Agenda for UCL Robotics '23

Date:	17 February 2023
Main Venue:	Gustave Tuck Lecture Theatre, Main Building, UCL Bloomsbury Campus
Second Venue:	Jeremy Bentham Room, Main Building, UCL Bloomsbury Campus

Time	Activity			
09:30 – 10:00	Registration			
10:00 – 10:05	Logistic Announcement			
10:05 – 10:10	Welcoming Speech **Prof Sarah Spurgeon** **Director of UCL Robotics Institute**			
10:10 – 10:30	Opening Keynote: Challenges & Opportunities in R&D and Commercialization of Robotics Technologies **Robert Skilton** **Head of Research at RACE, UK Atomic Energy Authority**			
10:30 – 11:15	Coffee Break **Poster Displays and Live Project Demos**			
	Parallel Breakout Tracks			
	Gustave Tuck Lecture Theatre		**Jeremy Bentham Room**	
	Foundational Technologies in A.I. & ML, Autonomous Navigation & Path Planning, Communications, Computer Vision, Control and Sensing, Localization & Mapping, VR/AR Session Chair: **Dr Dimitrios Kanoulas** Co-Chairs: **Dr Sophia Bano, Prof Simon Julier**		***Applications of Robotics in Healthcare and Beyond*** Session Chair: **Prof Tom Carlson** Co-Chair: **Dr Peter Snow**	
11:15 – 11:30	A	*A Convex and Robust Distributed Model Predictive Control for Heterogeneous Vehicle Platoons* **Hao Sun**	C	*Flexible Force Sensors to Improve Safety and Training in Operative Birth* **Carmen Salvadores Fernandez**
11:30 –11:45	A	*Adaptive Autonomous Navigation of Multiple Optoelectronic Microrobots in Dynamic Environments* **Laurent Mennillo**	C	*How Might Robotics Transform Rehabilitation* **Rui Loureiro**
11:45 –12:00	A	*An End-to-End Task Allocation Framework for Autonomous Mobile Systems* **Song Ma**	C	*Virtual Reality and Augmented Reality Surgical Simulations using SPEEDOP Platform* **Hoang Ha Le**
12:00 – 12:15	A	*Cooperative Control of Swarm Robotics* **Junyan Hu**	C	*Visual kinematic force estimation for robotic-assisted laparoscopic partial nephrectomy training* **Eddie Edwards**
12:15 – 12:30	A	*BCI-TVR: Brain-Computer Interface Training with Virtual Reality* **Alexander Thomas**	C	*A Novel MR-compatible Pulmonary Artery Catheterisation Robotic System: Design and Evaluation* **Yaxi Wang**
12:30 – 12:45	A	*Garrulus: Reforestation and monitoring of damaged forest areas by unmanned aerial vehicles* **Ahmad Drak**	C	*Valvuloplasty Balloon Catheter Assisted Compliant Aortic Annulus Sizing with Variable Elliptical Ratio* **JUNKE YAO**
12:45 – 14:00	Lunch Break **Poster Displays and Live Project Demos**			
	Parallel Breakout Tracks			
	Gustave Tuck Lecture Theatre		**Jeremy Bentham Room**	
	Foundational Technologies in Bio-inspired Robots, Haptics Human-Robot Interaction, Legged Robotics, Materials, Mechanism Design, Multi-Robot Systems, Soft Robotics Session Chair: **Dr Sara Abad Guaman** Co-Chair: **Prof Helge Wurdemann**		***Industrial Applications of Robotics and Beyond*** Session Chair: **Prof Bani Anvari** Co-Chair: **Dr Jakub Krol**	
14:00 – 14:15	*B*	*Control and Sensing of soft bodied robots* **Thomas George Thuruthel**	D	*Applied robotics in the Built Environment* **Jingyuan Meng and Guillem Perutxet Olesti**
14:15 – 14:30	B	*Twisted String Actuation Systems in Robotics* **Igor Gaponov**	A	*Aerial additive manufacturing with multiple autonomous robots* **Vijay M. Pawar**
14:30 – 14:45	B	*Fluidic haptic feedback system for upper limb prosthetics* **Ge Shi**	B	*The Road to Intelligent Machines* **Zhibin (Alex) LI**
14:45 – 15:00	B	*A Body-Powered Soft-Actuated Partial-Hand Prosthetic Device with Integrated Haptic Feedback* **Kamyar Motaghedolhagh**	B	*The Bubble Worlds - a Social Interactive Structure Reflecting How Did Refugees Experience the Covid-19 Lockdown?* **Azadeh Shariati**
15:00 – 15:15	B	*Design, Modelling and Control for Chamber-reinforced Soft Continuum Robots* **Jialei Shi**	C	*Development of Surgical Tooling with Haptic Feedback for the SPEEDOP Surgical Simulation Platform* **Elliott Magee**
15:15 – 15:30	B	*Reverse Mathematics and Systems Framework for Embodied Intelligence* **Erin Nolan**	C	*How understanding the role of instrumental-affective touch in occupational therapy practice may support the development of collaborative robots in healthcare* **Raffaele Buono, Minna Nygren, Liang He, Perla Maiolino, Nadia Berthouze, University College London, University of Oxford**
15:30 – 15:45	B	*Pneumatic Membrane Actuation for Tissue Stiffness Sensing and Palpation* **Duncan G. Raitt**	A	*Robots with Legs & Arms: Cognition for Real-World Loco/Manipulation in Complex Environments* **Dimitrios Kanoulas**
15:45 – 16:05	Closing Keynote: Industry-University Partnership on Frontier Robotics Research and Innovations - *Swarm Sound Modulators for multi-sensory experiences* **Prof Sriram Subramanian** **RAEng Chair in Emerging Technologies &** **Vice Dean (Enterprise) of Engineering Sciences**			
16:05 – 16:15	Best Poster Awards Presentation			
16:15 – 17:00	Drink Reception Poster Displays and Live Project Demos			