



Distinguished Lecturers in Automation Engineering

Prof. Stefano Stramigioli

Twente University, The Netherlands

Geometric Modelling of Physical Systems

November 21th – 25th 2022

About the speaker

Stefano Stramigioli received the MSc with honors (cum laude) and the Ph.D with honors (cum laude) in 1998. He is an IEEE Fellow, ERC Advance Grant Recipient (PortWings project), and recently nominated as a member of the Dutch academy of Science (KHMW). He has been an IEEE RAS officer for many years. He has been Editor in chief of the IEEE Robotics and Automation Magazine, he has been an AdCom member of the IEEE Robotics and Automation Society, founder and chair of the Electronic Products and Services of the IEEE-RAS and serving as VP-MAB for two consecutive terms. He is serving his second term as the Vice President for Research of euRobotics. He received different awards among which the IEEE-RAS Distinguished Service award and the euRobotics 2016 tech transfer award. His interests lie in conceptual and practical aspects of robotics and physical interacting systems which brought to the introduction of concepts like Energy Tanks, Passive Sampling and Dual Layer Tele-manipulation Architecture and Energy Aware Robotics.

A characterising nature of Stramigioli's way of working is to deeply understand systems from a mathematical and system theoretic perspective. He then uses this understanding to address the creation of new systems. Understanding the dynamics of systems is done using the paradigm on "port-based thinking" originally stemming from Bond Graphs and then Port Hamiltonian systems; this way of thinking, in the context of the ERC project, is currently creating new physical insights, which are going further than the PortWings project. Stramigioli says: "I am extremely happy that thanks to the ERC grant, I can again really invest time in the core of what I love and for which I stayed in academia in the first place, and that is really to dig deep into the theory of mathematics and physics of things and then use my engineering intuition to use this understanding to create new things."

Contact

Prof. Alessandro Macchelli alessandro.macchelli@unibo.it

Prof. Giuseppe Notarstefano giuseppe.notarstefano@unibo.it