

IEEE UK & Ireland RAS Chapter Prestigious Lecture



AI Robotics for Sustainable Space Exploration and Exploitation

Professor Yang Gao

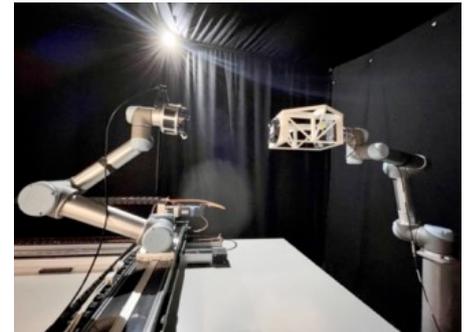
yang.gao@surrey.ac.uk

Surrey Space Centre, University of Surrey



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The global space sector is moving toward the New Space era driven by commercialization and resource exploitation, where AI robotics will play central roles and be directly responsible for meeting stringent requirements in cost, operability, reusability, and sustainability of long-lived assets in the harsh space environments. The lecture will review the AI robotics roadmap for space missions and what's over the horizon. It will also present some latest research work and technology development involving robotic vision, machine learning and biomimetic mechanisms, applicable to mission scenarios such as formation flying, on-orbit assembly, active debris removal, planetary sample return and ISRU, etc.



Professor Yang Gao (FIET FRAeS) is the Professor of Space Autonomous Systems at University of Surrey and the head of STAR LAB. She specializes in robotic sensing, perception, visual GNC and biomimetic mechanisms for the extreme environments. Prof Gao has been the PI of inter/nationally projects, funded by EPSRC, STFC, InnovateUK, Royal Academy of Engineering, European Commission, European Space Agency (ESA), UK Space Agency as well as various industrial companies. She is actively involved in design and development of real-world space missions including ESA ExoMars, Proba3 and lunar VMMO, UK MoonLITE/Moonraker, and CNSA Chang'E3. She

also actively serves the wider space and robotics community, as the Editor-in-Chief of Wiley's Journal of Field Robotics, and the Mentor of United Nations Space4Women program. <https://www.surrey.ac.uk/people/yang-gao>.

The IEEE UK & Ireland RAS chapter addresses the advancement of the theory and practice of robotics and automation engineering and science, maintain high professional standards among its members, and welcome young researchers and professionals to join the RAS chapter

Contact: Dr Hongmei He
Email: Hongmei.H.He@ieee.org
Date: Wednesday, 18 Aug 2021
Time: 1:00pm-2:30pm (UK)
Register: Free (Click Here)