Graduate Programme

Begin your rewarding career in engineering at the **AMRC**

The University Of Sheffield.

Advanced Manufacturing Research Centre

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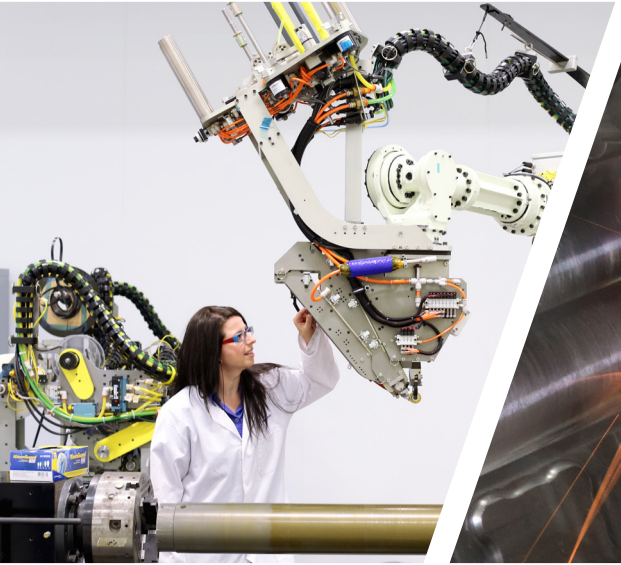

amrc.co.uk

The University of Sheffield Advanced Manufacturing Research Centre with Boeing helps manufacturers of any size to become more competitive by introducing advanced techniques, technologies and processes.

The University Of Sheffield.

Advanced Manufacturing Research Centre

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Established in 2001, we have a global reputation for helping companies to overcome manufacturing problems and have become a model for worldwide collaborative research involving universities, academics and industry.

With over 100 industrial members, we work closely with global giants such as Rolls-Royce, BAE Systems, Airbus and McLaren, as well as small and medium sized businesses (SMEs).

The AMRC has specialist expertise in:

Machining • Automation • Robotics • Casting • Additive manufacturing • Digitally assisted assembly • Welding • Composites • Designing for manufacturing • Testing • Training

Our 2018 Graduate Programme

Designed to give Graduate Engineers the experience of working across the varied capabilities of multiple AMRC research groups and provide an excellent foundation for a future career at the AMRC.

Our 2018 Graduate Programme will have a varied selection of placements available, previous placements have included:

Engineering Design and Fixturing

- Product Design and Finite Element Analysis (FEA)
- Fundamentals of Work Holding Design and Machining Dynamics
- Applied Fixture Design and Build

Cutting Tools

- Introduction to Cutting Processes and Machining Dynamics
- Process Optimisation through Feature Based Machining
- Surface Integrity Assessment

Hybrid Machining

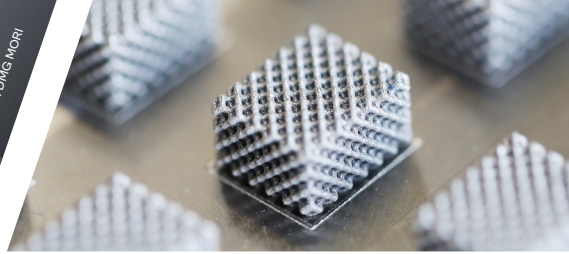
- Powder Metallurgy for Aerospace
- Introduction to Additive Manufacturing Processes
- Hybrid Machining

Robot Machining

- Introduction to Machining Dynamics
- Robot Fixturing
- Robot Machining

Digital Manufacturing

- Process Monitoring Systems
- Software Development Best Practice
- Information Architecture of Manufacturing Organisations



Grinding

- Grinding
- Surface Integrity Assessment
- Advanced Grinding

Advanced Machining in the Automotive Sector

- Introduction to Machining Dynamics
- Composite Machining
- Advanced Machining Fundamentals

Advanced Machining in the Medical Sector

- Medical Product Design
- Precision Machining
- Inspection and Validation of Medical Components

Automated Machinability Testing

- Robotically Assisted Machining
- Robot Automation
- Development of Robotic-Assisted Tool Wear Inspection

Smart Factories

- Augmented Reality for Remote Machine Tool Servicing
- Machine Tool Servitisation
- Manufacturing Informatics

For further information about our Graduate Programme and how to apply, please contact **Andrew Franks**:

E: **a.franks@amrc.co.uk** T: **0114 222 6670**

Over the course of 24 months, each engineer will focus on a primary technology area which they will apply across the multiple research groups.

As a Graduate Engineer, you will work on projects that investigate areas of research which can enhance productivity and quality of manufacturing processes. Projects range in scale and duration, but will all focus on developing and demonstrating robust and world-leading methods of manufacture that will be taken from the AMRC facilities and embedded into an industry partner site.

Throughout the programme you will work with multiple customers, support the scoping of new work and deliver defined projects. Help and guidance will be provided throughout the programme and your work will be managed by an experienced project manager as well as a relevant technical lead and technical fellow.

Upon completion of the programme, you will have had the training to learn the skills needed to join one of the AMRC groups as a fully trained member of staff.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Postgraduate Diploma in Engineering Management

As part of the Graduate Programme you will study for a Postgraduate Diploma in Engineering Management. This qualification, run by the University of Sheffield Management School, is aimed at engineers who want to move into management while maintaining their competences in technical subjects. It can also help you develop a portfolio of evidence to support Chartered Engineer (CEng) registration.

The Postgraduate Diploma is made up of 120 credits, over 6 modules and is delivered over an 18-month period with two modules delivered and assessed per semester (three semesters in total). The face-to-face learning and teaching component will take place at the state-of-the-art AMRC Training Centre with each module being delivered there over one week blocks.

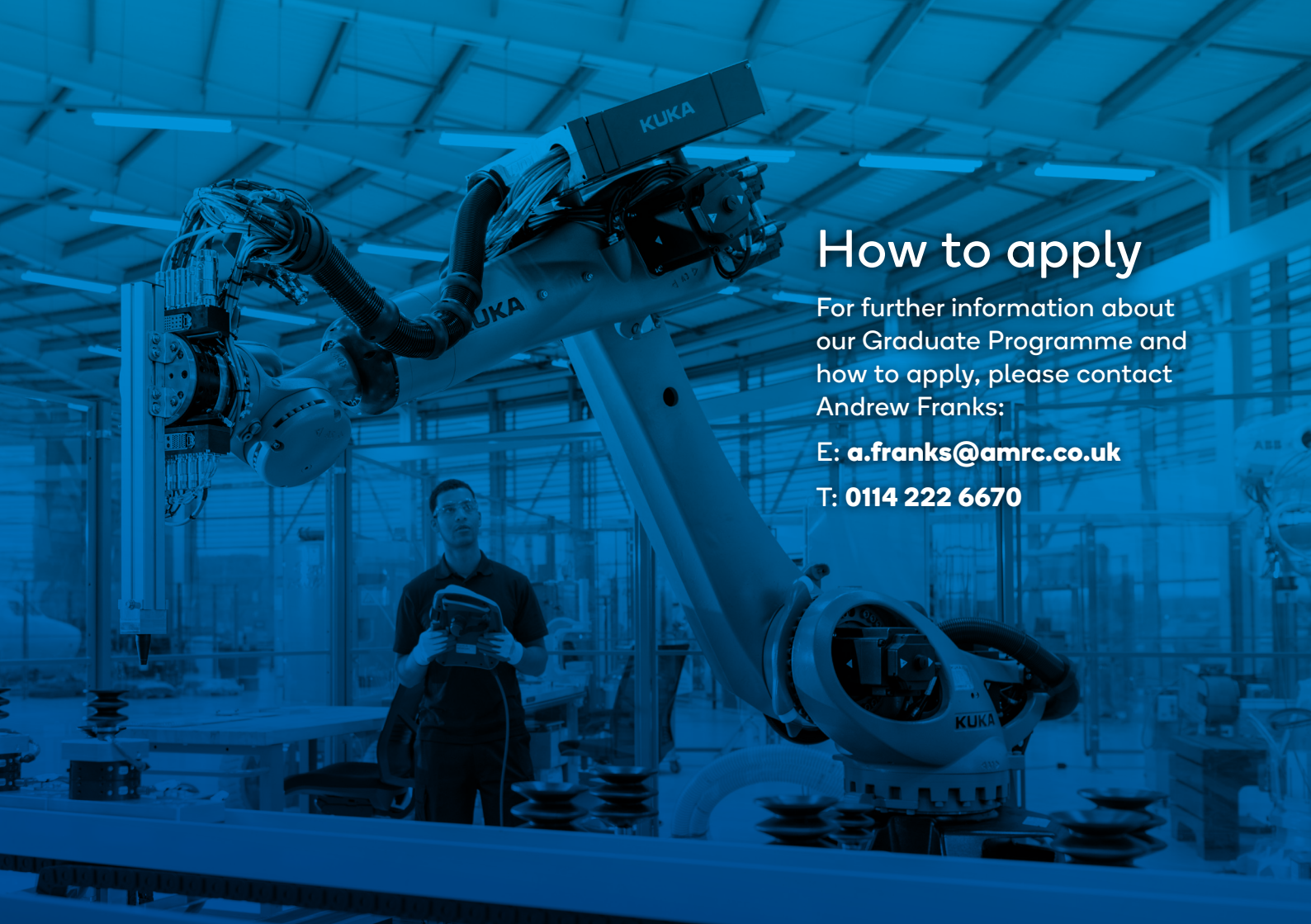
Teaching will be delivered in highly participative, interactive learning sessions and will involve a mix of problem-centred approaches including case studies and the analysis of academic articles. An on-line learning platform will be used to provide online learning materials such as pre and post reading for the sessions, learning groups and flipped learning.

There is no charge to anyone on the AMRC Graduate Programme for undertaking the Postgraduate Diploma.

We are looking for candidates who have a high standard of technical authorship, are able to manage their time effectively and follow quality and project management procedures. The role will involve periodical travel for on-site investigations or meetings.

Person Specification:

- **Effective communication skills**, both written and verbal, report writing skills, experience of delivering presentations; communicating to staff at all levels.
- **Have a good honours degree** (or equivalent experience).
- **Technical professional registration** or the willingness to work towards it.
- **Excellent customer service skills**, with experience of responding efficiently and effectively to phone and email enquiries.
- **Management of information**, including capturing actions, carrying out and follow up of actions.
- **Capable of providing technical training** to other staff.
- **The ability to plan, monitor and revise requirements** based on changing circumstances and events.
- **Courteous, positive and supportive** in interactions with others.
- **Ability to develop creative approaches** to problem solving.
- **Ability to assess and organise resources**, and plan and progress work activities.
- **Ability to analyse and solve problems** with an appreciation of longer-term implications.



How to apply

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CATAPULT High Value Manufacturing

European Union
European Regional Development Fund