Robotic Games Society (Singapore)

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22nd Singapore Robotic Games, 2015 Public Lecture

16:00-16:45, Thursday, 29 January 2015
Tay Eng Soon Convention Centre, ITE Headquarters, Singapore

Can Robots help Retrain Functions of Neural Impaired Adults and Children?

by

Prof. Sunil K. Agrawal

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Abstract

Robotics is emerging as a tool for training of human skills and functional movement. This talk will describe novel designs of gait training exoskeletons and their evaluation on stroke patients, paediatric mobile robots for training of developmentally delayed infants and toddlers, and gait synchronized vibration shoes for patients with Parkinson's disease. These neural disorders limit the ability of human subjects to walk and perform activities of daily living. This research is supported by multiple grants from the *National Institute of Health* and the *National Science Foundation*.

About the Speaker

Sunil K. Agrawal received a Ph.D. degree in Mechanical Engineering from Stanford University in 1990. He is currently the Director of Robotics And Rehabilitation (ROAR) Laboratory at Columbia University. He has published close to 350 journal and conference papers. Dr. Agrawal is a *Fellow of the ASME* and his honours include a *NSF Presidential Faculty Fellowship from the White House* in 1994, a *Bessel Prize from Germany* in 2003, a *Humboldt US Senior Scientist Award* in 2007, a *Best Paper award* at the 35th ASME Robotics and Mechanisms Conference in 2011, and a *Best Student Paper Award at the IEEE International Conference in Robotics and Automation* in 2012. In the last 5 years, he also held the position of a *Distinguished Visiting Professor* at Hanyang University in Korea, invited by World Class University program. Currently, he also holds the position of a "Professor of Robotics" at the University of Ulster in Northern Ireland. He has served on editorial boards of several journals published by ASME and IEEE.