UK ROBOTICS SUMMER SCHOOL

More information can be found at https://ukrss.site.hw.ac.uk/

Location: Room G01, Postgraduate Centre,
Heriot-Watt University, Edinburgh
Date: 2nd - 6th June 2025

Monday 2nd June – Reasoning, control, collaboration, and learning in robotics

09:00 – 09:10 Introduction to Summer School, Yvan Petillot, Heriot-Watt University

9:10 – 10:30 Planning in robotics, Ron Petrick, Heriot-Watt University

10:30 – 11:00 Refreshments

11:00 – 12:30 Agile and Versatile Robots: Real-Time Optimization for Planning, Control, and Estimation, Carlos Mastalli, Heriot-Watt University

12:30 – 13:30 Lunch

13:30 – 15:00 Integrated reasoning, control, collaboration, learning, Mohan Sridharan, University of Edinburgh

15:00 – 15:30 **Refreshments**

15:30 – 16:00 Economics, society, ethics, robotics and AI, Cristina Tealdi, Heriot-Watt University

16:00 – 17:00 Responsible Research and Innovation /Equality Diversity and Inclusion in robotics and AI round table discussion. Short talks to set the scene followed by a panel style Q&A with the audience, Ioannis Konstas, Heriot-Watt University, Thusha Rajendran, Heriot-Watt University, Cristina Tealdi, Heriot-Watt University

Tuesday 3rd June - Bioinspired Robotics

09:00 – 10:30 Bioinspiration – why and how and research highlights, Barbara Webb, University of Edinburgh

10:30 – 11:00 Refreshments

11:00 – 12:30 Robot building workshop – connecting sensing to action, Barbara Webb, University of Edinburgh

12:30 – 13:30 Lunch

13:30 – 15:00 The robot zoo – surveying the landscape of bioinspiration, participants will present

17:00 Tour of the Bayes Centre, Mohan Sridharan, University of Edinburgh. Students meet outside the Bayes Centre, 47 Potterrow, Edinburgh. EH8 9BT

18:30 Summer School Dinner at Café Andaluz, 10-11 George IV Bridge, Edinburgh EH1 1EE.

Wednesday 4th June - Generative AI for Robotics

09:00 – 10:30 Introduction to Generative AI for Robotics, Oliver Lemon, Heriot-Watt University and Alessandro Suglia, Heriot-Watt University

10:30 – 11:00 Refreshments

11:00 – 12:30 Fundamentals of Generative AI, Alessandro Suglia, Heriot-Watt University

12:30 -13:30   Lunch

13:30 – 15:00 Multimodal Generative AI for Robotics and/or practical session using AutoGen, LeRobot, Oliver Lemon, Heriot-Watt University and Alessandro Suglia, Heriot-Watt University

15:00 – 15:30 Refreshments

15:30 – 16:15 Invited online talk, Chris Paxton, Hello Robot

16:15 – 17:00 Invited online talk, Yonatan Bisk, Carnegie Mellon University

17:00 – 17:45   Invited online talk, Jesse Thomason, University of Southern California

Thursday 5th June - Human robot interactions

09:00 – 09:40 Developing Social Robots, PAL Robotics

09:40 – 10:30 Interactive Activities with PAL Robots, Severin Lemaignan, PAL Robotics; Sara, Marta Romeo, Heriot-Watt University; Lynn Baillie, Heriot-Watt University

10:30 – 11:00 Refreshments

11:00 – 11:40 Service Robots in the Wild, University of Glasgow

11:40 – 12:30 Service Robots in the wild interactivity with Pepper Robots, University of Glasgow; Marta Romeo, Heriot-Watt University; Lynn Baillie, Heriot-Watt University

12:30 – 13:30 Lunch

13:30 – 14:10 Health Care Robotics, Emilyann Nault, Heriot-Watt University

14:10-15:00 Interactive session with the Temi Robot in the LARA Home Lab, Emilyann Nault, Heriot-Watt University; Lynn Baillie, Heriot-Watt University

15:00 – 15:30 Refreshments

15:30 – 16:10 Designing a Robot Tour for users with Visual Impairment, Interactive Session, Shenando Stals, Heriot-Watt University

16:10 – 16:50 Panel on issues and solutions to developing social robots for particular user groups, Sight Scotland Panel Chair and all speakers

Friday 6 June - Validation and verification of AI and National Robotarium Tour

9:00 – 10:00 Neural Network Verification in the Context of Autonomous Systems and Robotics: overview of state of the art and practical methods, Ekaterina Komendantskaya, Heriot-Watt University

10:00 – 10:30 Refreshments

10.30 - 11.30 Presentations of neural network verification projects by ECR PhD students

11.30-12.30 Discussion panel: The future of formal methods in safeguarding AI deployed in Robotics: next steps to advance research, industrial applications and postgraduate training

12:30 – 13:30 Lunch

13:30 - 14:30 Tour of the National Robotarium. Exhibits and demonstrations in Atrium

14:30 - 17:00 Tours of the National Robotarium