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Welcome!

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WELCOME!

The Department of Electrical and Electronic Engineering (EEE)

Renata and Ellie | Admissions Team

Professor Jovica Milanović | Head of Department

Dr Siniša Djurović | Admissions Tutor
Dr Alex Martínez | Admissions Lead

Charlotte Harries-Harris | MEng (Hons) Electrical and Electronic Engineering, Year 3

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Today's schedule

12:15 - 13:00	Registration and optional campus walk
13:00 - 13:30	Lunch
13:30 – 13:55	Welcome to the Department of EEE
14:00 – 15:30	Lab Activities / Accommodation Talk
15:00 – 15:20	Visit to the Dry Lab for parents/supporters
15:30 - 15:45	Break (GA.056)
15:45 - 16:15	Course Pathways Talk / Demo Lecture
16:15 - 16:30	Q&A and feedback

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Group sessions

	Group 1	Group 2	Group 3
14:00-14:30	HV Lab Tour	Electronics lab session	Robotics lab session
14:30-15:00	Robotics lab session	HV Lab Tour	Electronics lab session
15:00-15:30	Electronics lab session	Robotics lab session	HV Lab Tour

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Housekeeping reminders

GA.056 will **be our base for the day**

Toilets are located on the ground floor next to the Makerspace and on every floor

Fire alarm: follow the Fire Exit signs and instructions from Evacuation Marshalls or staff

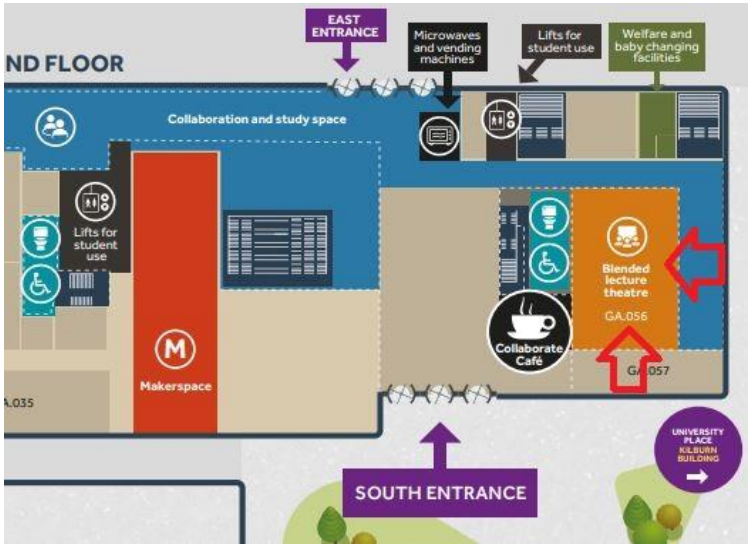
You will be directed to one of the fire assembly points outside the building

First aid: please notify the nearest member of staff or student ambassador

We will contact First Aid trained staff in the building or University Security team

Covid guidance: Face coverings are optional but available at building entrances

Hand sanitizer is located at the entrance to the building



Useful contact numbers

University Security: 0161 306 9966

UG Admissions Team: 0161 543 4017

Guest Wi-Fi:
Please connect to **UoM_Guest** for our demo lecture

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EEE Welcome

Professor Jovica Milanović
Head of Department
Electrical and Electronic Engineering

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Three outstanding alumni

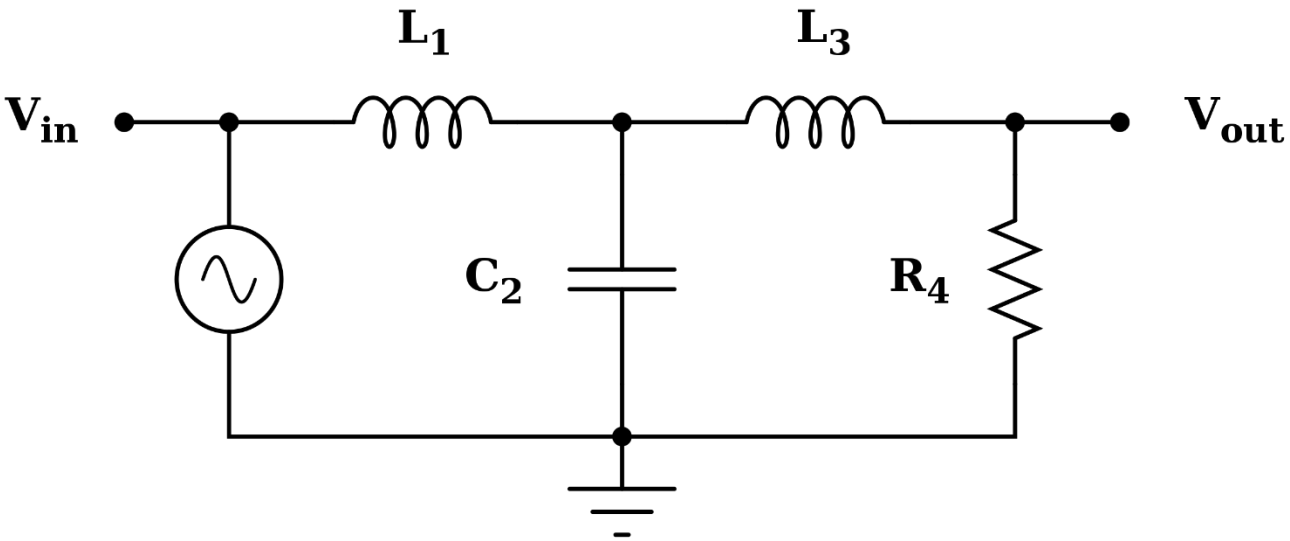
Nobel prize winner from Australia – Manchester has always attracted the best from around the world

Inventor/discoverer of x-ray crystallography

Lawrence Bragg

X-ray crystallography is the technology underpinning the Diamond Light Source - the UK's national synchrotron.
It works like a giant microscope, harnessing the power of electrons to produce bright light that scientists can use to study anything from fossils to jet engines to viruses and vaccines. It was also the foundation for the images that led to the discovery of the double helix structure

Stephen Butterworth



Local genius – from Rochdale who was both a student and a lecturer here, before he moved on the NPL and then the Admiralty.

Invented the filter, subsequently named after him, i.e., a class of electrical circuits that separates electrical signals of different frequencies.

EEE is a vast subject, from High Voltage Power Systems to nanoelectronics, and encompassing machines, sensors, signal processing, communications, control systems and robotics and the Butterworth filter unites us, in a way.

Beatrice Shilling

One of the first two women to graduate in electrical engineering at the University of Manchester.

Devoted her life to both engineering and racing motor bikes.

Invented “RAE Restrictor” – crucial to winning the Battle of Britain, as it prevented spitfire engines from stalling in a dive.

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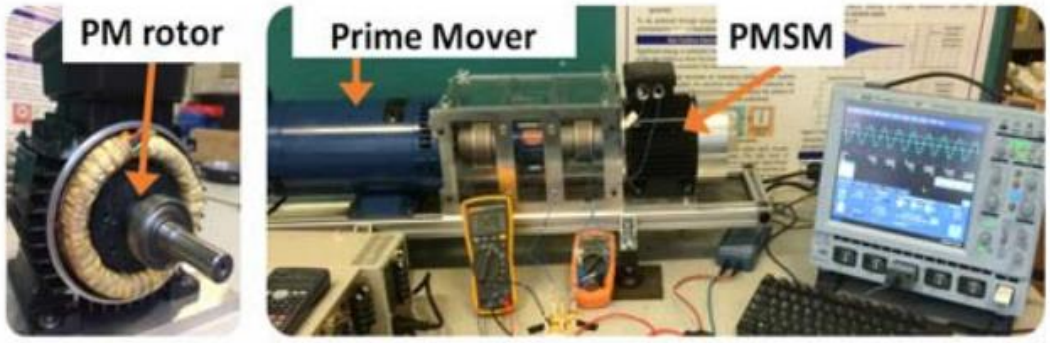
Power & Energy

One of the world's top labs for developing and testing electric power equipment (largest in the UK)

Inventing new concepts to get more power through existing overhead lines



Advanced machines and converters for electric vehicles, wind, wave and tidal generation

Next Generation Renewable Power - Combining advanced modelling, design and testing, with sensing, robotics and AI for condition monitoring and lifetime prediction.

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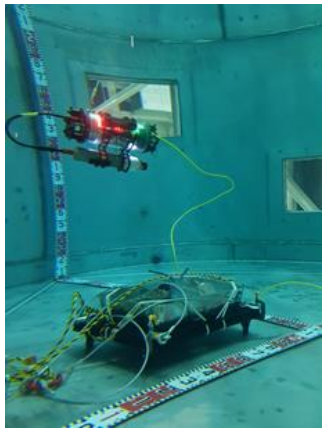
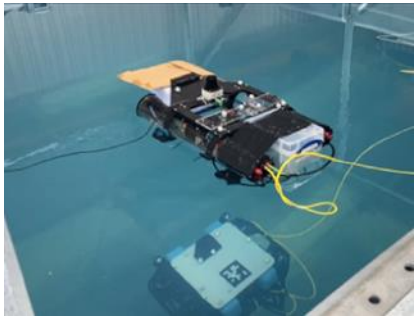
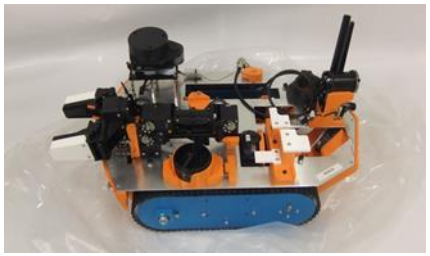
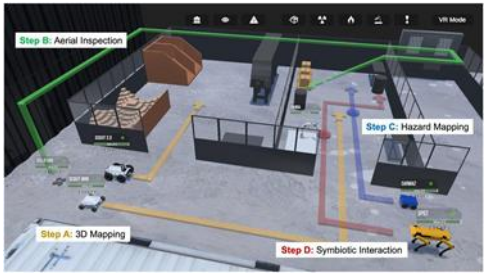
Robotics in EEE

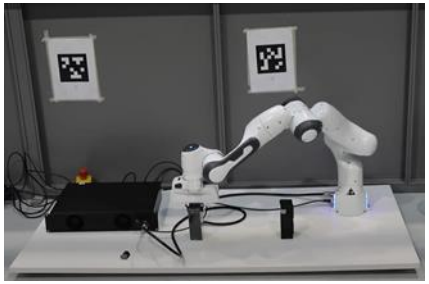








Our robots (aerial, aquatic, legged, wheeled and snake, from robots that will fit in the palm of your hand up to robots you can ride on top of) have been used across the world to support nuclear decommissioning and net zero energy generation asset management. We work closely with industry to commercialise our robots to create real impact and help create jobs.



Electromagnetics research - Sensing applications

Our team specialise in research on electromagnetic inspection, from fundamental principle through to final application

British Antarctic Survey,

Rapiscan System

Salford Royal hospital

TATA,
Rail Industry

Safeline
Sir Bobby Charlton Foundation

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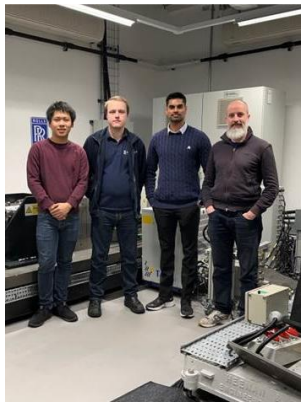
The UoM IEPNEF Research Facility

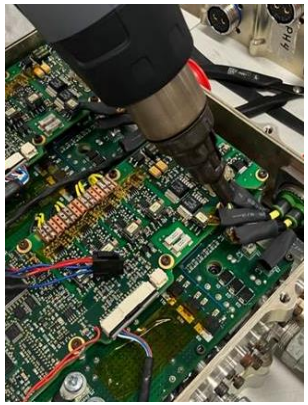
The University of Manchester (Power Conversion Research Group) has been working in collaboration with Rolls-Royce (Systems & Controls), to ***develop***, ***verify*** and ***validate*** next-generation aerospace electrical technologies for deployment in future more-electric aircraft.

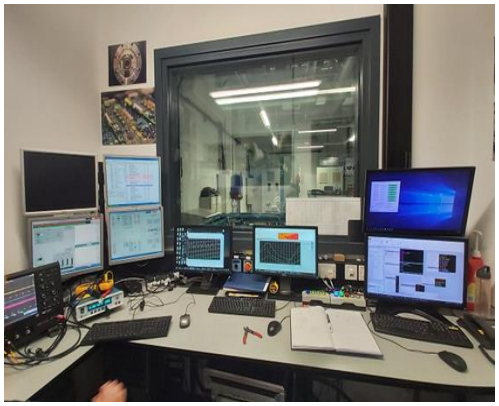
This in-turn is supporting future global air emissions and sustainability targets, as well as advancing the third age of aviation.

The *Intelligent Electrical Power Network Evaluation Facility* (IEPNEF) and Research Team at Manchester has been utilised extensively on multiple research projects to achieve these goals.

After 5 years of collaboration, One such project was shortlisted for a: '*Design Engineering and Technology Award*', and after been successfully tested on a gas turbine, won the:







ZERO CO_2 emissions air travel

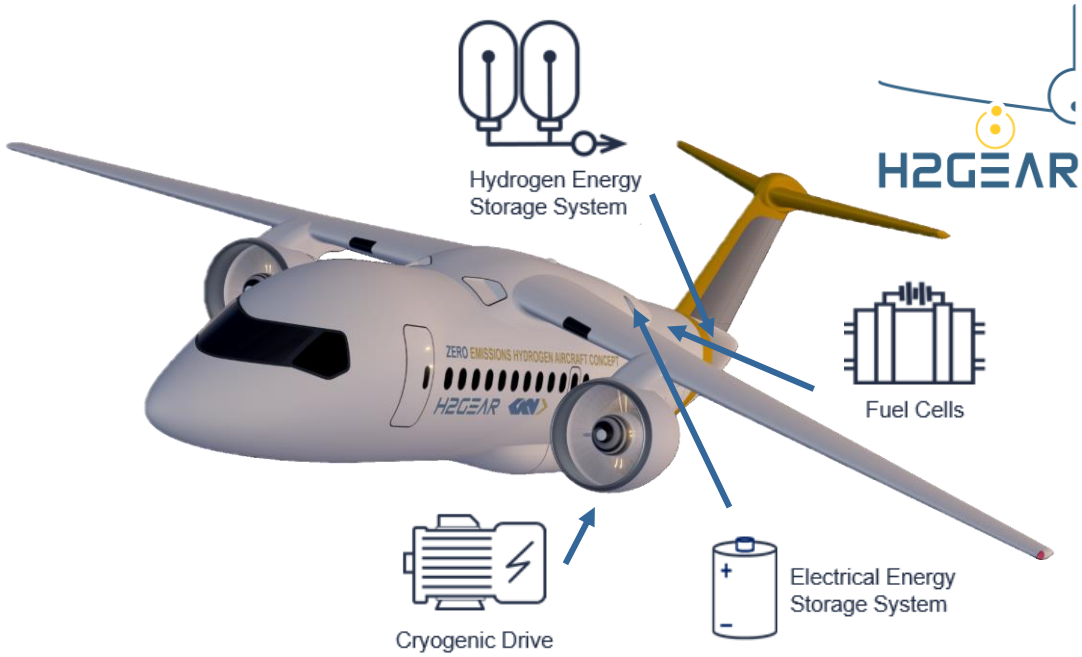
AEROSPACE TECHNOLOGY INSTITUTE

£54m+

initial investment

(£27.2m Gov. matched by industry)

- Hydrogen Electric Propulsion offers a sustainable and attractive solution
- Researchers in EEE are partnering GKN Aerospace to develop the cryogenic drives.
- Developing ultra-high propulsion efficiencies > 99%
- Ground-based cryogenic testing planned for 2023-2025



Hybrid HydroGen Electric Architecture (H2GEAR)

Collaborating to develop a ground-breaking hydrogen propulsion system enabling a new generation of **zero emissions aircraft** in the 2030s

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GKN AEROSPACE

The new home for engineering and materials

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Enjoy your visit!

I am looking forward to meeting many, if not all, of you in September!

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My Experience at Manchester

Charlotte Harries-Harris
MEng (Hons) Electrical and Electronic Engineering
Year 3

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Introduction

- General Intro
- Industrial Experience- IET Power Academy
- Beatrice Shilling Scholarship
- Societies- Manchester Satellite Development Group

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About Me:

- From Oxfordshire
- A-levels (Maths, Further Maths, Physics and Chemistry)
- Drama/Dance

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Industrial Experience- IET Power Academy

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Beatrice Shilling Scholarship

- Networking
- Financial Support
- Enabled me to be involved with more societies




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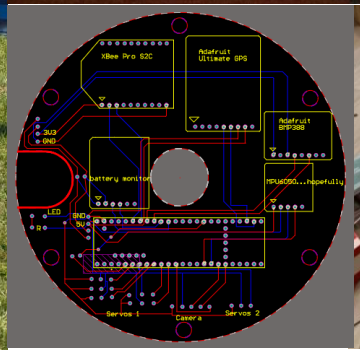
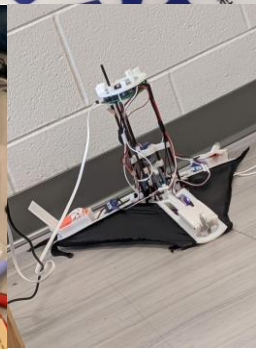
Societies- Manchester Satellite Development Group





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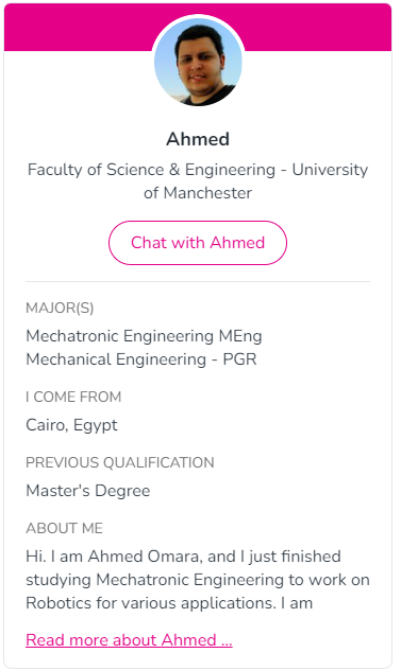
Offer-holder Next Steps

Ellie Crompton and Renata Mehran
Undergraduate Admissions Team
Electrical and Electronic Engineering

Offer-holder Checklist

- Attend your Visit Day
- Ask questions!
- Watch Sinisa's video (QR code below)
- Check your offer carefully – conditions/deadlines
- Apply for Student Finance from March 2024
- Apply for University Accommodation by August 2024
- Check our Scholarships and Bursary pages



Scan the QR code for Sinisa's presentation!

Offer-holder Checklist

- **Look into external scholarships (IET and UKESF)**
- **Make your decisions in UCAS – you must reply with your Firm and Insurance choices by 6th June 2024**
- **Keep in touch! Any questions?**
  Contact ug.eee@manchester.ac.uk
  Or chat to our ambassadors through Unibuddy

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Enjoy your Day!

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