# Curriculum Vitae of
# ALESSANDRO DE LUCA



**December 2025**

## Prof. Alessandro DE LUCA

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*Google Scholar*: latest **h-index = 71**, with 22276 citations
*Scopus Author ID#*: 7201948195, latest **h-index = 57**, with 12936 citations
*Semantic Scholar:* 144765522
*WoS ResearcherID*: F-3835-2011

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*Sapienza Repository*: IRIS

# Biosketch

Alessandro De Luca was born in Roma, Italy, on October 11, 1957. He received the *Laurea* degree in Electronic Engineering and the PhD in Systems Engineering from the University of Rome "La Sapienza" in 1982 and 1987, respectively. Since 2000, he is a Full Professor of Robotics, Automation, and Automatic Control at the Sapienza University of Rome. From September 2005 to April 2006, he spent a sabbatical at the Institute for Robotics and Mechatronics at DLR in Oberpfaffenhofen, Germany. He has been the founding Director of the Sapienza Master course in Control Engineering (2013–19), a two-year M.Sc. program fully taught in English, and a Senior Research Fellow of the *Sapienza School of Advanced Studies (SSAS)* (2017–23). He is the Coordinator of the Group of Experts GEV-09 (areas of Industrial and Information Engineering) in the evaluation of the national research quality (*VQR 2020-24*).

His research interests include modeling, motion planning, and control of manipulators with elastic joints, with variable stiffness actuation, and with flexible links; soft robots; physical human-robot interaction; collision detection and isolation; robots in contact with the environment; haptics; kinematically redundant manipulators; wheeled mobile robots; mobile manipulators; visual servoing; cooperating manipulators; underactuated robots; nonholonomic mechanical systems; locomotion platforms; telepresence; fault detection and isolation. He has published over 240 journal and conference papers and book chapters, receiving two best conference paper awards (ICRA 1998, BioRob 2012) and one best application paper award (IROS 2008). He is one of the authors of the PROSE-awarded *Springer Handbook of Robotics* (2008, 2016) and Editor of the book *Advances in Control of Articulated and Mobile Robots* (Springer, 2004). He is one of the four authors of the new textbook *Foundations of Robotics* (Springer, 2025).

For the *IEEE Transactions on Robotics and Automation*, he served as Associate Editor (1994–98), Editor (1998–2003), and Editor-in-Chief (2003–04). He has been the Editor-in-Chief of the renamed *IEEE Transactions on Robotics* from its birth in 2004 until September 2008. He has been a member of the *IEEE Robotics and Automation Society (RAS)* AdCom (2008–10) and has served as RAS Vice-President for Publication Activities in 2012–13. He was General Chair of the *2007 IEEE International Conference on Robotics and Automation* held in Rome, Program Chair of the *2016 IEEE International Conference on Robotics and Automation* in Stockholm, and General Chair of the *1st Italian Conference on Robotics and Intelligent Machines* in 2019.

He is an *IEEE Fellow* (class of 2007, elevated with the citation: "For contributions to modeling and control of robotic systems") —*Life Fellow* since 2023. He received the German *Helmholtz-Humboldt Research Award* for foreign scientists in 2005, the *IEEE-RAS Distinguished Service Award* in 2009, and the *IEEE George Saridis Leadership Award in Robotics and Automation* in 2019 (citation: "For contributions to the robotics and automation community through research innovation and education, and for leadership in publication and conference activities in RAS").

Between 2006 and 2012, he has been a member of the Search Committee for Physical Sciences (former Technical Sciences) of the *Körber European Science Award*, granted by the Körber Foundation. He was Chair of Panel PE7 (Systems and Communication Engineering) of the *European Research Council* for Advanced Grants evaluation in 2009, 2011, and 2013, a member of the Scientific Advisory Board of the *Max Planck Institute for Biological Cybernetics* (2015-17), a founding member and a Vice-President of the national *Institute for Robotics and Intelligent Machines* (I-RIM) (2019-25), and a member of the Science Advisory Board of the *Munich Institute of Robotics and Machine Intelligence* (MIRMI) (2022-25). He is in the Advisory Board of the *International Journal of Robotics Research* since 2023.

He has been the national coordinator of the MIUR PRIN project *SICURA* (2008-10) and the scientific coordinator of the FP7 european project *SAPHARI* (2011–15). With the DIAG Robotics group, he has been principal investigator in five European research projects (*PRO-Motion*, *PHRIDOM*, FP6 *CyberWalk*, FP6 *PHRIENDS*, H2020 *SYMPLEXITY*) and in many national projects, and participated as a member also to H2020 *COMANOID*.

# Education

**Jul. 1987** *Research Doctorate* degree in Systems Engineering from the University of Rome "La Sapienza"

**Feb. 1984** *Master* degree in Control Systems Engineering from the University of Rome "La Sapienza"

**Nov. 1983** *Professional Engineer* certificate

**Mar. 1982** *Laurea* degree in Electronic Engineering *magna cum laude* from the University of Rome "La Sapienza"

# University Positions

**2017–2023** *Senior Research Fellow* of the Sapienza School of Advanced Studies (SSAS)

**2013–2019** Founding *Director* of the Master Degree in Control Engineering of Sapienza University of Rome

**2000–pres.** *Full Professor* of Robotics, Automation, and Automatic Control at the School of Information Engineering, Informatics, and Statistics of the Sapienza University of Rome, Department of Computer, Control, and Management Engineering (DIAG, former DIS until 2011); tenured since Nov. 2003

**1993–2000** *Associate Professor* of Automatic Control and Industrial Robotics at the Faculty of Engineering of the University of Rome "La Sapienza," Department of Computer and Systems Science; tenured since Nov. 1995

**1992–1993** *Associate Professor* of Automatic Control at the Faculty of Sciences of the University of Milano, Department of Information Sciences

**1988–1992** *Researcher* in Automatic Control at the Faculty of Engineering of the University of Rome "La Sapienza," Department of Computer and Systems Science; tenured after three years

# Visits

**Sep. 2005–Apr. 2006** *Visiting Researcher* at the Institute for Robotics and Mechatronics of DLR in Oberpfaffenhofen, Germany, under the support of a *Helmholtz Humboldt Research Award* for foreign scientists

**Nov. 1989** *Visiting Researcher* at the CINVESTAV, Mexico City, Mexico

**Sep. 1985–May 1986** *Visiting Scholar* at the Robotics and Automation Lab of the Rensselaer Polytechnic Institute, Troy, NY

# Teaching Activities

## Academic Courses

**(ordered by last year offered)**

**2003–pres.** *Robotics I*, 6 ECTS, Master in Artificial Intelligence and Robotics and Master in Control Engineering (both taught in English) & previously 1st level 'Laurea' in Computer and Control Engineering, Electronic Engineering; Sapienza University of Rome (100 students/year); the full set of **30 lectures** of this course has been recorded in the classroom during the academic year 2014-15 and is available on YouTube in the Robotics 1 playlist of the Video DIAG - Sapienza channel

**2004–pres.** *Robotics II*, 6 ECTS, Master in Control Engineering and Master in Artificial Intelligence and Robotics (both taught in English) & previously 2nd Level 'Laurea' in Computer Engineering, Control Engineering, Electronic Engineering; Sapienza University of Rome (100 students/year); the full set of **24 lectures (in 38 videos)** of this course has been recorded (first in the classroom, then remotely due to the Covid19 emergency) during the second semester of the academic year 2019-20 and is available on YouTube in the Robotics 2 playlist of the Video DIAG - Sapienza channel

**2013–2025** *Automation*, 6 ECTS (9 ECTS up to 2018-19), 1st level 'Laurea' in Computer and Control Engineering; Sapienza University of Rome (50 students/year)

**2010–2023** *Elective in Robotics*, 3 ECTS, Master in Artificial Intelligence and Robotics (taught in English); module on *Locomotion and Haptic Interfaces (for VR exploration)* until 2020-21, then *Physical Human-Robot Interaction*, Sapienza University of Rome (30 students/year)

**2000–pres.** *Modeling and Control of Flexible Structures*, PhD course in "Systems Engineering"; Sapienza University of Romr (10 students/year, course taught in selected years)

**2017–2018** *Control of Electromechanical Systems*, 3 ECTS, Master in Electrotechnical Engineering – STEPS (taught in English); Sapienza University of Rome (10 students/year)

**2015–2016** *Automatic Control*, 3 ECTS, 1st level 'Laurea' in Electrical Engineering; Sapienza University of Rome (30 students/year)

**2014–2015** *Automatic Control*, 3 ECTS, 1st level 'Laurea' in Communication Engineering; Sapienza University of Rome (20 students/year)

**2009–2010** *Digital Control Systems*, 6 ECTS, 1st level 'Laurea' in Computer Engineering, Control Engineering, Electronic Engineering; University of Roma "La Sapienza" (15 students/year)

**1992–2004** *Industrial Robotics*, 'Laurea' in Computer Engineering, Electrical Engineering, Electronic Engineering, Mechanical Engineering; University of Roma "La Sapienza" (35 students/year)

**2002–2003** *Automatic Control II*, 2nd Level 'Laurea' in Computer Engineering; University of Roma Tre (30 students/year)

**2001–2003** *Automatic Control*, 1st level 'Laurea' in Computer Engineering, Electronic Engineering; University of Roma "La Sapienza" – Site of Latina (15 students/year)

**1993–2001** *Automatic Control*, 'Laurea' in Computer Engineering; University of Roma "La Sapienza" (200 students/year)

**1994–1998** *Control Systems I*, Master in "Theory and Methods for Systems Analysis and Control"; University of Roma "La Sapienza" (10 students/year)

**1993–1994** *Operation Research*, 'Laurea' in Information Science; University of Milano (150 students/year)

**1992–1994** *Control of Industrial Processes*, 'Laurea' in Information Sciences; University of Milano (30 students/year)

**1989–1992** *Adaptive Control*, Master in "Theory and Methods for Systems Analysis and Control"; University of Roma "La Sapienza" (10 students/year)

**1988–1989** *Systems Theory*, Master in "Theory and Methods for Systems Analysis and Control"; University of Roma "La Sapienza" (10 students/year)

# External Courses

**May 2023** Organizer (with C. Della Santina) of the 2023 International Graduate School on Control (IGSC) of the European Embedded Control Institute (EECI): Course M16 on *Control of Soft and Articulated Elastic Robots*, DIAG Sapienza University of Rome, Italy

**May 2023** Lecture on "Robots with Flexible Links: Modeling and Control," EECI-IGSC Course on *Control of Soft and Articulated Elastic Robots*, Sapienza University of Rome, Italy

**May 2023** Lecture on "Robots with Flexible Joints: Modeling and Control," EECI-IGSC Course on *Control of Soft and Articulated Elastic Robots*, Sapienza University of Rome, Italy

**Jul. 2021** Lecture on "Regulation, Inversion Control, and Feedback Equivalence for Flexible Robots," PhD course on *Modeling and Control of Soft Robots*, *SIDRA Summer School*, Bertinoro, Italy

**Jul. 2021** Co-organizer of the Summer School on "Modeling and Control of Soft Robots" *SIDRA National Doctorate School*, Bertinoro, Italy

**Jul. 2015** Coordinator of the Summer School on "Robot Control" *SIDRA National Doctorate School*, Bertinoro, Italy

**Feb. 2015** Introductory lecture of the *SAPHARI/Natural Machine Motion Initiative Winter School on Soft Robotics*, Roma, Italy

**Jun. 2014** Lectures on "Safe Control of Physical Human-Robot Interaction," *Great Ideas in ICT 2014, DIAG Doctorate Schools*, Roma, Italy

**Jul. 2010** Lectures on "Modeling and Control of Robots with Elastic Joints" and "Safe Physical Human-Robot Interaction," *CIRA National Doctorate School on Robotics*, Bertinoro, Italy

**Jan. 2010** Lecture on "Detection and Isolation of Faults and Collisions in Robot Arms," *Doctorate School in Information Science and Engineering*, Bologna, Italy

**Apr. 2007** ICRA'07 Tutorial on "Nonlinear Control of Flexible Joint Robots," *2007 IEEE Int. Conf. on Robotics and Automation*, Roma, Italy

**Jul. 2003** Lectures on "Robots with Elastic Joints: Modeling and Control" and "Robots with Flexible Links: Modeling and Control," *CIRA National Doctorate School on Control of Robotic Systems*, Bertinoro, Italy

**Feb. 2000** Lecture on "Kinematics and Motion Generation for Wheeled Mobile Robots," *International School RoboCup 2000 Camp*, Padova, Italy

**Jun. 1996** Lectures on "Decoupling and Feedback Linearization of Robots with Mixed Rigid/Elastic Joints" and "Nonholonomic Behavior in Redundant Robot Arms," *DISC Summer School on Applications of Modern Nonlinear Control Theory*, Zeist, Netherlands

**Jul. 1994** Lectures on "Control of Nonholonomic Mechanical Systems," *Advanced Professional School on Kinematics and Dynamics of Multi-Body Mechanical Systems*, International Center for Mechanical Sciences (CISM), Udine, Italy (see [BC-3] in the list of publications)

**Sep. 1992** Lectures on "Control of Rigid Robots: Robots in Contact with the Environment" and "Control of Flexible Robots: Modelling of Robots with Flexible Links," *Summer School on Theory of Robot Control*, École Nationale Supérieure d'Ingénieurs Electriciens de Grenoble, Laboratoire d'Automatique de Grenoble (LAG-ENSIEG), Saint Martin d'Hères, France (this course was the basis for the 12-author Springer book on "Theory of Robot Control," see [BC-5] and [BC-6] in the list of publications).

**Jun. 1992** Lectures on "Fundamentals of Automatic Control and Robotics," *Tecnopolis*, Valenzano, Bari, Italy

**Mar. 1990** Lectures on "Nonlinear Control" (second edition), *Carl-Cranz Gesellschaft*, Deutsche Forschungs- und Versuchsanstalt für Luft- und Raumfahrt (DFVLR), Oberpfaffenhofen, Germany

**Nov. 1989** Course on "Nonlinear Control Techniques for Robot Manipulators and Induction Motors," *IX School of the Mexican Association of Automatic Control*, Centro de Investigacion y de Estudios Avanzados (CINVESTAV), Instituto Politecnico National, Mexico City, Mexico

**Aug. 1987** Lectures on "Nonlinear Control," *Carl-Cranz Gesellschaft*, Deutsche Forschungs- und Versuchsanstalt für Luft- und Raumfahrt (DFVLR), Oberpfaffenhofen, Germany

**Feb. 1987** Tutorial on "Robot Manipulators: An Application of Nonlinear Control Methods" for the course "Nonlinear Control Theory," *2nd Workshop on Mathematics in Industry*, Centro Internazionale di Fisica Teorica, Trieste, Italy

# Academic Committees

## Local

**Apr. 2022** Committee for Evaluation of an Associate Professor in Automatic Control, DIAG

**Mar. 2022** Committee for Evaluation of a Full Professor in Automatic Control, DIAG

**Jan. 2020** Committee for Evaluation of an Associate Professor in Automatic Control, DIAG

**Apr. 2019** Committee for Selection of a Researcher (RTD-B) in Automatic Control, DIAG

**Mar. 2019** Committee for Selection of a Researcher (RTD-A) in Bioengineering, DIAG

**Jun. 2018** Committee for Evaluation of an Associate Professor in Bioengineering, DIAG

**Dec. 2016** Committee for Evaluation of an Associate Professor in Automatic Control, DIET

**Jun. 2016** Committee for Evaluation of a Full Professor in Automatic Control, DIAG

**2013–pres.** Main promoter of the Master Degree in Control Engineering and founding Director (2013–19), Sapienza University of Rome

**2013–pres.** Member of the Teaching Board of the Doctorate in Automatic Control, Bioengineering, and Operations Research (ABRO) of Sapienza University of Rome

**2011–pres.** Member of the Committee on research planning and evaluation (Commissione di Programmazione e Valutazione della Ricerca) (CPV) of the DIAG department

**2010–pres.** Scientific responsible for the Exchange Agreement between the School of Information Engineering, Informatics, and Statistics of Sapienza University of Rome and the Graduate School of Engineering of the Tohoku University in Sendai

**2010–2012** Member of the panel of experts for the evaluation of the quality of research activities of Sapienza University of Rome (VQR 2004–2010)

**2009–pres.** Main promoter of the Master Degree in Artificial Intelligence and Robotics, Sapienza University of Rome

**2002–2006** ERASMUS Committee for student mobility within the European Union, School of Engineering, Sapienza University of Rome

**1994–2012** Research Doctorate Committee in Systems Engineering, Sapienza University of Rome

**1995–1996** Professional Engineering Qualification Committee, Sapienza University of Rome

**1990–1991** Executive Committee of the Department of Computer and Systems Science (DIS), Sapienza University of Rome

## National

**Jul. 2025** Committee for Selection of a Researcher with tenure track (RTT) in Automatic Control, University of Siena

**Jun. 2025** Committee for Selection of a Researcher with tenure track (RTT) in Automatic Control, UniNettuno

**Apr. 2025** Committee for Selection of two Associate Professors in Automatic Control, Universitas Mercatorum

**Mar. 2025** Committees for Selection of two Associate Professors in Automatic Control, San Raffaele University

**2024–2026** Coordinator of the Group of Experts GEV-09 (areas of Industrial Engineering and Information Engineering) for the evaluation of the national research quality (4th VQR 2020–2024)

**2023–pres.** Member of the Teaching Board of the National Doctorate in Robotics and Intelligent Machines (DRIM), coordinated by the University of Genoa

**Mar. 2023** Committee for Evaluation of an Associate Professor in Automatic Control, University of Verona

**Feb. 2023** Committee for Selection of a Researcher (RTD-B) in Automatic Control, University of Sassari

**Nov. 2022** Committee for Selection of Full Professor in Automatic Control, University of Pisa

**Oct. 2021** Committee for Evaluation of Full Professor in Automatic Control, University of Bologna

**Jul. 2020** Committee for Doctorate Degree in Automation, Robotics, and Bioengineering, University of Pisa

**Jul. 2019** Committee for Evaluation of Full Professor in Automatic Control, University of Roma Tre

**Jun. 2019** Committee for Doctorate Degree in Automation, Robotics, and Bioengineering, University of Pisa

**Dec. 2016** Committee for Selection of a Researcher (RTD-B) in Automatic Control, University of L'Aquila

**Nov. 2016** Committee for Selection of a Researcher (RTD-A) in Automatic Control, University of Roma Tre

**Oct. 2016** Committee for Evaluation of a Full Professor in Automatic Control, University of Naples Federico II

**Oct. 2016** Committee for Evaluation of a Full Professor in Automatic Control, Politecnico of Milan

**Jun. 2016** Committee for Evaluation of an Associate Professor in Automatic Control, University of Roma Tre

**Nov. 2014** Committee for Evaluation of a Full Professor in Automatic Control, Politecnico of Turin

**Jun. 2014** Committee for Evaluation of an Associate Professor in Automatic Control, University of Bologna

**Jun. 2011** Committee for Doctorate Degree in Automation, Robotics, and Bioengineering, University of Pisa

**Dec. 2010** Committee for Doctorate Degree in Computer and Systems Engineering, University of Napoli Federico II

**Sep. 2010** Committee for Promotion to Associate Professor in Automatic Control, University of Lecce

**Oct. 2006** Committee for Promotion to Full Professor in Automatic Control, Politecnico of Milan

**Nov. 2004** Committee for Doctorate Degree in Computer Science and Automation, University of Roma Tre

**May 2000** Committee for Promotion to Researcher in Automatic Control, University of Roma "Tor Vergata"

**Nov. 1999** Committee for Doctorate Degree in Electronic and Computer Engineering, University of Napoli Federico II

## Abroad

**May 2025** *Doctoral Thesis, University of Verona*, Verona, Italy;
Eldison Dimo, "Force Control and EMG-based Adaptive Assistance for Enhanced Human-Exoskeleton Interaction"

**Oct. 2024** *Doctoral Thesis, Technical University of Munich*, München, Germany;
Seyed Ali Baradaran Birjandi, "Nonlinear Observer-Based Approaches for Accurate and Reliable Kinematic State Estimation and Disturbance Monitoring"

**Mar. 2023** *Doctoral Thesis, Technical University of Munich*, München, Germany;
Manuel Keppler, "From Underactuation to Quasi-Full Actuation: A Unifying Control Framework for Rigid and Elastic Joint Robots"

**Sep. 2021** *Doctoral Thesis, University of Palermo*, Palermo, Italy; Maja Trumic, "Stiffness Estimation and Adaptive Control for Soft Robots"

**Mar. 2021** *Doctoral Thesis, Université de Montpellier*, Montpellier, France; Anastasia Bolotnikova, "Frail Human Assistance by a Humanoid Robot Using Multi-contact Planning and Physical Interaction"

**Jul. 2020** *Doctoral Thesis, University of Pisa*, Pisa, Italy; Franco Angelini, "Om the Problem of Planning and Controlling Articulated Soft Robots"

**Jun. 2020** *Doctoral Thesis, University of Salerno*, Salerno, Italy; Enrico Ferrentino, "Dynamic Programming for Optimal Planning and Control of Redundant Robot Manipulators"

**Feb. 2020** *Doctoral Thesis, Polytechnic of Milan*, Milano, Italy; Andrea Casalino, "Allowing a Real Collaboration Between Humans and Robots"

**Jun. 2019** *Doctoral Thesis, University of Pisa*, Pisa, Italy; Cosimo Della Santina, "Natural Principles for the Design and Control of Soft Robots"

**Feb. 2019** *Habilitation à Diriger des Recherches, Université de Montpellier*, Montpellier, France; Adrien Escande

**Jul. 2018** *Thèse de Doctorat, Université de Toulouse*, Toulouse, France; Marco Tognon, "Theory and Applications for Control and Motion Planning of Aerial Robots in Physical Interaction with particular focus on Tethered Aerial Vehicles"

**Feb. 2017** *Doctor of Philosophy, University of British Columbia*, Vancouver, Canada; Joonyoung Kim, "Path-Invariant and Time-Optimal Motion Control for Industrial Robots"

**Jan. 2016** *Habilitation à Diriger des Recherches, Lagadic team of IRISA/INRIA Rennes Bretagne Atlantique*, Rennes, France; Paolo Robuffo Giordano

**Jun. 2013** *Habilitation à Diriger des Recherches, Laboratoire d'Analyse et d'Architecture des Systèmes du CNRS*, Toulouse, France; Nicolas Mansard

**Jul. 2010** *Doktor-Ingenieurs, Karlsruher Institute für Technologie*, Karlsruhe, Germany; Giulio Milighetti, "Multisensorielle diskret-kontinuierliche Überwachung und Regelung humanoider Roboter"

**Mar. 2008** *Habilitation à Diriger des Recherches, INRIA*, Sophia Antipolis, France; Ezio Malis

**Sep. 2006** *Doktor-Ingenieurs, Technische Universität München*, München, Germany; Michael Thümmel, "Modellbasierte Regelung mit nichtlinearen inversen Systemen und Beobachtern zur Optimierung der Dynamik von Robotern mit elastischen Gelenken"

**Jan. 2006** *Habilitation à Diriger des Recherches, Laboratoire d'Analyse et d'Architecture des Systèmes du CNRS*, Toulouse, France; Thierry Siméon

**Nov. 2005** *Doktor der Ingenieurwissenschaften, Universität des Saarlandes*, Saarbrücken, Germany; Christian Ott, "Cartesian Impedance Control of Flexible Joint Manipulators"

**Oct. 2004** *Habilitation à Diriger des Recherches, Université de Nice–Sophia Antipolis*, Valbonne, France; Pascal Morin

**Sep. 2004** *Thèse de Doctorat, Institut National Polytechnic de Grenoble*, Grenoble, France; Cédric Pradalier, "Navigation Intentionnelle d'un Robot Mobile"

**Dec. 2003** *Thèse de Doctorat, Institut National Polytechnic de Toulouse*, Toulouse, France; David Bonnafous, "Exécution Réactive de Trajectoires pour Robots Mobile Non-Holonomes"

**Nov. 2002** *Habilitation à Diriger des Recherches, Université d'Evry Val d'Essonne*, Evry, France; Tarek Hamel

**Feb. 2002** *Thèse de Doctorat, École Centrale de Nantes*, Nantes, France; Mouhacine Benosman, "Commande de Bras Manipulateurs Souples et Extensions aux Systémes à Non Minimum de Phase"

**Feb. 2001** *Habilitation à Diriger des Recherches, Laboratoire d'Analyse et d'Architecture des Systèmes du CNRS*, Toulouse, France; Philippe Souères

**Dec. 1999** *Thèse de Doctorat, Université Paul Sabatier de Toulouse*, Toulouse, France; Viviane Cadenat, "Commande Référencée Multi-capteurs pour la Navigation d'un Robot Mobile"

**Jul. 1999** *Habilitation à Diriger des Recherches, Laboratoire d'Analyse et d'Architecture des Systèmes du CNRS*, Toulouse, France; Thierry Siméon

**Oct. 1998** *European Doctor Thesis, Universitat Politècnica de Catalunya*, Barcelona, Spain; Albert Castellet, "Solving Inverse Kinematics Problems Using an Interval Method"

# Supervision of Students

### PhD students

Advisor of 16 PhD students in Systems and Control Engineering (later ABRO), Sapienza University of Rome, and of 1 PhD student in the National Doctorate in Robotics and Intelligent Machines (DRIM), coordinated by the University of Genoa:

**2024–pres.** Mattia Castelmare (DRIM, on-going)

**2021–2024** Pietro Pustina, "Analysis and Control of the Underactuation in Continuum Soft Robots — A Kinematic Independent Approach"

**2019–2022** Marco Capotondi, "Model Learning for Trajectory Tracking of Robot Manipulators"

**2016–2019** Maram Khatib, "Multi-Sensor Coordination in Human-Robot Interaction"

**2015–2018** Khaled Al Khudir, "Optimal Redundancy Control for Robot Manipulators"

**2014–2017** Gabriele Buondonno, "Numerical Solutions for Design and Dynamic Control of Compliant Robots"

**2012–2015** Claudio Gaz, "On Dynamic Identification and Control Issues for the KUKA LWR Robot"

**2012–2015** Emanuele Magrini, "Estimation of Contact Forces and Interaction Control in Human-Robot Collaboration Tasks"

**2011–2014** Antonio Paolillo, "Vision-based Control of Humanoids Interacting with the Real World"

**2008–2011** Fabrizio Flacco†, "Modeling and Control of Robots with Compliant Actuation"

**2004–2007** Paolo Robuffo Giordano, "Visual Estimation and Control of Robot Manipulating Systems"

**2002–2005** Riccardo Farina, "Trade-off between Precision and Operative Safety in Robots with Intrinsic Compliance"

**1997–2001** Fabio Maria Antoniali, "A Novel Bayesian Approach to Mobile Robot Localization"

**1998–2001** Alessandro Bettini, "Task and Joint Control of Human-Robot Collaborative Systems"

**1998–2001** Stefano Iannitti, "Motion Planning and Control of a Class of Underactuated Robots"

**1993–1996** Raffaella Mattone, "Una Metodologia Generale per la Modellazione Orientata al Compito ed il Controllo di Sistemi Robotici Cooperanti" (in Italian)

**1988–1991** Costanzo Manes (co-advisor with F. Nicolò), "Modelli di Interazione Robot-Ambiente e Controllo di Posizione e Forza" (in Italian)

**Master students**

**1992–pres.** Supervisor of 150+ students for their 2nd Level 'Laurea' (5-year Engineering curriculum) or Master theses, including AI & Robotics (42), Control Engineering (31), Computer Engineering (31), Electronic Engineering (28), Mechanical Engineering (20); Sapienza University of Rome

**1992–1994** Supervisor of 7 students for their 'Laurea' thesis in Information Sciences; University of Milano

These master students have performed their final work in the Robotics Laboratory of our DIAG (former DIS) Department, in industries in Italy or abroad (e.g., ABB, KUKA Robotics, Oerlikon Contraves, Schnell, SIR), and in international institutions (e.g., DLR Institute of Robotics and Mechatronics Weßling, Fraunhofer IITB/IOSB Karlsruhe, Fraunhofer IPA Stuttgart, Italian Institute of Technology (IIT), LAAS-CNRS Toulouse, Örebro University, Tohoku University).

# Scientific Activities

## Principal Investigator in Research Groups

**(if not stated otherwise)**

### European

**2015–2018** H2020 IA Project FoF-637080 "Symbiotic Human-Robot Solutions for Complex Surface Finishing Operations (SYMPLEXITY)" supported by the *European Commission*

**2015–2018** (Participant) H2020 RIA Project ICT-645097 "Multi-Contact Collaborative Humanoids in Aircraft Manufacturing (COMANOID)" supported by the *European Commission*

**2011–2015 (Coordinator)** FP7 IP Project "Safe and Autonomous Physical Human-Aware Robot Interaction (SAPHARI)" supported by the *European Commission*

**2006–2009** FP6 STREP Project "Physical Human-Robot Interaction: Safety and Dependability (PHRIENDS)" supported by the *European Commission*

**2006** Perspective Research Project "Physical Human-Robot Interaction in Anthropic Domains (PHRIDOM)" supported by the *European Commission* within the EURON network

**2005–2008** 6th FP STREP Project "The CyberCarpet – Enabling Omni-directional Walking in Virtual Worlds (CyberWalk)" supported by the *European Commission*

**2002–2004** (Participant) IP EU-IST-2001 "Intelligent Fault Tolerant Control in Integrated System (IFATIS)" supported by the *European Commission*

**2000–2003** European Robotics Research Network (EURON) supported by the *European Commission*

**1994–1996** European Robotics Network (ERNET) of the Human Capital and Mobility Programme supported by the *European Commission*

**1992–1995** ESPRIT III Basic Research Action "Planning Robot Motion (PROMotion)" supported by the *European Commission*

### National

**2023–2025** (Participant) Research Project "Spoke 5: High-Quality AI", coordinated by Sapienza University of Rome in the Extended Partnership "FAIR — Future AI Research", for the *PNRR* supported by the *Ministry of University and Research* (within the *Next Generation EU* program), responsible of WP5.3 "Quality in AI Physical Systems"

**2023–2025** (Participant) Research Project "Phygital Twin Technologies for Innovative Surgical Training & Planning", Rome Technopole Flagship Project 4, for the *PNRR* supported by the *Ministry of University and Research* (within the *Next Generation EU* program)

**2012–2015** Research Project "I-Mule", in the *Industry 2015 (Made in Italy)* program supported by the *Ministry of Economic Development*

**2008–2010 (Coordinator)** National Research Project "SICURA: Safe Physical Interaction between Robots and Humans" supported by the *Ministry of Education University and Research*

**2003–2004** National Research Project "MATRICS: Methodologies Applications and Technologies for Robot Interaction Cooperation and Supervision" supported by the *Ministry of Education University and Research*

**2001–2003** Research Line "FAI ROBOT: Internet-based Continuous Learning for Industrial Robotic Systems Control" of the Project "Web Learning for Human Resources Quality" supported by the *National Research Council*

**2001–2002** National Research Project "MISTRAL: Methodologies and Integration of Subsystems and Technologies for Anthropic Robotics and Locomotion" supported by the *Ministry of Education University and Research*

**1999–2000** National Research Project "RAMSETE: Articulated and Mobile Robotics for SErvice and TEchnology" supported by the *Ministry of University, Scientific Research and Technology*

**1998–1999** Fundamental Research Project "Development of an Integrated Mobile Manipulator for Planetary Exploration Tasks" supported by the *Italian Space Agency*

**1997–1998** Special Research Project "Advanced Control for Robots with Flexible Elements: Theory and Experimentation" supported by the *National Research Council*

**1995–1996** Research Project "Motion Planning and Control of Mobile Robots" supported by the *Ministry of University, Scientific Research and Technology*

**1993–1994** Research Project "Control of Robots with Nonholonomic Constraints" supported by the *Ministry of University, Scientific Research and Technology*

**1989–1992** (Participant) Research Line "Algorithms, Software, and Devices for Dynamic and Hybrid Control of Industrial Robots" of the Subproject "Robot Control" of the National Robotics Project supported by the *National Research Council*

# Society Service and Committee Membership

**since 2023** Life Fellow of the *IEEE (The Institute of Electrical and Electronics Engineers)* (previously: Fellow (2007), Senior Member (2005), Member (1986), Student Member (1982))

**2023–pres.** Member of the Advisory Board of the *International Journal of Robotics Research*

**2022–pres.** Member of the Science Advisory Board of the *Munich Institute of Robotics and Machine Intelligence* (MIRMI) of the Technical University of Munich

**2019–2025** Vice-president for Regulation and Planning Activities of the national *Institute for Robotics and Intelligent Machines* (I-RIM)

**Feb. 2019** Member of the Evaluation Committee of the Deutsche Forschungsgemeinschaft (DFG)/Wissenschaftsrat (WR) for the *Excellence Universities* Funding Line, Germany

**Nov. 2017** Member of the Evaluation Committee of the 5-year (2012–17) activities of the *DLR Institute of Robotics and Mechatronics*, Weßling, Germany

**2016–2017** Co-chair of the Awards Committee and Chair of the Awards Evaluation Panel of the *IEEE Robotics and Automation Society*

**2015–pres.** Member of the Steering Committee of the *IEEE Robotics and Automation Letters*

**2015–2017** Member of the Scientific Advisory Board of the *Max Planck Institute for Biological Cybernetics*

**2012–2013** Vice-President for Publication Activities of the *IEEE Robotics and Automation Society*

**2010–2011** Associate Vice-President for Publication Activities of the *IEEE Robotics and Automation Society*

**2010–2011** Chair of the Awards Evaluation Panel and Member of the Awards Committee of the *IEEE Robotics and Automation Society*

**2009–2013** Chair of Panel PE-7 (Systems and Communication Engineering) of the *European Research Council* (ERC) for the Advanced Grant evaluation

**2008–2010** AdCom Member of the *IEEE Robotics and Automation Society*

**2006–2012** Member of the Search Committee for Physical Sciences (Technical Sciences until 2010) of the *Körber European Science Award*, granted by the Körber Foundation

**2001–2003** AdCom Member of the *European Robotics Research Network* (EURON)

**1998–1999** Member of SIRI (Società Italiana di Robotica Industriale)

**1991–1995** Chair of the *Technical Committee on Flexible Manipulators* in the *IEEE Robotics and Automation Society*

# Editorial Service

## Journals

**2004–2008** First *Editor-in-Chief* of the *IEEE Transactions on Robotics*

**2003–2004** *Editor-in-Chief* of the *IEEE Transactions on Robotics and Automation*

**1998–2003** *Editor* of the *IEEE Transactions on Robotics and Automation* (first Editor not from USA)

**1994–1998** *Associate Editor* of the *IEEE Transactions on Robotics and Automation*

**1984–pres.** Reviewer for the main archival journals in the areas of Robotics and Automatic Control, including *ASME Journal of Dynamic Systems, Measurements, and Control; Automatica; IEEE Transactions on Automatic Control; IEEE Transactions on Control Systems Technology; IEEE Transactions on Robotics; IEEE Transactions on Robotics and Automation; IEEE Robotics and Automation Letters, IEEE Transactions on Systems, Man, and Cybernetics; International Journal of Robotics Research; Journal of Robotics Systems; Robotica*

## Handbook of Robotics

**2016** Author and video contributor to the 2nd Edition of the *Springer Handbook of Robotics*, with the revised chapter on "Robots with Flexible Elements" co-authored with W. Book, see [BC-15] in the list of publications.

**2008** One of the 165 selected authors of the *Springer Handbook of Robotics*, with a chapter on "Robots with Flexible Elements" co-authored with W. Book, see [BC-12].

## Main Conferences

**Oct. 2019** General Chair of *1st Italian Conference on Robotics and Intelligence Machines*, Roma, Italy

**Jun. 2019** Area Chair of *2019 Conference on Robotics: Science and Systems*, Freiburg, Germany

**May 2016** Program Chair (with A. Bicchi) of *2016 IEEE International Conference on Robotics and Automation*, Stockholm, Sweden

**May 2013** Vice Co-Chair of *2013 IEEE International Conference on Robotics and Automation*, Karlsruhe, Germany

**Dec. 2012** Member of the International Advisory Committee of *12th International Conference on Control, Automation, Robotics and Vision*, Guangzhou, China

**Sep. 2011** CEB Editor of *2011 IEEE/RSJ International Conference on Intelligent Robots and Systems*, San Francisco, CA, USA

**Sep. 2011** Publication Chair of *2011 IEEE/RSJ International Conference on Intelligent Robots and Systems*, San Francisco, CA, USA

**Sep. 2011** Program Chair (with R. Tempo) of *AUTOMATICA.IT 2011*, Pisa, Italy

**May 2011** RAS CEB Associate Editor of *2011 IEEE International Conference on Robotics and Automation*, Shanghai, China

**Dec. 2010** Member of the International Advisory Committee of *11th International Conference on Control, Automation, Robotics and Vision*, Singapore

**Oct. 2010** PC Member of *2010 IEEE/RSJ International Conference on Intelligent Robots and Systems*, Taipei, Taiwan

**May 2010** Member of the Senior Program Committee (SPC) of *2010 IEEE International Conference on Robotics and Automation*, Anchorage, AK, USA

**Oct. 2009** PC Member of *2009 IEEE/RSJ International Conference on Intelligent Robots and Systems*, St. Louis, MO, USA

**Dec. 2008** Member of the International Advisory Committee of *10th International Conference on Control, Automation, Robotics and Vision*, Hanoi, Vietnam

**Sep. 2008** European PC Member of *2008 IEEE/RSJ International Conference on Intelligent Robots and Systems*, Nice, France

**Apr. 2007** General Chair (with P. Dario) of *2007 IEEE International Conference on Robotics and Automation*, Roma, Italy

**Dec. 2006** Member of the International Advisory Committee of *9th International Conference on Control, Automation, Robotics and Vision*, Singapore

**Oct. 2006** European PC Member of *2006 IEEE/RSJ International Conference on Intelligent Robots and Systems*, Beijing, China

**Sep. 2006** PC Member of *8th IFAC Symposium on Robot Control*, Bologna, Italy

**May 2006** IPC Member of *2006 IEEE International Conference on Robotics and Automation*, Orlando, FL, UDA

**Aug. 2005** European PC Member of *2005 IEEE/RSJ International Conference on Intelligent Robots and Systems*, Edmonton, Canada

**Sep. 2004** European PC Member of *2004 IEEE/RSJ International Conference on Intelligent Robots and Systems*, Sendai, Japan

**Apr. 2004** IPC Member of *2004 IEEE International Conference on Robotics and Automation*, New Orleans, LA, USA

**Oct. 2003** European PC Member of *2003 IEEE/RSJ International Conference on Intelligent Robots and Systems*, Las Vegas, NV, USA

**Sep. 2003** IPC Member of *2003 IEEE International Conference on Robotics and Automation*, Taipei, Taiwan

**Sep. 2002** European PC Member of *2002 IEEE/RSJ International Conference on Intelligent Robots and Systems*, Lausanne, Switzerland

**May 2002** IPC Member of *2002 IEEE International Conference on Robotics and Automation*, Washington, DC, USA

**May 2001** IPC Member of *2001 IEEE International Conference on Robotics and Automation*, Seoul, Korea

**Apr. 2000** IPC Member of *2000 IEEE International Conference on Robotics and Automation*, San Francisco, CA, USA

**May 1999** IPC Member of *1999 IEEE International Conference on Robotics and Automation*, Detroit, MI, USA

**May 1998** IPC Member of *1998 IEEE International Conference on Robotics and Automation*, Leuven, Belgium

**Sep. 1995** Organizing Committee of *3rd European Control Conference*, Roma, Italy

**Dec. 1994** IPC Member of *33rd IEEE Conference on Decision and Control*, Lake Buenavista, FL, USA

**Sep. 1994** Organizing Committee of *4th IFAC Symposium on Robot Control*, Capri, Italy

**Jun. 1989** Organizing Committee of *1st IFAC Symposium on Nonlinear Control Systems Design*, Capri, Italy

# Awards

**Oct. 2023** (Finalist) Best Poster at the *5th Italian Conference on Robotics and Intelligent Machines*, Roma, Italy (see [C-152] in the list of publications)

**Oct. 2021** Coauthor with Marco Pennese of the paper that received the *Best Student Paper Award* at the *3rd Italian Conference on Robotics and Intelligent Machines*, Roma, Italy (see [C-159] in the list of publications)

**Jun. 2021** (Finalist) *Best Human-Robot Interaction Paper Award* at the *2021 IEEE International Conference on Robotics and Automation*, Xi'an, CHN (see [C-150] in the list of publications)

**May 2019** *IEEE-RAS George Saridis Leadership Award in Robotics and Automation* with the citation "for contributions to the robotics and automation community through research innovation and education, and for leadership in publication and conference activities in RAS"

**Aug. 2017** *2017 Mechanisms and Machine Theory Award for Excellence* for the 2008 paper "An atlas of physical human-robot interaction," (by A. De Santis, B. Siciliano, A. De Luca, A. Bicchi), as one of the top 10 most cited papers since the journal's first publication, based on Scopus (see [J-35] in the list of publications)

**Sep. 2016** Coauthor with Fabrizio Flacco† of the 2005 T-RO paper that received the *Young Author Best Paper Award*[1] by the *IEEE RAS Italian Chapter*, as the best paper written by an Italian author under the age of 35 and published in an IEEE RAS journal in the previous two years (see [J-44] in the list of publications)

**May 2015** (Finalist) *Best Conference Paper Award* at the *2015 IEEE International Conference on Robotics and Automation*, Seattle, WA (see [C-132] in the list of publications)

**Nov. 2013** (Finalist) *Best Video Award* at the *2013 IEEE/RSJ International Conference on Intelligent Robots and Systems*, Tokyo, Japan (see [V-1] in the list of publications)

**Jun. 2012** *Best Paper Award* at the *4th IEEE RAS-EMBS International Conference on Biomedical Robotics and Biomechatronics*, Rome, Italy (see [C-121] in the list of publications)

**Apr. 2009** *IEEE-RAS Distinguished Service Award* with the citation "for outstanding leadership and contributions as Editor-in-Chief of the IEEE Transactions on Robotics, and for service as the ICRA 2007 General Chair"

[1]Since 2016, the award has been renamed after Fabrizio Flacco, who passed away in a tragic and unexpected way only few days after receiving the eight edition of the award.

**Mar. 2009** Supervisor of Paolo Robuffo Giordano, whose Ph.D. thesis received the *Premio Maffezzoni* for the best Italian thesis in the area of Systems and Control (Automatica) in 2008

**Feb. 2009** Chapter author of the *Springer Handbook of Robotics* that received the two *PROSE Awards* for Excellence in Physical Sciences & Mathematics and for Engineering & Technology, The American Publishers Awards for Professional and Scholarly Excellence

**Sep. 2008** *Best Application Paper Award* at the *2008 IEEE/RSJ International Conference on Intelligent Robots and Systems*, Nice, France (see [C-105] in the list of publications)

**from 2007** *Fellow of the IEEE* (The Institute of Electrical and Electronics Engineers), elevated with the citation "for contributions to modeling and control of robotic systems" (*IEEE Life Fellow* since 2023)

**Apr. 2005** Recipient of the German *Helmholtz-Humboldt Research Award* for foreign scientists

**Dec. 2003** Advisor of Giulio Milighetti, whose Laurea thesis received the *UCIMU National Award* for the best thesis in the section "Machines, Tools, and Components: Design and Applications", Milano, Italy

**May 1998** *Best Conference Paper Award* at the *1998 IEEE International Conference on Robotics and Automation*, Leuven, Belgium (see [C-59] in the list of publications)

**Jun. 1991** Coauthor with Costanzo Manes of the paper that received the *Best Student Paper Award* at the *5th International Conference on Advanced Robotics*, Pisa, Italy (see [C-33] in the list of publications)

**Jun. 1987** Technological innovation and transfer to the productive system award of the *Consorzio Roma Ricerche*

**Feb. 1984** University award for the best Master thesis "A new method for the optimization of interconnected systems" (see also [J-1] in the list of publications)

# Keynote Lectures

**Sep. 2024** "Safe Control of Physical Human-Robot Interaction," *40th Anniversary of the IEEE Conference on Robotics and Automation (ICRA@40)*, Rotterdam, The Netherlands

**Sep. 2023** "On the Control of Physical Human-Robot Interaction," *1st Doctoral Summer School on Robotics and Intelligent Machines (DRIMS2)*, Volterra, Italy

**Jun. 2019** "Control of Soft Joint Robots for Safe Physical HRI," *2019 Conference on Robotics: Science and Systems*, Freiburg, Germany

**May 2015** "A Control Architecture for Human-Robot Collaboration," *2015 IEEE International Conference on Robotics and Automation*, Seattle, USA

**Sep. 2013** "Progress on Human-Robot Coexistence and Collaboration in SAPHARI," *6th International Workshop on Human-Friendly Robotics*, Roma, Italy

**Jul. 2012** "Recent Advances in Physical Human-Robot Interaction," *9th International Conference on Informatics in Control, Automation and Robotics*, Roma, Italy

# Main Invited Seminars

**Jan. 2023** "New Results on Fault and Collision Detection in Robot Manipulators," Robotics & Automation Seminars, Università di Pisa

**Jul. 2022** "On the Control of Physical Human-Robot Interaction," Workshop in honor of Jean-Paul Laumond, Collège de France, Paris

**May 2022** "Human-Robot Collaboration in Industry and Beyond," Workshop on *Biovision of the Future: Tech Trends & Sapienza Research*, Centro Saperi&Co Sapienza, Roma (virtual, in Italian)

**Oct. 2021** "Control of Physical Human-Robot Interaction for Safe Collaborative Tasks," Workshop on *From Human-Robot Interaction to Collaborative Control: A Human-centered Perspective*, 2021 IEEE/RSJ International Conference on Intelligent Robots and Systems, Praha, Czech Republic (virtual)

**Jun. 2021** "Structural Control Properties and Feedback Equivalence for Robot Arms with Joint or Link Flexibility," Workshop on *Model-based Control of Soft Robots*, 2021 European Control Conference, Rotterdam, The Netherlands (virtual)

**Jun. 2019** "Advances in Control of Human-Robot Collaboration @DIAG," *Centro "E. Piaggio"*, Pisa, Italy

**Jan. 2019** "Control Schemes for Safe Physical Human-Robot Interaction," *Italian Institute of Technology*, Genova, Italy

**Oct. 2018** "Flexible Joint Robots: Model-based Control Revisited," *Scientific Colloquium for Opening of the Munich School of Robotics and Machine Intelligence (MSRM) at TUM*, Munich, Germany

**Oct. 2018** "Experiences with a Control Architecture Enabling Safe Human-Robot Collaboration," Workshop on *Robot Safety: Filling the Gap Between Technology Offer and Industry Needs for a Fully Deployable Human Robot Collaboration*, 2018

IEEE/RSJ International Conference on Intelligent Robots and Systems, Madrid, Spain

**Oct. 2018** "A Review on the Control of Flexible Joint Manipulators," Workshop on *Soft Robotic Modeling and Control: Bringing Together Articulated Soft Robots and Soft-Bodied Robots*, 2018 IEEE/RSJ International Conference on Intelligent Robots and Systems, Madrid, Spain

**Oct. 2015** "Physical Human-Robot Collaboration: Sensing, Monitoring, and Control Issues," *Workshop on Safety for Human-Robot Interaction in Industrial Settings*, 2015 IEEE/RSJ International Conference on Intelligent Robots and Systems, Hamburg, Germany

**Feb. 2015** "Control of Soft Robots: Regulation, Feedback Linearization, Collision Detection, and Impedance Control," *SAPHARI/Natural Machine Motion Initiative Winter School on Soft Robotics*, Roma, Italy

**Sep. 2014** "Advances on Human-Robot Collaboration within the SAPHARI project," Workshop *on Human-Robot Collaboration in Standardization and R&D Activities*, 2014 IEEE/RSJ International Conference on Intelligent Robots and Systems, Chicago, MI

**Jun. 2014** "Control of Compliant Robots for Physical Collaboration with Humans," *1st International Symposium on 'Soft Robotics' in Germany*, Stuttgart, Germany

**Oct. 2013** 'Physical Human-Robot Interaction: Safe Collision Handling, Coexistence, and Collaboration," *Workshop Robotique@LAAS-CNRS*, Toulouse, France

**Jun. 2011** "Robots Collision Detection and Safe Reaction," *Centro "E. Piaggio"*, Pisa, Italy

**Jan. 2011** "Control Issues for Safety and Performance in Robots with Flexible Transmissions," *Italian Institute of Technology*, Genova, Italy

**May 2010** "Dynamic Gravity Cancellation in Robots with Flexible Transmissions: Constant, Nonlinear, and Variable Stiffness," Workshop on *New Variable Impedance Actuators for the Next Generation of Robots*, 2010 IEEE International Conference on Robotics and Automation, Anchorage, Alaska

**Feb. 2006** "A Physically-Based Fault Detection and Isolation Method and Its Uses in Robot Manipulators," *38. VDI/VDE Sitzung des FA 4.13 Steuerung und Regelung von Robotern*, Ladenburg, Germany

**Jun. 2004** "On the Control of Robots with Visco-Elastic Joints," *Workshop on Applications of Advanced Control Theory to Robotics and Automation* (in honor of Proff. P. Kokotovic and S. Nicosia 70th Birthdays), Villa Mondragone, Roma, Italy

**Nov. 1999** "The Role of Advanced Control Systems in Service Robotics," *1st EU-JPN Symposium on Human Friendly Robotics*, Tokyo, Japan

**Jul. 1999** "Research Activities on Mobile Robotics at DIS," *LAAS–CNRS*, Toulouse, France

**May 1998** "Research Activities at DIS Robotics Laboratory," *Fraunhofer IPA*, Stuttgart, Germany

**Apr. 1998** "The Future of Robotics," *FAST Workshop on Automation Beyond Year 2000*, Milano, Italy

**Dec. 1997** "Trajectory Control of Flexible Manipulators," *IEEE CSS/RAS Workshop on Control Problems in Robotics and Automation: Future Directions*, San Diego, CA

**Jun. 1994** "Nonholonomic Behaviour in Redundant Robot Arms," *MAP Project on Geometry and Robotics*, Department of Mathematics, University of Pisa, Italy

**Dec. 1993** "An Iterative Learning Scheme for Regulation in Robot Arms," *École Polytechnique Fédéral de Lausanne*, Institut d'Automatique, Lausanne, Switzerland

**May 1992** "Control of Robots with Elastic Joints and Flexible Links," Workshop on *Control Issues to Promote Robotic Machine Intelligence*, 1992 IEEE International Conference on Robotics and Automation, Nice, France

# Publications

See the updated list in the page of publications of my web site.

Selected results of my research can be seen on the YouTube channel RoboticsLabSapienza, in the playlists:

- Physical human-robot interaction
- Kinematic control of redundant robots
- Motion control of the CyberCarpet platform
- Locomotion and telepresence
- Learning and control