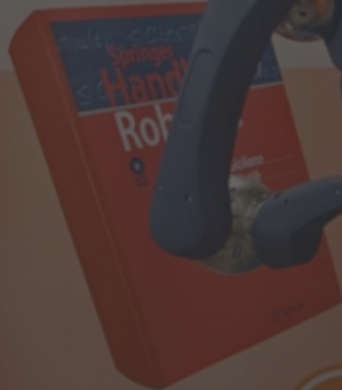


Springer Handbook  
of Robotics

edited by Bruno Siciliano



# Robot Manipulation and Control

## Lecture by Prof. Bruno Siciliano

PRISMA Lab - Department of Electrical Engineering &  
Information Technology (University of Naples Federico II)

hosted by Prof. Paolo Dario and  
Prof. Cesare Stefanini

## BioRobotics PhD

Seminars Cycle on Principles of  
BioRobotics Science and Engineering

**Tuesday November 17, 2020 - 6.00 pm**

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**ABSTRACT:** This talk presents the most recent research @PRISMA Lab on robot manipulation and control. The talk is organized in four parts. In the first part, aerial and dynamic manipulation are surveyed along with the main results achieved on modelling, planning, perception and control. The second part of the talk focuses on how to merge learning and model-based strategies to provide autonomy to robotic manipulation. In the third part of the talk, anthropomorphic tools for robotics and prosthetics are presented, requiring advanced sensorimotor skills to reproduce human's manipulation abilities. The fourth part of the talk deals with human-friendly robots and recent advances on shared control during interaction with soft objects with emphasis on a surgical scenario.

**BIOSKETCH:** Professor Bruno Siciliano is the Director of the **Interdepartmental Center for Advances in Robotic Surgery (ICAROS)**, as well as the Coordinator of the **Laboratory of Robotics Projects for Industry, Services and Mechatronics (PRISMA Lab)**, at the **University of Naples Federico II**. He is Honorary Professor at the University of Óbuda where he holds the Kálmán Chair. His research interests in robotics include manipulation and control, human-robot cooperation, and service robotics. Fellow of the scientific societies IEEE, ASME, IFAC, he received numerous international prizes and awards, and he was President of the IEEE Robotics and Automation Society from 2008 to 2009. Since 2012 he is on the Board of Directors of the European Robotics Association. He has delivered more than 150 keynotes and has published more than 300 papers and 7 books.

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