/analysis in the development of new methods and processes, automation of elements of the concept design and detailed design process, and integration of manufacturing and materials data into design tools, to generate innovative outputs which have a direct economic and technical benefit to companies and sectors.

MAJOR DUTIES:

1. Apply technical knowledge and experience in support of the development of innovative and emerging industry-focused solutions.

2. Undertake high quality industrial research, development and knowledge transfer in design methods and product design activities with a focus on areas such as:
   • Developing and implementing methods and best practices for product design, e.g. modelling and representing weld definitions in models.
   • Design for manufacturing and assembly approaches, e.g. to enhance weld quality and production efficiency.
   • Simulation and optimisation of product designs, including thermal and structural simulation.
   • Developing and implementing design workflows solutions to connect design and manufacturing activities.
   • Creating scripts to automate the generation/interrogation of design and manufacturing CAD models in a range of commercial applications such as AutoCAD, CATIA, NX etc.
   • Develop UI & UX tools to enable rapid deployment of the scripting tools and platforms in a range of industry sectors.
   • Develop and implement supporting design technologies including integration with manufacturing data, e.g. embedding manufacturing information into design tools.
   • Design trade studies, including cost and carbon assessments/modelling.
3. Develop methods and approaches for integrating design and manufacturing domains.
4. Formally evaluate the effectiveness of new or enhanced methods arising from research.
5. Engage with industrial partners to facilitate the transfer of AMIC capabilities into commercial production / R&D teams.
6. Contribute to the planning, development, delivery, maintenance and trialling of AMIC projects, ensuring that all equipment is used in compliance with Health and Safety guidance.
7. Participate constructively in multi-disciplinary research activities, including staff training and development.
8. Help develop the international reputation of AMIC and QUB through presentations, attendance at trade-shows and visiting major companies and research & technology centres worldwide.
9. Produce high quality technical reports and demonstrations to assist in generating funding opportunities to support further programme activity.
10. Carry out routine administrative tasks to ensure project goals are completed on time and within budget.
11. Undertake 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. Demonstrable experience and in-depth knowledge in the application of design technologies and methodologies as evidenced by a broad portfolio of design projects covering more than one of the following:
   a. Design for manufacture.
   b. Design for assembly.
   c. Design for welding.
   d. Design for automation.
   e. Design for sustainability and sustainability analysis.
   f. Model based definitions.
   g. Cost modelling and analysis.
   h. Simulation and analysis. FEA/CFD.
   i. Design optimisation.
   j. Design data management.
3. Recent, relevant experience and in-depth knowledge of design processes.
4. Demonstrable experience of using CAD and/or FE analysis solutions for structural/thermal analysis, preferably within an industrial setting.
5. 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.
6. Experience in a range of Industrial Digital Technologies relating to smart design.
7. Demonstrable evidence of working within multifaceted environments delivering to deadlines and within budget.
8. Experience of using research/industrial tools and techniques resulting in high quality projects and technical reports.
9. Demonstrable evidence of complex problem-solving skills obtained / relevant for industrial data-related problems.
10. Excellent written and verbal communication skills, including ability to communicate complex technical information.
11. Ability to innovate and rapidly contribute to research projects.
12. Willingness to visit collaborative partners and to attend meetings and conferences nationally and internationally as requested.

DESIRABLE CRITERIA:

1. Postgraduate qualification in a relevant discipline.
2. Experience of collaborative research and effective working in a team.
3. Evidence of resource management.
4. Evidence of working with international OEMs and SMEs.
5. Experience in using 3D CAD Modelling and model-based definitions.
6. Experience in offline robotic programming, especially for robotic welding.
7. Experience in the simulation and analysis of welded structures.
8. Experience in programming and developing algorithms.