

Session 5: Emerging Robotics

Date: January 24, 2019

Venue: Knowledge Theater in Grand Front Osaka

“Science of Intelligence: Uniting the Study of Natural and Artificial Intelligence”

Oliver Brock (Technische Universität Berlin)

Intelligence is possibly the most important concept of our time. But do we really know what it is? In this talk, I will discuss how to best gain insights into this concept by combining analytic disciplines studying natural intelligence and synthetic disciplines producing artificial intelligence.

“New Vistas for Cognitive Interaction Science: Robotics, AI and Big Data”

Helge Ritter (Bielefeld University)

We are witnessing break-throughs in three interrelated fields: advances in mechatronics have brought robot platforms close to an affordable mass item, internet and mobile devices have led to the availability of huge data repositories about human preferences, decisions and actions, and advances in machine learning have enabled us to create intelligent solutions from data alone. We discuss some of the recent breakthroughs and their impact with regard to cognitive interaction, particularly in contexts where physical embodiment is a crucial element. We point out some new vistas for cognitive interaction science and some major challenges, particularly with regard to marrying touch and vision for intelligent perception, embodied learning in physical environments, and the shaping of the skills and capabilities of AI-driven robots such that they remain compatible with human needs, along with their embedding in human society at large.