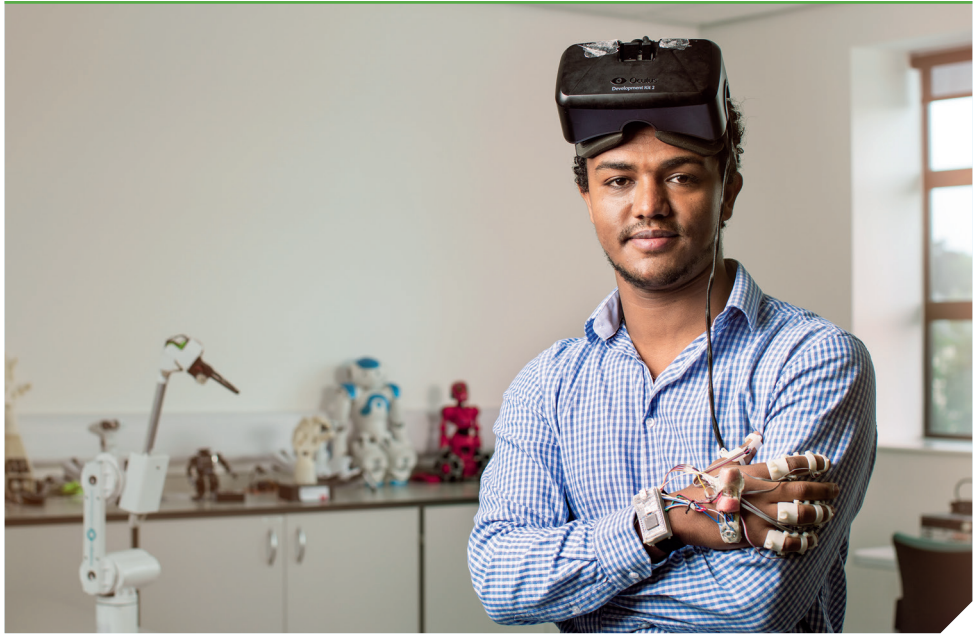


LIVERPOOL HOPE UNIVERSITY



School of Mathematics, Computer Science Engineering

ROBOTICS LABORATORY



LIVERPOOL HOPE
UNIVERSITY

175 YEARS OF ACADEMIC
EXCELLENCE





About Liverpool Hope University

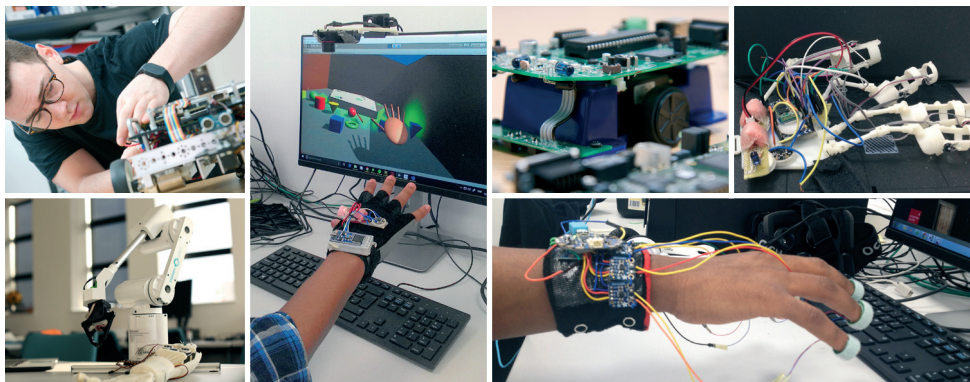
We are a unique Institution with a rich history dating back to 1844, pursuing a path of excellence in scholarship and collegial life. The School of Mathematics, Computer Science & Engineering is an ambitious and vibrant constituent of the Faculty of Science.

This School provides our students with the chance to study areas such as System Engineering, Robotics, Intelligent Systems, Simulation and Modelling. We also have expertise in the areas of Data Science, Robotics and Mechatronics, Computational Mathematics, Artificial Intelligence, Virtual Reality and Networking.

Robotics Laboratory

Robotics is on the cusp of an exciting new era as robots are becoming more reactive, intelligent and human-like, as well as finding applications in a range of industries including consumer and healthcare robotics. For this reason we have embedded the latest cutting-edge technologies in the new Robotics Laboratory. Here, you can experiment and interact with computers running industry-standard and up-to-date specialist software (e.g. Matlab, Visual Studio, 3D Studio Max), Virtual Reality and Augmented Reality interfaces (e.g. Oculus Rift), exotic robots and 3D printing facilities.





Equipment

The Robotics Laboratory includes:

- exotic robotic devices
 - Kilobot swarm robots
 - Nao Aldebaran
 - i-Sobot
 - FlowCode Robotic Buggies
 - Moway Robotic Buggies
 - Robo Builder
- embedded systems and physical computing devices (Arduino, Makey Makey) and sensors
- IEEE 802.15.1 and IEEE 802.11 communication modules
- wearable and biomedical sensors (including transducers for monitoring the human position, blood pressure, body temperature, breathing, ECG, EMG)
- Brain Computer and Virtual Reality interfaces (Emotiv Helmet, Oculus Rift, Head Mounted Displays, Sony 3D viewer)
- motion capture systems (Leap Motion, Microsoft Kinect devices)
- micro and large scale drones
- haptic device (Novint Falcon, MicroDrives Development Haptics Kit)
- Hewlett Packard DesignJet 3D printer
- an extensive set of software including Programming Languages like Visual Studio (Microsoft Corp), Matlab (The Mathworks Inc), 3D Studio Max (Autodesk), Processing, Arduino IDE

Expertise

Staff in the Robotics Laboratory bring together inter-disciplinary and multi-disciplinary research interests with substantial experiences in the fields of UAV, Artificial Intelligence, Bio-mimetics, Robotics and Sensors, as well as Computer Science and Informatics. The Laboratory aims to facilitate research endeavour into Intelligent Systems, UAV, Biologically Inspired devices, Drones and Robots.

The Laboratory has been recognised as an established Research Group within the University. Staff have collaborative links with researchers at other national and international universities, companies and research centres.

The underlying philosophy motivating the research of the Laboratory is to apply, besides traditional techniques, novel methods to problems of robot navigation, human robot interaction, sensor perception and integration.



Staff

The members of the Robotics Laboratory bring together different and synergic expertise:



Prof Atulya K Nagar (PhD (York), MPhil (with distinction), MSc, BSc (Hons), FHEA)

Pro Vice-Chancellor for Research; and Dean of Faculty of Science
atulya.nagar@hope.ac.uk

Expertise on Nonlinear Mathematics, Natural Computing, Bio-Mathematics and Computational Biology, Operations Research, and Control Systems Engineering.



Mark Baxendale

Assistant Head of School
Senior Lecturer in Engineering and Computer Science
mark.baxendale@hope.ac.uk

Expertise on Robotics, Bio-mimetic Systems, Bio-inspired Systems.



Dr David Reid

Associate Professor in Computer Science
reidd@hope.ac.uk

Expertise on Spiking and Deep Belief Neural Networks, Virtual Reality Technologies, Virtual Reality Applications, Programming Languages (LUA, C, C++, Matlab).



Dr Emanuele Lindo Secco

Senior Lecturer in Robotics
seccoe@hope.ac.uk

Expertise on Robotics, Sensors, Wearable Sensors..



Dr Anuradha Ranasinghe

Lecturer in Robotics
dissana@hope.ac.uk

Expertise on Haptics, Human-Robot Interactions (HRI), Perception.



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Contact

Faculty of Science

School of Mathematics,
Computer Science & Engineering

www.hope.ac.uk/mathematicsandcomputerscience