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PREFACE

Robotics and sensors play important roles in the future technological base for mankind. The **2015 IEEE International Symposium on Robotics and Intelligent Sensors (IEEE IRIS2015)** is the third IRIS conference series which has consistently combined Robotics and Sensors as the two main pillars. IEEE IRIS2015 is organized by IEEE Robotics and Automation Society Malaysia Chapter and the Center of Excellence for Humanoid Robots and Bio-Sensing (HuRoBs). As a strategic technology of the 21st century, the symposium is aimed at bringing together students, academicians, researchers, scientists, engineers and practitioners to present and discuss their latest research findings, ideas, developments and applications related to the various aspects in robotics and sensors. Total of 85 high quality papers have been accepted and presented in 4 Special Sessions and 3 Workshops during IEEE IRIS2015, which will be published in the Journal Procedia Computer Science.

The theme for this year's IRIS2015 is "*Robotics and Sensors: Technologies Enabling New Sustainable Lifestyle*"; an apt response to the global inspiration of having robots living together with humans. Future robots require interactive communication and task-sharing capabilities in the context of a social interaction with a human partner. Along with evolutionary computer programming either with self or behavior-based learning algorithms, ergonomically design and multi-interaction sensing systems are among the most important components for robot to face the challenge and needs from modern society. Sensors are a critical part of any robot, whether autonomous or teleoperated, or whether for land, space or underwater applications. Sensor provides important information about the environment and also to feedback information about the internal operation and motion of the robot's body parts. There are many types of sensors for use in robots and they have served robot based on its nature and sensing principles. Future interactive robots require many types of sensors to integrate and interactively communicate each other as sensing fusion to expend the capability of robots.

IEEE IRIS2015 covers broad and depth topics in robotics and sensors. Among topics that covered are fundamental knowledge and recent development in robotics and sensors, applications of robotics and sensors in land, space and underwater, interactive human-robot interactions, robotics and sensor application for special needs such as in medical and rehabilitation, advanced computation and algorithm, mechatronics systems, etc. The topics also span some of the issues and challenges that arise when sensors interactively used in robot systems, which covers from developmental up to the system architecture and applications.

In conclusion, this volume presents a broad cross-section of interactive robots and sensor systems. The diversity of articles underscores the broad and breadth of research questions posed by interactive robot and sensor systems, which each of them discussed and presented based on unique scientific and technical explanation towards expand the capabilities of the robot system during interaction with human partner and operate in real environment.

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