
Editorial

Dan Zhang* and Bin Wei

Department of Mechanical Engineering,
Lassonde School of Engineering,
York University,
Toronto, ON, Canada
Email: dzhang99@yorku.ca
Email: binwei28@yorku.ca
*Corresponding author

Biographical notes: Dan Zhang is a Professor and Kaneff Research Chair in Advanced Robotics and Mechatronics in the Department of Mechanical Engineering of the Lassonde School of Engineering at York University. From July 1, 2004, to December 31, 2015, Dr Zhang was a Professor and Canada Research Chair in Advanced Robotics and Automation and was a founding Chair of the Department of Automotive, Mechanical and Manufacturing Engineering with the Faculty of Engineering & Applied Science at University of Ontario Institute of Technology. He received PhD in Mechanical Engineering from Laval University in 2000.

Dr Bin Wei is currently a Postdoctoral Fellow in the Department of Mechanical Engineering at the Lassonde School of Engineering at York University, Toronto. He received PhD in Mechanical Engineering from University of Ontario Institute of Technology in 2016. Dr Wei's research interests include robotics and mechatronics, adaptive controls of intelligent systems, advanced manufacturing and automaton, rescue robots and rehabilitation robots, high-performance parallel robotic machine development and sustainable/green manufacturing systems.

The dynamic equations of robotic systems are highly non-linear and contain coupled terms. Traditional control systems can cope with it when the robotic systems are under slow motions, however, for robot that is required to perform high-speed motions, traditional controls can no longer handle it properly. In this case, the adaptive control (especially the model reference adaptive control) needs to be employed. Furthermore, sometimes a robotic system is a subject to unknown disturbances, in this scenario, one needs to resort to adaptive controls as well. Model reference adaptive control is the most developed technique. This special issue aims to bring researchers together to present recent advances and technologies in the field of adaptive control for robotic manipulators - particularly the model reference adaptive control approach - in order to further summarise and improve methodologies in the model reference adaptive control of robotic manipulators.