

CS Seminar

Robotic Haptic Sensing and Interaction in Medicine

Dr Hongbin Liu
Department of Informatics
King's College London (KCL)

Date:
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Thursday
4:00 pm

Venue:
Room 328
Chow Yei Ching Building
The University of Hong Kong

Abstract:

Haptic capability, both sensing and interaction, is essential for a robot working in unstructured environments, yet robotic haptic technology today is still very primitive compared to even the simplest biological creatures. Haptic interaction is a cornerstone of many medical interventions/practices. Our lab designs robots with advanced haptic perception and interaction capabilities to address unmet needs in medicine, enabling safer and more effective diagnosis and treatment. We commit our work to benefit both patients and the medical profession while advancing the frontier of haptic robotics research.

In this talk, I will share some applications of our research include haptic sensing for medical instruments, force sensing and control for steerable catheters for medical interventions, as well as robotic ultrasound guidance.

About the Speaker:

Hongbin Liu is a Senior Lecturer (Associate Professor) in the Department of Informatics, King's College London (KCL) where he is directing the Haptic Mechatronics and Medical Robotics Laboratory (HaMMeR) within the Centre for Robotics Research (CoRe). Dr. Liu obtained his BEng in 2005 from Northwestern Polytechnical University, China, MSc and PhD in 2006 and 2010 respectively, both from the Division of Engineering, KCL. He is on the journal editorial board of *Advanced Robotics* and *Frontiers in Robotics and AI*, and has served as Associated Editor for international robotic conferences IROS and ICRA since 2015 to date. He is a member of the IEEE, and a Technical Committee Member of IEEE EMBS BioRobotics. He has published over 100 peer-reviewed publications at top international robotic journals and conferences. His research has been funded by EPSRC, Innovate UK, NHS Trust and EU Commissions.

All are welcome!
For enquiries, please call 2859 2180 or email
enquiry@cs.hku.hk
Department of Computer Science
The University of Hong Kong

