Title:
Learning Robot Localisation, Navigation and Autonomy from Vision

Abstract:
Robotics is undergoing an exciting transition from manufacturing automation to autonomous systems operating in complex and dynamic environments, e.g., open street and deep sea. One of the big challenges to the adoption of autonomous robots in the wild is to achieve reliable and persistent autonomy. In this talk, I will describe our works on robot perception and learning for full autonomy, ranging from model based autonomous navigation to deep learning based visual odometry. The use of high-level visual semantics for challenging robot vision tasks will be also discussed.

Biography:
Dr. Sen Wang is an Assistant Professor in Robotics and Autonomous Systems at Heriot-Watt University, UK and a faculty member of Edinburgh Centre for Robotics, a £120M joint venture between Heriot-Watt and Edinburgh Universities for excellent Robotics and AI research. He is also the Director of the Perception and RObotics (PRO) Group at Heriot-Watt. Previously, he was a post-doctoral researcher at the University of Oxford, working on autonomous mobile robots. His research focuses on robot perception and long-term autonomy, especially autonomous navigation, robot vision, SLAM and robot learning. His work has been published in major venues in robotics, computer vision and artificial intelligence areas, including IJRR, ICRA, IROS, CVPR, AAAI and IJCAI, and been awarded a Best Paper Award and an Outstanding Paper Award. He has been PI/Co-I of several projects funded by EPSRC and EU H2020 with over 40 million GBP funding in total, and serves as an Associate Editor for 2019 IEEE International Conference on Robotics and Automation (ICRA).