

# RÉSUMÉ OF BRUNO SICILIANO

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# PROF. BRUNO SICILIANO

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## Biosketch

BRUNO SICILIANO was born in Naples, Italy, on October 27, 1959. He received the Laurea degree and the Research Doctorate degree in Electronic Engineering from the University of Naples in 1982 and 1987, respectively. He is Professor of Control and Robotics, and Director of the PRISMA Lab in the Department of Computer and Systems Engineering at University of Naples. His research interests include: identification and adaptive control, impedance and force control, visual tracking and servoing, redundant and cooperative manipulators, lightweight flexible arms, space robots, human-centered and service robotics. He has co-authored 7 books, 70 journal papers, 180 conference papers and book chapters; his book *Robotics: Modelling, Planning and Control* is one of the most widely adopted textbooks world-wide. He has delivered more than 90 invited lectures and seminars at institutions worldwide. He is a **Fellow of IEEE, ASME and IFAC**. He is Co-Editor of the Springer Tracts in Advanced Robotics series, and has served on the Editorial Boards of several journals as well as Chair or Co-Chair for numerous international conferences. He co-edited the *Springer Handbook of Robotics*, which received the **AAP PROSE Award for Excellence in Physical Sciences & Mathematics** and was also the winner in the category Engineering & Technology. He is the coordinator of the large-scale integrating project DEXMART on dexterous and autonomous dual-arm/hand manipulation, funded by the European Commission in the 7th Framework Programme. He has served the **IEEE Robotics and Automation Society** as **President**, as Vice-President for Technical Activities and Vice-President for Publications, as a member of the AdCom, and as a Distinguished Lecturer.

## Education

<b>July 1987</b>	<i>Research Doctorate</i> degree from the Ministry of Public Education
<b>1984–1986</b>	<i>Research Doctorate</i> in Electronic and Computer Engineering at the University of Naples (curriculum in Control and Systems Engineering)
<b>June 1983</b>	<i>Professional Engineer</i> certificate, highest rank 120/120
<b>Oct. 1982</b>	<i>Laurea</i> degree in Electronic Engineering, <i>magna cum laude</i>
<b>1977–1982</b>	<i>Laurea</i> in Electronic Engineering at the University of Naples

## University Employment

<b>2003–pres.</b>	<i>Professor</i> of Automatic Control at the Faculty of Engineering of the University of Naples, Department of Computer and Systems Engineering; <i>tenured</i> since Nov. 2003
<b>2000–2003</b>	<i>Professor</i> of Automatic Control at the Faculty of Engineering of the University of Salerno, Department of Information and Electrical Engineering

- 1992–2000** *Associate Professor* of Automatic Control at the Faculty of Engineering of the University of Naples, Department of Computer and Systems Engineering; *tenured* since 1995
- 1989–1992** *Research Associate* of Automatic Control at the Faculty of Engineering of the University of Naples, Department of Computer and Systems Engineering; *tenured* after three years

## Other Employment

- 1998–pres.** *Adjunct Professor* at the Faculty of Engineering of the University of Naples
- 1993–2004** *Adjunct Professor* at the Faculty of Engineering of the University of Salerno
- 1987–1989** *Scientific Collaborator* at the Research Consortium for Informatics and Industrial Automation (CRIA), Portici, Naples
- 1985–1986** *Visiting Scholar* at the School of Mechanical Engineering of the Georgia Institute of Technology

## Academic Committees

### Abroad

- Dec. 2011** *Doctor of Philosophy, Tallin University of Technology, Tallinn, Estonia*  
Juri Gavšin, “Intrinsic Robot Safety through Reversibility of Actions”
- Dec. 2011** *Doctor of Philosophy, University of the West of England, Bristol, UK*  
Said Ghani Khan, “Adaptive and Reinforcement Learning Control Methods for Active Compliance Control of a Humanoid Robot Arm”
- Oct. 2011** *Thèse de Doctorat, Université Montpellier II, Montpellier, France*  
Bruno Vilhena Adorno, “Two-arm Manipulation: From Manipulators to Enhanced Human-Robot Collaboration”
- Dec. 2010** *Akademisk avhandling, Linköpings universitet, Linköping, Sweden*  
Stig Moberg, “Modeling and Control of Flexible Manipulators”
- Feb. 2010** *Doctor of Philosophy, Universidade de Coimbra, Coimbra, Portugal*  
Germano Manuel Correia dos Santos Veiga, “On the Orchestration of Operations in Flexible Manufacturing”
- Nov. 2009** *Habilitation à Diriger des Recherches, Université Paul Sabatier, Toulouse, France*  
Daniel Sidobre
- Oct. 2008** *Thèse de Doctorat, École Nationale Supérieure des Mines de Paris, Sophia-Antipolis, France*  
Gerardo Silveira, “Contributions aux Méthodes Directes d’Estimation et de Commande Basées Vision”
- Sep. 2008** *Thèse de Doctorat, Université Paul Sabatier, Toulouse, France*  
Wael Suleiman, “Identification and Control of Nonlinear Systems: Application to Humanoid Robots”
- July 2008** *Doktor-Ingenieurs, Technische Universität München, München, Germany*  
Angelika Peer, “Design and Control of Admittance-Type Telemanipulation Systems”
- Nov. 2007** *Thèse de Doctorat, Université Paris 6, Paris, France*  
Jean-Philippe Saut, “Planification de Mouvement pour la Manipulation Dextre d’Objets Rigides”
- July 2006** *Habilitation à Diriger des Recherches, Université Blaise Pascal, Clermont Ferrand, France*  
Nicolas Andreff

- Dec. 2005** *Thèse de Doctorat (President du Jury), Université Paris 6, Paris, France*  
Nabil Zemiti, “Commande en Effort des Systèmes Robotiques pour la Chirurgie Mini-Invasive”
- Apr. 2005** *Akademisk avhandling, Örebro universitet, Örebro, Sweden*  
Zbigniew Wasik, “A Behavior-Based Control System for Mobile Manipulation”
- Dec. 2001** *Doctor of Philosophy, Katholieke Universiteit Leuven, Leuven, Belgium*  
Johan Baeten, “Integration of Vision and Force for Robotic Servoing”
- Nov. 2001** *Doctor of Philosophy, University of Canterbury, Christchurch, New Zealand*  
Andrew Cree, “Causal Approximations to the Inverse Dynamics of Structurally Flexible Robots”
- Apr. 2001** *Doctor of Philosophy, Ørsted • Danmarks Tekniske Universitet, Lyngby, Denmark*  
Henrik Skovsgaard Nielsen, “Control of Fast Flexible Robots”
- Nov. 2000** *Habilitation à Diriger des Recherches, Université Pierre et Marie Curie, Paris, France*  
Véronique Perdereau
- Dec. 1999** *Teknisk Doktor, Lunds Tekniska Högskola, Lund, Sweden*  
Anders Robertsson, “On Observer-Based Control of Nonlinear Systems”
- Oct. 1998** *European Doctor Thesis, Universitat Politècnica de Catalunya, Barcelona, Spain*  
Albert Castellet, “Solving Inverse Kinematics Problem Using an Interval Method”
- July 1998** *Thèse de Doctorat, Université Montpellier II, Montpellier, France*  
Clotilde Perrier, “Génération de Mouvements pour un Manipulateur Mobile Non-holonome”
- Feb. 1998** *Thèse de Doctorat (President du Jury), Université Pierre et Marie Curie, Paris, France*  
Jérôme Szewczyk, “Planification et Contrôle de la Manipulation Coordonnée par Distribution d’Impédance”
- Mar. 1997** *Doctor of Philosophy, Australian National University, Canberra, Australia*  
Werner Kraus Jr., “The Robotic Manipulation of Flexible Materials: A Hybrid Position/Force Approach”
- Aug. 1995** *Master of Engineering, National University of Singapore, Singapore*  
Wee Chin Chuan, “Design and Development of a Vision-Based Off-Line Robot Programming Systems”
- May 1993** *Doctor of Philosophy, Katholieke Universiteit Leuven, Leuven, Belgium*  
Haipeng Qian, “Stable Robot Force Control in Case of Hard Contact”
- Sep. 1991** *Doktor Ingeniør, Universitetet i Trondheim, Trondheim, Norway*  
Jan Richard Sagli, “Coordination of Motion in Manipulators with Redundant Degrees of Freedom”
- Feb. 1990** *Thèse d’Etat, Université Montpellier II, France*  
Pierre Dauchez, “Descriptions de Tâches en vue de la Commande Hybride Symétrique d’un Robot Manipulateur a Deux Bras”
- National**
- Oct. 2011** Committee for Promotion to Research Associate in Automatic Control at University of Bologna
- Apr. 2010** Doctorate Degree, Information Technologies, University of Parma
- Mar. 2010** Committee for Promotion to Full Professor in Automatic Control at Polytechnic of Bari
- Dec. 2008** Committee for Tenure to Associate Professor in Automatic Control at Polytechnic of Milan
- Dec. 2008** Committee for Tenure to Associate Professor in Automatic Control at Polytechnic of Turin

<b>Nov. 2008</b>	Committee for Tenure to Full Professor in Automatic Control at University of Salerno
<b>Nov. 2008</b>	Doctorate Degree, Information Engineering, University of Padua
<b>Oct. 2008</b>	Committee for Promotion to Research Associate in Automatic Control at University of Basilicata
<b>Mar. 2008</b>	Doctorate Degree, Computer and Automation Engineering, University of Rome "Tor Vergata"
<b>Feb. 2007</b>	Doctorate Degree, Electrical and Information Engineering, University of Cassino
<b>Jan. 2007</b>	Committee for Tenure to Associate Professor in Automatic Control at University of Cassino
<b>July 2006</b>	Committee for Promotion to Full Professor in Automatic Control at University of Pisa
<b>Dec. 2004</b>	Committee for Tenure to Full Professors in Automatic Control at University of Parma and University of Pisa
<b>Oct. 2004</b>	Committee for Promotion to Associate Professors in Automatic Control at University of Brescia
<b>May 2004</b>	Doctorate Degree, Engineering Sector, Higher School S. Anna, Pontedera
<b>Dec. 2000</b>	Doctorate Degree, Information Engineering, Second University of Naples
<b>2000</b>	Committee for Promotion to Associate Professors in Automatic Control at University of Verona
<b>Jan. 1998</b>	Doctorate Degree, Engineering Sector, Higher School S. Anna, Pisa
<b>Oct. 1997</b>	Committee for Promotion to Associate Professors in Automatic Control
<b>Oct. 1997</b>	Committee for Promotion to Research Associate in Automatic Control at University of Ancona

### **Local**

<b>Feb. 2012</b>	Research Doctorate in Information Engineering Admission Committee, University of Naples
<b>Nov. 2007</b>	Research Doctorate in Information Engineering Admission Committee, University of Naples
<b>Nov. 2004</b>	Research Doctorate in Information Engineering Admission Committee, University of Naples
<b>2004–pres.</b>	Research Doctorate in Information Engineering Faculty Committee, University of Naples
<b>2001–2004</b>	Research Doctorate in Information Engineering Faculty Committee, University of Salerno
<b>2001</b>	Professional Engineering Qualification Committee, University of Salerno
<b>1999–2001</b>	Research Doctorate in Information Engineering Faculty Committee, University of Naples
<b>1994–2000</b>	ERASMUS/SOCRATES Committee for student mobility within the European Union, University of Naples
<b>1994–2000</b>	Student Orientation Committee for the Laurea in Computer Engineering, University of Naples

## TEACHING ACTIVITIES

### Academic Courses

<b>2010–2011</b>	<i>Advanced Robotics</i> , ‘Laurea Specialistica’ in Automation Engineering at the University of Naples <i>Robot Control</i> , ‘Laurea Specialistica’ in Automation Engineering at the University of Naples
<b>2009–2010</b>	<i>Advanced Robotics</i> , ‘Laurea Specialistica’ in Automation Engineering at the University of Naples <i>Robot Control</i> , ‘Laurea Specialistica’ in Automation Engineering at the University of Naples <i>Elements of Industrial Robotics</i> , 1st Level ‘Laurea’ in Automation Engineering at the University of Naples
<b>2008–2009</b>	<i>Advanced Robotics</i> , ‘Laurea Specialistica’ in Automation Engineering at the University of Naples <i>Robot Control</i> , ‘Laurea Specialistica’ in Automation Engineering at the University of Naples <i>Elements of Industrial Robotics</i> , 1st Level ‘Laurea’ in Automation Engineering at the University of Naples
<b>2007–2008</b>	<i>Advanced Robotics</i> , ‘Laurea Specialistica’ in Automation Engineering at the University of Naples <i>Robot Control</i> , ‘Laurea Specialistica’ in Automation Engineering at the University of Naples <i>Elements of Industrial Robotics</i> , 1st Level ‘Laurea’ in Automation Engineering at the University of Naples
<b>2006–2007</b>	<i>Advanced Robotics</i> , ‘Laurea Specialistica’ in Automation Engineering at the University of Naples <i>Robot Control</i> , ‘Laurea Specialistica’ in Automation Engineering at the University of Naples <i>Fundamentals of Automatic Control</i> , 1st Level ‘Laurea’ in Mechanical Engineering at the University of Naples
<b>2005–2006</b>	<i>Robot Control</i> , ‘Laurea Specialistica’ in Automation Engineering at the University of Naples <i>Fundamentals of Automatic Control</i> , 1st Level ‘Laurea’ in Mechanical Engineering at the University of Naples
<b>2004–2005</b>	<i>Industrial Robotics</i> , ‘Laurea’ in Computer Engineering, Electronic Engineering, Management Engineering, Mechanical Engineering at the University of Naples <i>Fundamentals of Automation</i> , 1st Level ‘Laurea’ in Automation Engineering at the University of Naples
<b>2003–2004</b>	<i>Industrial Robotics</i> , ‘Laurea’ in Computer Engineering, Electronic Engineering, Management Engineering, Mechanical Engineering at the University of Naples <i>Fundamentals of Automation</i> , 1st Level ‘Laurea’ in Automation Engineering at the University of Naples <i>Industrial Robotics</i> , 2nd Level ‘Laurea’ in Electronic Engineering at the University of Salerno
<b>2002–2003</b>	<i>Automatic Control II</i> , 2nd Level ‘Laurea’ in Electronic Engineering at the University of Salerno <i>Industrial Robotics</i> , 2nd Level ‘Laurea’ in Electronic Engineering at the University of Salerno <i>System Dynamics</i> , 1st Level ‘Laurea’ in Electronic Engineering at the University of Salerno <i>Industrial Robotics</i> , ‘Laurea’ in Computer Engineering, Electronic Engineering, Management Engineering, Mechanical Engineering at the University of Naples
<b>2001–2002</b>	<i>Automatic Control II</i> , 2nd Level ‘Laurea’ in Electronic Engineering at the University of Salerno <i>System Dynamics</i> , 1st Level ‘Laurea’ in Electronic Engineering at the University of Salerno <i>Industrial Robotics</i> , ‘Laurea’ in Computer Engineering, Electronic Engineering, Management Engineering, Mechanical Engineering at the University of Naples

<b>2000–2001</b>	<i>Automatic Control</i> , ‘Laurea’ in Electronic Engineering at the University of Salerno <i>Automatic Control</i> , 1st Level ‘Laurea’ in Electronic Engineering at the University of Salerno <i>Industrial Robotics</i> , ‘Laurea’ in Computer Engineering, Electronic Engineering, Management Engineering, Mechanical Engineering at the University of Naples
<b>1999–2000</b>	<i>Industrial Robotics</i> , Laurea in Computer Engineering, Electronic Engineering, Management Engineering, Mechanical Engineering at the University of Naples <i>Systems Theory</i> , Laurea in Aerospace Engineering at the University of Naples <i>Automatic Control</i> , 1st Level ‘Laurea’ in Electronic Engineering at the University of Salerno
<b>1998–1999</b>	<i>Industrial Robotics</i> , ‘Laurea’ in Computer Engineering, Electronic Engineering, Management Engineering, Mechanical Engineering at the University of Naples <i>Systems Theory</i> , ‘Laurea’ in Aerospace Engineering at the University of Naples <i>Control Systems Technology 2</i> , ‘Diploma’ in Computer and Systems Engineering at the University of Naples <i>Systems Theory</i> , ‘Laurea’ in Electronic Engineering at the University of Salerno
<b>1997–1998</b>	<i>Industrial Robotics</i> , ‘Laurea’ in Computer Engineering, Electronic Engineering, Management Engineering, Mechanical Engineering at the University of Naples <i>Control Systems Technology 2</i> , ‘Diploma’ in Computer and Systems Engineering at the University of Naples <i>Systems Theory</i> , ‘Laurea’ in Electronic Engineering at the University of Salerno
<b>1996–1997</b>	<i>Industrial Robotics</i> , ‘Laurea’ in Computer Engineering, Electronic Engineering, Mechanical Engineering at the University of Naples <i>Systems Theory</i> , ‘Laurea’ in Electronic Engineering at the University of Salerno
<b>1995–1996</b>	<i>Industrial Robotics</i> , ‘Laurea’ in Computer Engineering, Electronic Engineering, Mechanical Engineering at the University of Naples <i>Systems Theory</i> , ‘Laurea’ in Electronic Engineering at the University of Salerno
<b>1994–1995</b>	<i>Industrial Robotics</i> , ‘Laurea’ in Computer Engineering, Electronic Engineering, Mechanical Engineering at the University of Naples <i>Systems Theory</i> , ‘Laurea’ in Electronic Engineering at the University of Salerno
<b>1993–1994</b>	<i>Industrial Robotics</i> , ‘Laurea’ in Computer Engineering, Electronic Engineering, Mechanical Engineering at the University of Naples <i>Systems Theory</i> , ‘Laurea’ in Electronic Engineering at the University of Salerno
<b>1992–1993</b>	<i>Industrial Robotics</i> , ‘Laurea’ in Computer Engineering, Electronic Engineering, Mechanical Engineering at the University of Naples

## Other Courses

<b>Oct. 2007</b>	<i>Technical Engineering Instruction</i> , Danieli Automation, Buttrio, Udine “Robotics”
<b>Dec. 2005</b>	<i>Technical Engineering Instruction</i> , Élasis, Pomigliano d’ Arco, Naples “Fundamentals of Automatic Control”
<b>Mar./May 2005</b>	<i>Master for Expert Industrial Researchers on Security of Roadway and Railway Infrastructures</i> , Stopfire, Pozzuoli “Fundamentals of Robotics”
<b>June/July 2004</b>	<i>Technical Engineering Instruction</i> , Élasis, Pomigliano d’ Arco, Naples “Fundamentals of Automatic Control”
<b>Aug. 2002</b>	<i>Technical Engineering Instruction</i> , Élasis, Pomigliano d’ Arco, Naples “Fundamentals of Automatic Control”
<b>June 2001</b>	<i>Technical Engineering Instruction</i> , Élasis, Pomigliano d’ Arco, Naples “Fundamentals of Automatic Control”

- Nov.–Dec. 2000** *Technical Engineering Instruction, 3F Data System, Pozzuoli, Naples*  
“Industrial Robotics”
- Feb. 2000** *Technical Engineering Instruction, Élasis, Pomigliano d’Arco, Naples*  
“Fundamentals of Automatic Control”
- May 1998** *2nd Master in Advanced Information and Communication Technology, International Institute for Higher Scientific Studies E.R. Caianiello, Vietri sul Mare, Salerno*  
“Robotics”
- Nov. 1996** *Robotics Division Instruction, Comau, Beinasco, Turin*  
“Robotics”
- June 1996** *1st Master in Advanced Information and Communication Technology, International Institute for Higher Scientific Studies E.R. Caianiello, Vietri sul Mare, Salerno*  
“Robotics”
- May 1996** *Regelungstechnisches Kolloquium, Universität –Gesamthochschule– Duisburg, Moers, Germany*  
“Modelling and control of robot manipulators with flexible links”
- Sep. 1992** *Summer School on Theory of Robot Control, École Nationale Supérieure d’Ingénieurs Electriciens de Grenoble, Institut National Polytechnique de Grenoble, Laboratoire d’Automatique de Grenoble, Saint-Martin-d’Hères, France*  
“Control of rigid robots: Control in the task space”, “Control of flexible robots: Robots with flexible links”
- Mar.–June 1992** *1st Finmeccanica Project on Advanced Technology in Southern Italy, Instruction Center R. Bonifacio, Alenia, Naples*  
“Automatic control”
- Sep. 1991** *Internationalen Sommerkurses ‘Rechnergestützte Produktion und Robotertechnik’, Krems, Austria*  
“Modelling and control of flexible manipulators”
- Sep. 1990** *European Mechanics Colloquium 268 — Dynamics and Control of Flexible Structures, Technische Universität München, München, Germany*  
“The problem of boundary conditions in Lagrangian-assumed modes modelling of multi-link flexible arms”
- Apr.–July 1989** *Campania Region Innovation Technology Instruction, ANCIFAP*  
“Industrial automation”
- Mar.–July 1988** *Campania Region Innovation Technology Instruction, ANCIFAP*  
“Industrial automation”
- June–Dec. 1987** *Campania Region Innovation Technology Instruction, ANCIFAP*  
“Industrial automation”

## SCIENTIFIC ACTIVITIES

### Coordinator of European Research Projects

**2008–2012** Large-scale Integrating Project “DEXMART — DEXterous and Autonomous Dual-Arm/Hand Robotic Manipulation with sMART Sensory-Motor Skills: A Bridge from Natural to Artificial Cognition” supported by the *European Commission* under the 7th Framework Programme

### Coordinator of National Research Projects

**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*

**2001–2002** 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*

### Principal Investigator of Local Research Groups

**2011–2015** Large-scale Integrating Project “ARCAS — Aerial Robotics Cooperative Assembly System” supported by the *European Commission* under the 7th Framework Programme

**2010–2013** Coordination and Support Action “euRobotics — European Robotics Coordination Action” supported by the *European Commission* under the 7th Framework Programme

**2010–2013** Specific Targeted Research Project “AIRobots — Innovative Aerial Service Robots for Remote Inspections by Contact” supported by the *European Commission* under the 7th Framework Programme

**2009–2013** Large-scale Integrating Project “ECHORD — European Clearing House for Open Robotics Development” supported by the *European Commission* under the 7th Framework Programme

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

**2008** Space Technology Research Project “Realization of a Software Platform for Programming and Control of Cooperating Robot Cells” supported by the *Italian Space Agency*

**2006–2008** Contract “Development and Implementation of Robotized Processes in Continuous Casting Moulds” with *Danieli Automation*, Buttrio (Udine), Italy

**2006–2009** Specific Targeted Research Project “PHRIENDS — Physical Human-Robot Interaction: Dependability and Safety” supported by the *European Commission* under the 6th Framework Programme

**2006** Space Technology Research Project “ROMANCE — Robotics for Moon Automation and Cosmic Exploration” supported by the *Italian Space Agency*

**2005–2006** Prospective Research Project “PHRIDOM — Physical Human-Robot Interaction in anthropic DOMains: safety and dependability” supported by EURON 2

**2005** Space Technology Research Project “Realization of an Experimental Setup for Cooperating Robots Based on ROSED” supported by the *Italian Space Agency*

**2004–2008** European Robotics Research Network (EURON 2) supported by the *European Commission* under the 6th Framework Programme

- 2004** Space Technology Research Project “Robotic Technologies for On-Orbit Servicing” supported by the *Italian Space Agency*
- 2004** Space Technology Research Project “SUPER: Space Unmanned Planetary Exploration Rover” supported by the *Italian Space Agency*
- 2003–2004** Contract “Soft Servoing of Industrial Robots” with *Comau*, Beinasco (Turin), Italy
- 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*
- 2002** Contract “Motion Planning and Active Compliance Control of Industrial Robots” with *Comau*, Beinasco (Turin), Italy
- 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*
- 2000–pres.** Space Technology Research Project “Development of a Test-bed for Robotic Manipulation in Space Environment” supported by the *Italian Space Agency*
- 2001** Contract “Dynamic Modelling, Identification and Control of Industrial Robots” with *Comau*, Beinasco (Turin), Italy
- 2000–2004** European Robotics Research Network (EURON) supported by the *European Commission* under the 5th Framework Programme
- 1999–2000** National Research Project “RAMSETE: Articulated and Mobile Robotics for Service and Technology” supported by the *Ministry of University, Scientific Research and Technology*
- 1996** National Research Project “Control Systems for Robots Operating in Unstructured Environments” supported by the *Ministry of University, Scientific Research and Technology*
- 1995** Contract “A Feasibility Study for the Realization of a Teleoperated Robotic Manipulation System for the R2.5R Vehicle” with *Oto Melara*, La Spezia, Italy
- 1995–1999** Fundamental Research Project “Modelling and Control of Space Flexible Manipulators” supported by the *Italian Space Agency*
- 1990–1993** Research Line “Systematic Approaches to the Utilization of Redundant Degrees of Freedom” of the Subproject “Robot Structure” of the National Robotics Project supported by the *National Research Council*

## Participation to Local Research Groups

- 2011–2015** Large-scale Integrating Project “SAPHARI — Safe and Autonomous Physical Human Aware Robot Interaction” supported by the *European Commission* under the 7th Framework Programme
- 2011–2013** National Research Project “COoperative and COllaborative RObotics (ROCOCÒ)” supported by the *Ministry of Education University and Research*
- 2007–2008** Contract “Control Architectures of Industrial Robots” with *Comau*, Beinasco (Turin), Italy
- 2005–2007** European Project “Emerging Technoethics of Human Interaction with Communication, Bionic, and Robotic Systems (ETHICBOTS)” supported by the *European Commission*
- 2005–2007** Research Project “An Architecture for Sensori-Motor Coordination Based on Attention and Perceptive Anticipation” supported by *Campania Region*
- 2005–2006** Contract “Trajectory Planning of Industrial Robots” with *Comau*, Beinasco (Turin), Italy
- 2002–2006** Research Project “A Fire Fighting and Permanent Environmental Monitoring Robotic System for Road and Railway Tunnels” supported by *Ministry of Education University and Research*

- 1997** Coordinated Research Project “Robotic Manipulation: Cooperation and Dexterity” supported by the *National Research Council*
- 1994–1995** National Research Project “Control Systems for Robots Operating in Unstructured Environments” supported by the *Ministry of University, Scientific Research and Technology*
- 1993–1996** European Robotics Network (ERNET) of the Human Capital and Mobility Programme supported by the *European Commission*
- 1992–1993** Research Line “Study and Realization of a Robotic System for Assisting Disabled” of the Subproject “Nonindustrial Applications” of the National Robotics Project supported by the *National Research Council*
- 1989–1993** Research Line “Dynamic Control and Hybrid Control of Industrial Robots” of the Subproject “Robot Control” of the National Robotics Project supported by the *National Research Council*
- 1988–1993** National Research Project “Control and Sensory Systems for Robotics” supported by the *Ministry of University, Scientific Research and Technology*
- 1987–1988** Collaborative Research Project “Flexible Bracing Arms: Modeling, Control and Implementation” between the Department of Computer and Systems Engineering of the University of Naples and the Schools of Mechanical Engineering and Aerospace Engineering of the Georgia Institute of Technology, supported by the *NATO Sensory Systems for Robotic Control Panel*
- 1984–1987** National Research Project “Electronic, Computer and Systems Methodology for Robotics” supported by the *Ministry of Public Education*

## Research Collaborations

- 2011–pres.** *Isfahan University of Technology, Department of Mechanical Engineering, Isfahan, Iran*  
“Priority-based control of redundant manipulators”
- 2010–pres.** *Alma Mater Studiorum Università di Bologna, Dipartimento di Elettronica, Informatica e Sistemistica, Roma, Italy*  
“Postural synergies of the UB IV hand”
- 2005–2009** *Deutsches Zentrum für Luft- und Raumfahrt e.V. (DLR), Institut für Robotik und Mechatronik, Oberpfaffenhofen, Germany*  
“Collision detection for a humanoid manipulator”
- 2005–2007** *University of New Mexico, Department of Mechanical Engineering, Albuquerque, NM*  
“Multiple robot arm force/impedance control and visual servoing”
- 2004–pres.** *Università Campus Bio-Medico, Laboratory of Biomedical Robotics & EMC, Roma, Italy*  
“Biologically inspired robotics”
- 2002–2007** *Università degli Studi di Roma “La Sapienza”, Dipartimento di Informatica e Sistemistica, Roma, Italy*  
“Control of elastic-joint manipulators”
- 2001–2008** *Stanford University, Department of Computer Science, Artificial Intelligence Laboratory, Stanford, California*  
“Advanced robotics”
- 2000–2005** *Scuola Superiore di Studi Universitari S. Anna, ARTS Lab, Pisa, Italy*  
“Interaction control of personal robots”
- 1998–2003** *Universidad Nacional Autónoma de México, DEPFI, México, DF*  
“Control and observer design for flexible-link manipulators”
- 1998–2000** *Deutsches Zentrum für Luft- und Raumfahrt e.V. (DLR), Institut für Robotik und Systemdynamik, Oberpfaffenhofen, Germany*  
“Force and visual control of industrial robots”

- 1996–1997** *Gerhard Mercator Universität–Gesamthochschule Duisburg, Meß-, Steuer- und Regelungstechnik, Duisburg, Germany*  
“Robust control of flexible-link manipulators”
- 1995–2000** *École Nationale Supérieure d’Ingénieurs Electriciens de Grenoble, Institut National Polytechnique de Grenoble, Laboratoire d’Automatique de Grenoble, Saint-Martin-d’Hères, France*  
“Adaptive force control of manipulators”
- 1991–1993** *Université Montpellier II Sciences et Techniques du Languedoc, Laboratoire d’Informatique, de Robotique et de Microélectronique de Montpellier, Montpellier, France*  
“Control of parallel robots”
- 1990–1991** *Old Dominion University, Department of Mechanical Engineering and Mechanics, Norfolk, Virginia*  
“Control of manipulators with elastic joints and flexible links”
- 1989–1994** *Universitetet i Trondheim, Norges tekniske høyskole, Institutt for teknisk kybernetikk, Trondheim, Norway*  
“Kinematic control of manipulators with singularity robustness and redundancy management”
- 1989–1990** *Univerza “Edvard Kardelj”, Institut “Jožef Stefan”, Ljubljana, Yugoslavia*  
“Inverse kinematics of redundant manipulators”
- 1989–1991** *Massachusetts Institute of Technology, Nonlinear Systems Laboratory, Cambridge, Massachusetts*  
“Control of redundant manipulators”
- 1987–1994** *Università degli Studi di Roma “La Sapienza”, Dipartimento di Informatica e Sistemistica, Roma, Italy*  
“Modelling and dynamic control of flexible-link manipulators”
- 1986–1990** *Georgia Institute of Technology, School of Mechanical Engineering, School of Aerospace Engineering, Atlanta, Georgia*  
“Adaptive control and composite control of flexible-link manipulators”

## Society Service

- 2012–2013** *IEEE Robotics and Automation Society*  
*Senior Past-President*
- 2010–2011** *IEEE Robotics and Automation Society*  
*Junior Past-President*
- 2010–2011** *IEEE Robotics and Automation Society*  
*Fellow Evaluation Committee Member*
- 2008–2009** *IEEE Robotics and Automation Society*  
*President*
- 2007** *IEEE Robotics and Automation Society*  
*Fellow Evaluation Committee Member*
- 2006–2007** *IEEE Robotics and Automation Society*  
*Steering Committee on Technical Programs Member*
- 2006–2007** *IEEE Robotics and Automation Society*  
*President-Elect*
- 2005** *IEEE Robotics and Automation Society*  
*Administrative Committee Member, elected at large with highest number of votes*
- 2004–2007** *IEEE Robotics and Automation Society*  
*Distinguished Lecturer*

- 2004–2005** *IEEE Robotics and Automation Society  
Fellow Evaluation Committee Member*
- 2000–pres.** *IFAC Technical Committee on Mechatronic Systems  
Member*
- 2000–pres.** *IFAC Technical Committee on Robotics  
Member*
- 2000–2008** *European Robotics Research Network  
Co-Chair of Conferences and Publications Key Area*
- 2000–2003** *IEEE Robotics and Automation Society  
Vice-President for Technical Activities*
- 1999** *IEEE Robotics and Automation Society  
Vice-President for Publications*
- 1996–1999** *IEEE Robotics and Automation Society  
Administrative Committee Member, elected for two consecutive terms*
- 1996–1999** *IEEE Control Systems Society  
Chair of Technical Committee on Manufacturing Automation and Robotic Control*
- 1994–pres.** *ASME Associate Member, Member since 1999, Fellow since December 2002*
- 1991–pres.** *IEEE Member, Senior Member since 1994, Fellow since January 2000*

## Book Service

- 2003–2008** *Springer Handbook of Robotics  
Editor*
- 2002–pres.** *Springer Tracts in Advanced Robotics  
Editor*
- 1984–pres.** Reviewer for:  
*Birkäuser*  
*Kluwer Academic Publishers*  
*Springer-Verlag*  
*Wiley*  
*World Scientific Publishers*

## Journal Service

- 2006–2007** *IEEE/ASME Transactions on Mechatronics  
Management Committee Member*
- 2004** *International Journal of Robotics Research  
Guest Editor of the issues (vol. 23, nos. 4,5) dedicated to a selection of revised papers from  
the 8th International Symposium on Experimental Robotics*
- 2002** *IEEE/ASME Transactions on Mechatronics  
Guest Co-Editor of the issue (vol. 7, no. 2) dedicated to a selection of revised papers from  
the 2001 IEEE/ASME International Conference on Advanced Intelligent Mechatronics*
- 2001** *Journal of Robotic Systems  
Guest Co-Editor of the special issue (vol. 18, no. 12) on 'Biorobotics and Humanoid  
Robotics'*
- 2001–2005** *Journal of Robotic Systems  
Editorial Board Member*

- 2000** *IEEE/ASME Transactions on Mechatronics*  
 Guest Co-Editor of the issue (vol. 5, no. 2) dedicated to a selection of revised papers from the 1999 IEEE/ASME International Conference on Advanced Intelligent Mechatronics
- 1998–2001** *Japan Society of Mechanical Engineering (JSME) International Journal*  
 Editorial Advisory Board Member
- 1996** *Advanced Robotics*  
 Guest Co-Editor of the issue (vol. 10, no. 3) dedicated to a selection of revised papers from the 4th IFAC Symposium on Robot Control
- 1994–2007** *Robotica*  
 Editorial Board Member
- 1994–1999** *ASME Journal of Dynamic Systems, Measurement, and Control*  
 Associate Technical Editor
- 1991–1994** *IEEE Transactions on Robotics and Automation*  
 Associate Editor
- 1984–pres.** Reviewer for:  
*Advanced Robotics*  
*ASME Journal of Dynamic Systems, Measurement, and Control*  
*ASME Journal of Mechanical Design*  
*Automatica*  
*Bulletin of the Polish Academy of Sciences*  
*Control Engineering Practice*  
*Dynamics and Control*  
*European Journal of Control*  
*IEE Proceedings — Control Theory and Applications*  
*IEEE Control Systems Magazine*  
*IEEE Robotics and Automation Magazine*  
*IEEE Spectrum*  
*IEEE Transactions on Automatic Control*  
*IEEE Transactions on Biomedical Engineering*  
*IEEE Transactions on Control Systems Technology*  
*IEEE Transactions on Industrial Electronics*  
*IEEE Transactions on Robotics*  
*IEEE Transactions on Robotics and Automation*  
*IEEE Transactions on Systems, Man, and Cybernetics*  
*IEEE/ASME Transactions on Mechatronics*  
*Intelligent Automation and Soft Computing*  
*International Journal of Control*  
*International Journal of Robotics and Automation*  
*International Journal of Robotics Research*  
*International Journal of Robust and Nonlinear Control*  
*International Journal of Systems Science*  
*Inverse Problems in Engineering*  
*Journal of Aerospace Engineering*  
*Journal of Autonomous Robots*  
*Journal of Intelligent and Robotic Systems*  
*Journal of Intelligent Automation and Soft Computing*  
*Journal of Mechanical Engineering Science*  
*Journal of Multi-body Dynamics*  
*Journal of Robotic Systems*  
*Journal of Sound and Vibration*  
*Journal of Vibration and Control*  
*Journal of Zhejiang University — Science A*

*Machine Intelligence and Robotic Control*  
*Meccanica*  
*Mechanism and Machine Theory*  
*Mechatronics*  
*Modeling, Identification and Control*  
*Robotica*  
*Robotics and Autonomous Systems*  
*Robotics and Computer Integrated Manufacturing*  
*Systems & Control Letters*  
*Zentralblatt für Mathematik*

## Conference Service

- Dec. 2012** *12th International Conference on Control, Automation, Robotics, and Vision*, Singapore  
*International Advisory Committee Member*
- Sep. 2012** *10th IFAC Symposium on Robot Control*, Dubrovnik, Croatia  
*International Program Committee Member*
- Aug. 2012** *16th International Conference on Methods and Models in Automation and Robotics*,  
 Międzyzdroje, Poland  
*International Scientific Committee Member*
- June 2012** *13th International Symposium on Advances in Robot Kinematics*, Innsbruck, Austria  
*International Scientific Committee Member*
- June 2012** *15th International Conference on Machine Design and Production*, Pamukkale, Turkey  
*International Program Committee Member*
- Apr. 2012** *12th International Conference on Autonomous Robot Systems and Competitions*,  
 Guimaraes, Portugal  
*Steering Committee Member*
- Dec. 2011** *2011 International Conference on Mechatronics and Applied Mechanics*, Hong Kong  
*Program Committee Member*
- Dec. 2011** *IEEE/SICE International Conference on System Integration*, Kyoto, Japan  
*Advisory Committee Member*
- Dec. 2011** *International Conference of the SKILLS European Project*, Montpellier, France  
*Scientific Committee Member*
- Nov. 2011** *8th International Conference on Ubiquitous Robots and Ambient Intelligence*, Incheon,  
 Korea  
*International Program Committee Member*
- Nov. 2011** *Annual International Conference on Biologically Inspired Cognitive Architecture*, Arling-  
 ton, VA  
*Program Committee Member*
- Nov. 2011** *Robotica 2011*, Milano, Italy  
*Scientific Committee Member*
- Oct. 2001** *2011 IEEE/RSJ International Conference on Intelligent Robots and Systems*, San Francisco,  
 CA  
*Program Committee Member*
- Sep. 2011** *5th International Conference on Integrated Modeling and Analysis in Applied Control and*  
*Automation*, Roma, Italy  
*International Program Committee Member*
- Sep. 2011** *30th International Conference on Computer Safety, Reliability and Security*, Napoli, Italy  
*International Program Committee Member*

- Sep. 2011** *2011 IEEE International Conference on Robotics, Mechatronics and Automation, Qingdao, P.R. China  
International Advisory Committee Member*
- Aug./Sep. 2011** *18th IFAC World Congress, Milano, Italy  
National Organizing Committee Member*
- Aug. 2011** *2011 IEEE/ASME International Conference on Mechatronic and Embedded Systems and Applications, Washington, DC  
Advisory Committee Member*
- Aug. 2011** *16th International Conference on Methods and Models in Automation and Robotics, Międzyzdroje, Poland  
International Scientific Committee Member*
- Aug. 2011** *2011 IEEE International Conference on Automation and Logistics, Chongqing, P.R. China  
Advisory Committee Member*
- July 2011** *2011 International Conference on Process Automation, Computing and Control, Coimbatore, India  
International Advisory Committee Member*
- July 2011** *2011 IEEE/ASME International Conference on Advanced Intelligent Mechatronics, Budapest, Hungary  
Advisory Committee Member*
- June 2011** *8th International Workshop on Robot Motion and Control, Wasowo, Poland  
International Scientific Committee Member*
- May 2011** *2011 IEEE International Conference on Robotics and Automation, Shanghai, P.R. China  
Honorary Co-Chair*
- Apr. 2011** *11th Conference on Mobile Robots and Competitions, Lisboa, Portugal  
Steering Committee Member*
- Dec. 2010** *11th International Conference on Control, Automation, Robotics, and Vision, Singapore  
International Advisory Committee Member*
- Nov. 2010** *Robotica 2010, Milano, Italy  
Scientific Committee Member*
- Nov. 2010** *Motion Control 2010, Cinisello Balsamo, Italy  
Scientific Committee Member*
- Nov. 2010** *2010 Women & Technologies, Milano, Italy  
Steering Committee Member*
- Oct. 2010** *2010 IEEE Workshop on Advanced Robotics and its Social Impacts, Seoul, Korea  
International Advisory Committee Member*
- Oct. 2010** *4th International Conference on Integrated Modeling and Analysis in Applied Control and Automation, Fes, Morocco  
International Program Committee Member*
- Sep. 2010** *9th Portuguese Conference on Automatic Control, Coimbra, Portugal  
International Program Committee Member*
- Aug. 2010** *15th International Conference on Methods and Models in Automation and Robotics, Międzyzdroje, Poland  
International Scientific Committee Member*
- Aug. 2010** *2010 IEEE International Conference on Automation and Logistics, Hong Kong and Macau  
Advisory Committee Member*
- July 2010** *2010 IEEE International Symposium on Industrial Electronics, Bari, Italy  
International Advisory Board Member*

- July 2010** *2010 IEEE/ASME International Conference on Mechatronic and Embedded Systems and Applications, Qingdao, P.R. China*  
*Advisory Committee Member*
- July 2010** *8th World Congress on Intelligent Control and Automation, Jinan, P.R. China*  
*General Co-Chair*
- July 2010** *2010 IEEE/ASME International Conference on Advanced Intelligent Mechatronics, Montréal, Canada*  
*Advisory Committee Member*
- June/July 2010** *14th International Conference on Machine Design and Production, Güzelyurt, Turkish Republic of Northern Cyprus*  
*International Program Committee Member*
- June 2010** *12th International Symposium on Advances in Robot Kinematics, Piran–Portorož, Slovenia*  
*International Scientific Committee Member*
- June 2010** *2010 IEEE International Conference on Information and Automation, Harbin, P.R. China*  
*Organizing Committee Co-Chair*
- June 2010** *6th IARP/IEEE-RAS/EURON Workshop on 'Technical Challenges for Dependable Robots in Human Environments, Toulouse, France*  
*International Programme Committee Member*
- June 2010** *IUTAM Symposium on Dynamics Modeling and Interaction Control in Virtual and Real Environments, Budapest, Hungary*  
*International Scientific Committee Member*
- June 2010** *41st International Symposium on Robotics, München, Germany*  
*International Programme Committee Member*
- Apr. 2010** *Workshop on Intelligent Systems: A Festschrift for Richard Volz, College Station, TX*  
*Organizing Committee Member*
- Mar. 2010** *10th Conference on Mobile Robots and Competitions, Leiria, Portugal*  
*Steering Committee Member*
- Dec. 2009** *2009 IEEE International Symposium on Computational Intelligence in Robotics and Automation, Daejeon, Korea*  
*Program Committee Member*
- Nov. 2009** *Robotica 2009 — Humanoids and Service Robots Expo & Conference, Milano, Italy*  
*Scientific Committee Member*
- Nov. 2009** *2009 IEEE Workshop on Advanced Robotics and its Social Impacts, Tokyo, Japan*  
*Program Committee Member*
- Nov. 2009** *2009 Women & Technologies, Milano, Italy*  
*Steering Committee Member*
- Oct. 2009** *6th International Conference on Ubiquitous Robots and Ambient Intelligence, Gwangju, Korea*  
*International Program Committee Member*
- Oct. 2009** *IEEE 9th International Conference on Computer and Information Technology, Xiamen, P.R. China*  
*Program Committee Member*
- Sep. 2009** *2009 International Symposium on Optomechatronic Technologies, Istanbul, Turkey*  
*International Program Committee Member*
- Sep. 2009** *9th IFAC Symposium on Robot Control, Gifu, Japan*  
*International Program Committee Member*
- Aug. 2009** *2009 ICCAS-SICE Annual Conference, Fukuoka, Japan*  
*Advisory Board Member*

- Aug. 2009** *14th International Conference on Methods and Models in Automation and Robotics, Międzyzdroje, Poland  
International Scientific Committee Member*
- Aug. 2009** *FIRA RoboWorld Congress 2009, Incheon, Korea  
International Advisory Board Member*
- Aug. 2009** *2009 IEEE International Conference on Automation and Logistics, Shenyang, P.R. China  
Advisory Committee Member*
- July 2009** *2009 IEEE/ASME International Conference on Advanced Intelligent Mechatronics, Singapore  
International Advisory Committee Member*
- July 2009** *2009 IEEE Conference on Control Applications, Saint Petersburg, Russia  
International Program Committee Member*
- July 2009** *6th International Conference on Informatics in Control, Automation and Robotics, Milano, Italy  
Program Committee Member*
- May 2009** *9th Conference on Autonomous Robot Systems and Competitions, Castelo Branco, Portugal  
International Program Committee Member*
- Dec. 2008** *10th International Conference on Control, Automation, Robotics, and Vision, Hanoi, Vietnam  
International Advisory Committee Member*
- Dec. 2008** *2008 IEEE International Conference on Robotics and Biomimetics, Bangkok, Thailand  
General Co-Chair*
- Nov. 2008** *2008 SPIE International Symposium on Optomechatronics Technologies, San Diego, CA  
International Program Committee Member*
- Oct. 2008** *2008 International Conference on Control, Automation and Systems, Seoul, Korea  
Advisory Council Member*
- Oct. 2008** *2008 IEEE International Conference on Systems, Man, and Cybernetics, Singapore  
Technical Program Committee Member*
- Sep. 2008** *15th International Conference on Automatic Control, Odessa, Ukraine  
International Program Committee Member*
- Sep. 2008** *13th International Conference on Machine Design and Production, Istanbul, Turkey  
International Program Committee Member*
- Sep. 2008** *2008 IEEE International Conference on Automation and Logistics, Qingdao, P.R. China  
Advisory Committee Member*
- Aug. 2008** *2008 SICE Annual Conference, Tokyo, Japan  
Advisory Board Member*
- Aug. 2008** *2008 IEEE International Conference on Multisensor Fusion and Integration for Intelligent Systems, Seoul, Korea  
Program Committee Member*
- July 2008** *8th Portuguese Conference on Automatic Control, Vila Real, Portugal  
International Program Committee Member*
- July 2008** *IEEE 8th International Conference on Computer and Information Technology, Sydney, Australia  
Program Committee Member*
- July 2008** *11th International Symposium on Experimental Robotics, Athina, Greece  
Steering Committee Member*

- July 2008** *2008 IEEE/ASME International Conference on Advanced Intelligent Mechatronics, Xi'an, P.R. China*  
*Advisory Committee Member*
- June/July 2008** *11th International Conference on Information Fusion, Köln, Germany*  
*Member of the Technical Program Committee*
- June 2008** *2008 Robotics Science and Systems Conference, Zurich, Switzerland*  
*Advisory Board Member*
- June 2008** *5th International Conference on Information Technology and Applications, Cairns, Australia*  
*International Programme Committee Member*
- June 2008** *11th International Symposium on Advances in Robot Kinematics, Batz-sur-Mer, France*  
*International Scientific Committee Member*
- June 2008** *2008 IEEE International Conference on Information and Automation, ZhangJiaJie City, Hunan, P.R. China*  
*Organizing Committee Member*
- May 2008** *6th IARP/IEEE-RAS/EURON Workshop on 'Technical Challenges for Dependable Robots in Human Environments, Pasadena, CA*  
*International Programme Committee Member*
- May 2008** *5th International Conference on Informatics in Control, Automation and Robotics, Madeira, Portugal*  
*Program Committee Member*
- May 2008** *2008 IEEE Canadian Conference on Electrical and Computer Engineering, Niagara Falls, Ontario, Canada*  
*Member of the Advisory Committee of the Control and Robotics Symposium*
- Mar. 2008** *2nd European Robotics Symposium, Praha, Czech Republic*  
*Senior Program Committee Member*
- Dec. 2007** *2007 IEEE International Conference on Robotics and Biomimetics, Sanya, P.R. China*  
*Program Committee Member*
- Oct. 2007** *2007 SPIE International Symposium on Optomechatronics Technologies, Lausanne, Switzerland*  
*International Program Committee Member*
- Sep. 2007** *AIIA Conference, Rome, Italy*  
*Special Track Committee Member*
- Sep. 2007** *2007 IEEE/ASME International Conference on Advanced Intelligent Mechatronics, Zurich, Switzerland*  
*Honorary General Co-Chair*
- Aug. 2007** *13th International Conference on Methods and Models in Automation and Robotics, Szczecin, Poland*  
*International Scientific Committee Member*
- Aug. 2007** *13th International Conference on Advanced Robotics, Jeju Island, Korea*  
*International Advisory Committee Member*
- Aug. 2007** *2007 IEEE International Conference on Mechatronics and Automation, Harbin, Heilongjiang, P.R. China*  
*Program Committee Member*
- June 2007** *2007 Robotics Science and Systems Conference, Atlanta, Georgia*  
*Advisory Board Member*
- May 2007** *Motion Control 2007, Cinisello Balsamo, Italy*  
*Scientific Committee Member*

- May 2007** *4th International Conference on Informatics in Control, Automation and Robotics*, Angers, France  
*Program Committee Member*
- Apr. 2007** *5th IARP/IEEE-RAS/EURON Workshop on 'Technical Challenges for Dependable Robots in Human Environments*, Roma, Italy  
*International Programme Committee Member*
- Apr. 2007** ***2007 IEEE International Conference on Robotics and Automation, Roma, Italy***  
***Program Chair***
- Feb. 2007** *3rd International Conference on Integrated Modeling and Analysis in Applied Control and Automation*, Buenos Aires, Argentina  
*International Program Committee Member*
- Dec. 2006** *2006 IEEE International Conference on Robotics and Biomimetics*, Kunming, P.R. China  
*Technical Program Committee Member*
- Dec. 2006** *9th International Conference on Control, Automation, Robotics, and Vision*, Singapore  
*International Advisory Committee Member*
- Dec. 2006** *International Conference on Industrial Electronics, Technology and Automation*, Bridgeport, Connecticut  
*Technical Program Committee Member*
- Nov. 2006** *ANIPLA Conference on Methodologies for Emerging Technologies in Automation*, Rome, Italy  
*International Scientific Committee Member*
- Oct. 2006** ***2006 IEEE/RSJ International Conference on Intelligent Robots and Systems, Beijing, P.R. China***  
***General Co-Chair***
- Oct. 2006** *2006 SPIE International Symposium on Optomechatronics Technologies*, Boston, Massachusetts  
*International Program Committee Member*
- Sep. 2006** *4th IFAC Conference on Mechatronic Systems*, Wiesloch/Heidelberg, Germany  
*International Program Committee Member*
- Sep. 2006** *7th Portuguese Conference on Automatic Control*, Lisboa, Portugal  
*International Program Committee Member*
- Sep. 2006** ***8th IFAC Symposium on Robot Control, Bologna, Italy***  
***International Program Committee Chair***
- Sep. 2006** *12th International Conference on Machine Design and Production*, Kusadasi, Turkey  
*International Program Committee Member*
- Sep. 2006** *2006 International Conference on Multisensor Fusion and Integration for Intelligent Systems*, Heidelberg, Germany  
*International Program Committee Member*
- Aug./Sep. 2006** *12th International Conference on Methods and Models in Automation and Robotics*, Międzyzdroje, Poland  
*International Scientific Committee Member*
- Aug. 2006** *5th International Symposium on Robotics and Automation*, San Miguel de Regla, Mexico  
*International Program Committee Member*
- Aug. 2006** *2006 Robotics Science and Systems Conference*, Philadelphia, Pennsylvania  
*Advisory Board Member*
- Aug. 2006** *3rd International Conference on Informatics in Control, Automation and Robotics*, Setúbal, Portugal  
*Program Committee Member*

- July 2006** *11th International Symposium on Robotics and Applications, Budapest, Hungary  
International Program Committee Member*
- July 2006** *10th International Symposium on Experimental Robotics, Rio de Janeiro, Brazil  
Steering Committee Member*
- June 2006** *10th International Symposium on Advances in Robot Kinematics, Ljubljana, Slovenia  
International Scientific Committee Member*
- June 2006** *2006 IEEE International Conference on Mechatronics and Automation, Luoyang,  
P.R. China  
Advisory Council Co-Chair*
- June 2006** *6th International Conference on Mathematical Problems in Engineering and Aerospace  
Sciences, Budapest, Hungary  
International Organizing Committee Member*
- June 2006** *10th Mechatronics Forum International Conference, Penn State Great Valley, Pennsylvania  
International Program Committee Member*
- June 2006** *IEEE International Conference on Robotics, Mechatronics and Automation, Bangkok, Thai-  
land  
International Advisory Committee Member*
- May 2006** *2006 IEEE International Conference on Robotics and Automation, Orlando, Florida  
Program Committee Member*
- Mar. 2006** *1st European Robotics Symposium, Palermo, Italy  
Senior Program Committee Member*
- Feb. 2006** *1st IEEE/RAS-EMBS International Conference on Biomedical Robotics and Biomechan-  
ics, Pisa, Italy  
Program Committee Member*
- Feb. 2006** *5th IMACS Symposium on Mathematical Modelling, Wien, Austria  
International Program Committee Member*
- Dec. 2005** *International Conference on Industrial Electronics, Technology and Automation, Bridge-  
port, Connecticut  
Technical Program Committee Member*
- Dec. 2005** *2005 SPIE International Symposium on Optomechatronics Technologies, Sapporo, Japan  
International Program Committee Member*
- Oct. 2005** *1st International Conference on Design Engineering and Science, Wien, Austria  
International Steering Committee Member*
- Oct. 2005** *International Symposium on Collaborative Research in Applied Science, Vancouver, Canada  
International Program Committee Member*
- Sep. 2005** *2nd International Conference on Informatics in Control, Automation and Robotics,  
Barcelona, Spain  
Program Committee Member*
- Aug./Sep. 2005** *11th International Conference on Methods and Models in Automation and Robotics,  
Międzyzdroje, Poland  
International Scientific Committee Member*
- Aug. 2005** *2005 SICE Annual Conference, Okayama, Japan  
International Program Committee Member*
- Aug. 2005** *2005 IEEE/RSJ International Conference on Intelligent Robots and Systems, Edmonton,  
Canada  
European Program Committee Member*

- July 2005** *2005 IEEE/ASME International Conference on Advanced Intelligent Mechatronics*, Monterey, California  
*Advisory Committee Co-Chair & Program Committee Member*
- July 2005** *2005 International Conference on Multisensor Fusion and Integration for Intelligent Systems*, Las Vegas, Nevada  
*International Program Committee Member*
- July 2005** ***2005 IEEE International Conference on Mechatronics, Taipei, Taiwan, ROC***  
***International Program Committee Co-Chair***
- July 2005** *3rd International Conference on Information Technology and Applications*, Sydney, Australia  
*Program Committee Member*
- June 2005** *5th International Workshop on Robot Motion and Control*, Dymaczewo, Poland  
*International Scientific Committee Member*
- June 2005** *13th IEEE Mediterranean Conference on Control and Automation*, Cyprus  
*International Program Committee Member*
- June 2005** ***2005 IEEE International Workshop on Safety, Security, and Rescue Robots, Kobe, Japan***  
***European Regional Program Chair***
- Apr. 2005** *2005 IEEE International Conference on Robotics and Automation*, Barcelona, Spain  
*Program Committee Member*
- Oct. 2004** *International Conference on Integrated Modeling and Analysis in Applied Control and Automation*, Genova, Italy  
*International Program Committee Member*
- Oct. 2004** *11th International Conference on Machine Design and Production*, Antalya, Turkey  
*International Program Committee Member*
- Sep./Oct. 2004** *International Scientific Conference on Higher Education Perspectives: The Role of Inter-University Consortia*, Mykolaiv, Ukraine  
*Program Committee Member*
- Sep./Oct. 2004** *2004 IEEE/RSJ International Conference on Intelligent Robots and Systems*, Sendai, Japan  
*European Program Committee Member*
- Sep. 2004** *Conference on Mechatronics and Robotics*, Aachen, Germany  
*Advisory Committee Member*
- Sep. 2004** *3rd IFAC Conference on Mechatronic Systems*, Sydney, Australia  
*International Program Committee Member*
- Sep. 2004** *2004 IEEE Conference on Control Applications/2004 IEEE International Symposium on Intelligent Control/2004 IEEE International Symposium on Computer Aided Control System Design*, Taipei, Taiwan, ROC  
*Publicity Co-Chair*
- Aug./Sep. 2004** *9th Mechatronics Forum International Conference*, Ankara, Turkey  
*International Programme Committee Member*
- Aug./Sep. 2004** *10th International Conference on Methods and Models in Automation and Robotics*, Międzyzdroje, Poland  
*International Scientific Committee Member*
- Aug. 2004** *4th International Symposium on Robotics and Automation*, Queretaro, Mexico  
*International Program Committee Member*
- Aug. 2004** *International Conference on Informatics in Control, Automation and Robotics*, Setúbal, Portugal  
*Program Committee Member*

- July 2004** *International Congress on Mechatronics 2004, Prague, Czech Republic  
International Program Committee Member*
- July 2004** *Workshop on Intelligent Manipulation and Grasping, Genova, Italy  
International Program Committee Member*
- June/July 2004** *9th International Symposium on Advances in Robot Kinematics, Sestri Levante, Italy  
International Scientific Committee Member*
- June 2004** *9th International Symposium on Experimental Robotics, Singapore  
Steering Committee Member*
- June 2004** *4th International Workshop on Robot Motion and Control, Puszczkowo/Poznan, Poland  
International Scientific Committee Member*
- June 2004** *IEEE International Conference on Mechatronics, Istanbul, Turkey  
International Program Committee Member*
- June 2004** *5th International Conference on Mathematical Problems in Engineering and Aerospace Sciences, Timisoara, Romania  
International Organizing Committee Member*
- May 2004** *7th International Conference on Mechatronics and Precision Engineering, Bucarest, Romania  
International Scientific Committee Member*
- Apr. 2004** *2004 IEEE International Conference on Robotics and Automation, New Orleans, Louisiana  
Program Co-Chair*
- Apr. 2004** *1st IFAC Symposium on Advances in Automotive Control, Fisciano, Italy  
International Program Committee Member*
- Oct./Nov. 2003** *2003 IEEE/RSJ International Conference on Intelligent Robots and Systems, Las Vegas, Nevada  
European Program Committee Member*
- Oct. 2003** *2003 IEEE International Symposium on Intelligent Control, Houston, Texas  
Publicity Co-Chair*
- Sep. 2003** *2003 IEEE International Conference on Robotics and Automation, Taipei, Taiwan, ROC  
Program Co-Chair*
- Sep. 2003** *7th IFAC Symposium on Robot Control, Wroclaw, Poland  
International Program Committee Member*
- Aug. 2003** *8th International Conference on Methods and Models in Automation and Robotics, Międzyzdroje, Poland  
International Scientific Committee Member*
- Aug. 2003** *2003 SICE Annual Conference, Fukui, Japan  
International Program Committee Member*
- July/Aug. 2003** *2003 International Conference on Multisensor Fusion and Integration for Intelligent Systems, Tokyo, Japan  
International Program Committee Member*
- July 2003** *2003 IEEE/ASME International Conference on Advanced Intelligent Mechatronics, Kobe, Japan  
Advisory Committee Member*
- July 2003** *International Congress on Mechatronics, Graz, Austria  
International Program Committee Member*
- July 2003** *4th International Conference on Field and Service Robotics, Lake Yamanaka, Japan  
Program Committee Member*

- July 2003** *IMACS/IEEE-SMC CESA 2003 Multiconference, Lille, France*  
*International Program Committee Member*
- June/July 2003** *11th International Conference on Advanced Robotics, Coimbra, Portugal*  
*International Program Committee Member*
- Mar. 2003** *Motion Control 2003, Cinisello Balsamo, Italy*  
*Scientific Committee Member*
- Feb. 2003** ***2003 IEEE International Workshop on Safety, Security, and Rescue Robots, Tampa, Florida***  
***Honorary Chair and Advisor***
- Feb. 2003** *4th IMACS Symposium on Mathematical Modelling, Wien, Austria*  
*International Program Committee Member*
- Dec. 2002** *2nd IEEE International Workshop on Control Problems in Robotics and Automation, Las Vegas, Nevada*  
*International Steering Committee Member*
- Dec. 2002** *2nd IFAC Conference on Mechatronic Systems, Berkeley, California*  
*International Program Committee Member*
- Nov. 2002** *1st International Conference on Information Technology and Applications, Bathurst, Australia*  
*Advisory Committee Member*
- Nov. 2002** *3rd International Workshop on Robot Motion and Control, Bukowy Dworek, Poland*  
*International Scientific Committee Member*
- Oct. 2002** *2002 IEEE International Symposium on Intelligent Control, Vancouver, Canada*  
*International Program Committee Member*
- Sep./Oct. 2002** *2002 IEEE/RSJ International Conference on Intelligent Robots and Systems, Lausanne, Switzerland*  
*European Program Committee Member*
- Sep. 2002** *3rd International Symposium on Robotics and Automation, Toluca, Mexico*  
*International Program Committee Member*
- Sep. 2002** *8th International Conference on Methods and Models in Automation and Robotics, Szczecin, Poland*  
*International Programme Committee Member*
- July 2002** *8th Mechatronics Forum International Conference, Enschede, The Netherlands*  
*International Programme Committee Member*
- July 2002** *2nd International Conference on Automatic Control, Santiago de Cuba, Cuba*  
*International Programme Committee Member*
- July 2002** *2002 IEEE International Symposium on Industrial Electronics, L'Aquila, Italy*  
*Program Track Co-Chair*
- July 2002** ***8th International Symposium on Experimental Robotics, Sant'Angelo d'Ischia, Italy***  
***Program Chair***
- June 2002** *8th International Symposium on Advances in Robot Kinematics, Caldes de Malavella, Spain*  
*International Scientific Committee Member*
- May 2002** *2002 IEEE International Conference on Robotics and Automation, Washington, D.C.*  
*Program Committee Member*
- Dec. 2001** *International Conference on Industrial Electronics, Technology and Automation*  
*Technical Program Committee Co-Chair*
- Nov. 2001** *Inter-Active '01, Virtual Conference*  
*International Program Committee Member*

- Nov. 2001** *45th ANIPLA National Congress, Ancona, Italy  
Scientific Committee Member*
- Oct. 2001** *1st International Conference on Information Technology in Mechatronics, Istanbul, Turkey  
International Program Committee Member*
- Sep. 2001** *3rd World Manufacturing Congress, New York, New York  
International Technical Committee Member*
- Sep. 2001** *2001 IEEE Conference on Control Applications, Mexico City, Mexico  
Publications Chair*
- Sep. 2001** *2001 WSES International Conference on Robotics, Distance Learning and Intelligent Communication Systems, Valletta, Malta  
International Program Committee Member*
- Aug. 2001** *7th International Conference on Methods and Models in Automation and Robotics, Międzyzdroje, Poland  
International Scientific Committee Member*
- Aug. 2001** *10th International Conference on Advanced Robotics, Budapest, Hungary  
International Program Committee Member*
- Aug. 2001** *2001 IEEE International Conference on Sensor Fusion for Intelligent Systems, Baden Baden, Germany  
Program Committee Member*
- Aug. 2001** *IEEE Region 10 International Conference on Electrical and Electronic Technology, Singapore  
International Advisory Committee Member*
- July 2001** ***2001 IEEE/ASME International Conference on Advanced Intelligent Mechatronics, Como, Italy  
General Chair***
- May 2001** *7th IASTED International Conference on Robotics and Manufacturing, Cancun, Mexico  
International Program Committee Member*
- May 2001** *2001 IEEE International Conference on Robotics and Automation, Seoul, Korea  
Program Committee Member*
- Dec. 2000** *6th International Conference on Control, Automation, Robotics, and Vision, Singapore  
International Advisory Committee Member*
- Nov. 2000** *International Symposium on Robotics and Automation, Monterrey, Mexico  
International Program Committee Member*
- Oct. 2000** *2000 IEEE/RSJ International Conference on Intelligent Robots and Systems, Takamatsu, Japan  
European Program Committee Member*
- Sep. 2000** *6th IFAC Symposium on Robot Control, Wien, Austria  
International Program Committee Member*
- Sep. 2000** *1st IFAC Conference on Mechatronic Systems, Darmstadt, Germany  
International Program Committee Member*
- Sep. 2000** *International Conference Mechatronics 2000, Warsaw, Poland  
International Program Committee Member*
- Sep. 2000** *7th Mechatronics Forum International Conference, Atlanta, Georgia  
International Organizing Committee Member*
- Aug. 2000** *8th International Symposium on Robotics and Applications, Wailea, Hawaii  
European Program Co-Chair*
- Aug. 2000** *6th International Conference on Methods and Models in Automation and Robotics, Międzyzdroje, Poland  
International Programme Committee Member*

- June 2000** *7th International Symposium on Advances in Robot Kinematics*, Piran–Portorož, Slovenia  
*International Scientific Committee Member*
- May 2000** *31st International Symposium on Robotics*, Montréal, Canada  
*International Scientific Committee Member*
- Apr. 2000** *2000 IEEE International Conference on Robotics and Automation*, San Francisco, California  
*Program Committee Member*
- Feb. 2000** *3rd IMACS Symposium on Mathematical Modelling*, Wien, Austria  
*International Program Committee Member*
- Oct. 1999** *1999 IEEE/RSJ International Conference on Intelligent Robots and Systems*, Kyongju, Korea  
*European Program Committee Member*
- Sep. 1999** *World Manufacturing Congress 1999*, Newcastle-upon-Tyne, UK  
*International Technical Committee Member*
- Sep. 1999** ***1999 IEEE/ASME International Conference on Advanced Intelligent Mechatronics, Atlanta, Georgia***  
***General Co-Chair***
- Aug. 1999** *15th ISPE/IEE International Conference on CAD/CAM, Robotics, and Factories of the Future*, Águas de Lindóia, Brazil  
*International Program Committee Member*
- Aug. 1999** *International Congress on Dynamics and Control of Systems*, Ottawa, Canada  
*International Technical Committee Member*
- June 1999** *Workshop on Robot Motion and Control*, Kierkz, Poland  
*Scientific Committee Member*
- May 1999** *2nd International Conference on Recent Advances in Mechatronics*, Istanbul, Turkey  
*International Program Committee Member*
- May 1999** ***1999 IEEE International Conference on Robotics and Automation, Detroit, Michigan***  
***Program Co-Chair***
- Dec. 1998** *International Symposium on Robotics and Automation*, Saltillo, Mexico  
*International Program Committee Member*
- Dec. 1998** *5th International Conference on Control, Automation, Robotics, and Vision*, Singapore  
*International Advisory Committee Member*
- Oct. 1998** *1st IFAC Workshop on Space Robotics*, Montréal, Canada  
*International Program Committee Member*
- Oct. 1998** *1998 IEEE/RSJ International Conference on Intelligent Robots and Systems*, Victoria, Canada  
*European Program Committee Member*
- Sep. 1998** *IFAC Workshop on Motion Control*, Grenoble, France  
*International Program Committee Member*
- June 1998** *6th International Symposium on Advances in Robot Kinematics*, Strobl, Austria.  
*International Scientific Committee Member*
- May 1998** ***1998 IEEE International Conference on Robotics and Automation, Leuven, Belgium***  
***Program Co-Chair***
- Dec. 1997** ***IEEE International Workshop on Control Problems in Robotics and Automation: Future Directions, San Diego, California***  
***Program Chair***
- Nov. 1997** *41st ANIPLA National Congress*, Torino, Italy  
*Scientific Committee Member*

- Sep. 1997** *3rd ECPD International Conference on Advanced Robotics, Intelligent Automation and Active Systems, Bremen, Germany*  
*International Program Committee Member*
- Sep. 1997** *1997 IEEE/RSJ International Conference on Intelligent Robots and Systems, Grenoble, France*  
*European Program Committee Member*
- Sep. 1997** *5th IFAC Symposium on Robot Control, Nantes, France*  
*International Program Committee Member*
- July 1997** *8th International Conference on Advanced Robotics, Monterey, California*  
*Conference Program Committee Member*
- June 1997** *5th IASTED International Conference on Robotics and Manufacturing, Cancun, Mexico*  
*International Program Committee Member*
- Apr. 1997** *1997 IEEE International Conference on Robotics and Automation, Albuquerque, New Mexico*  
*Program Committee Member*
- Feb. 1997** *2nd IMACS Symposium on Mathematical Modelling, Wien, Austria*  
*International Program Committee Member*
- Dec. 1996** *4th International Conference on Control, Automation, Robotics, and Computer Vision, Singapore*  
*International Advisory Committee Member*
- Sep. 1996** *2nd ECPD International Conference on Advanced Robotics and Intelligent Automation, Wien, Austria*  
*International Program Committee Member*
- June 1996** *5th International Symposium on Advances in Robot Kinematics, Portorož–Bernardin, Slovenia*  
*International Scientific Committee Member*
- Apr. 1996** *1996 IEEE International Conference on Robotics and Automation, Minneapolis, Minnesota*  
*Program Committee Member*
- Sep. 1995** *1st ECPD International Conference on Advanced Robotics and Intelligent Automation, Athina, Greece*  
*International Program Committee Member*
- Aug. 1995** *1995 IEEE/RSJ International Conference on Intelligent Robots and Systems, Pittsburgh, Pennsylvania*  
*European Program Committee Member*
- June 1995** *4th IASTED International Conference on Robotics and Manufacturing, Cancun, Mexico*  
*International Program Committee Member*
- May 1995** *1995 IEEE International Conference on Robotics and Automation, Nagoya, Japan*  
*Program Committee Member*
- Nov. 1994** *3rd International Conference on Automation, Robotics, and Computer Vision, Singapore*  
*International Advisory Committee Member*
- Sep. 1994** *4th IFAC Symposium on Robot Control, Capri, Italy*  
*International Program Committee Member, National Organizing Committee Member*
- June 1994** *4th International Workshop on Advances in Robot Kinematics, Ljubljana, Slovenia*  
*International Scientific Committee Member*
- May 1994** *1994 IEEE International Conference on Robotics and Automation, San Diego, California*  
*Program Committee Member*
- Feb. 1994** *1st IMACS Symposium on Mathematical Modelling, Wien, Austria*  
*International Program Committee Member*

- May 1993** *1993 IEEE International Conference on Robotics and Automation, Atlanta, Georgia  
Program Committee Member, Video Proceedings Committee Member*
- Sep. 1992** *3rd International Workshop on Advances in Robot Kinematics, Ferrara, Italy  
International Scientific Committee Member*
- Nov. 1991** *1991 IEEE/RSJ International Workshop on Intelligent Robots and Systems, Osaka, Japan  
Technical Program Committee Member*
- Sep. 1991** *3rd IFAC Symposium on Robot Control, Wien, Austria  
International Program Committee Member*
- Sep. 1990** *2nd International Workshop on Advances in Robot Kinematics, Linz, Austria  
International Scientific Committee Member*
- 1986–pres.** *Session/Workshop Organizer and/or Session Chair at:  
1990 American Control Conference  
1991 American Control Conference  
1995 American Control Conference  
2nd Conference on Mechatronics and Robotics  
3rd Conference on Mechatronics and Robotics  
9th European Control Conference  
1998 IEEE Conference on Control Applications  
25th IEEE Conference on Decision and Control  
29th IEEE Conference on Decision and Control  
36th IEEE Conference on Decision and Control  
44th IEEE Conference on Decision and Control–8th European Control Conference  
1991 IEEE International Conference on Robotics and Automation  
1992 IEEE International Conference on Robotics and Automation  
1993 IEEE International Conference on Robotics and Automation  
1994 IEEE International Conference on Robotics and Automation  
1996 IEEE International Conference on Robotics and Automation  
1997 IEEE International Conference on Robotics and Automation  
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2004 IEEE International Conference on Robotics and Automation  
2005 IEEE International Conference on Robotics and Automation  
2006 IEEE International Conference on Robotics and Automation  
2006 IEEE International Conference on Robotics and Automation  
2007 IEEE International Conference on Robotics and Automation  
2010 IEEE International Conference on Robotics and Automation  
1999 IEEE/ASME International Conference on Advanced Intelligent Mechatronics  
2001 IEEE/ASME International Conference on Advanced Intelligent Mechatronics  
2003 IEEE/ASME International Conference on Advanced Intelligent Mechatronics  
2005 IEEE/ASME International Conference on Advanced Intelligent Mechatronics  
2010 IEEE/ASME International Conference on Advanced Intelligent Mechatronics  
2001 IEEE/RSJ International Conference on Intelligent Robots and Systems  
2002 IEEE/RSJ International Conference on Intelligent Robots and Systems  
2003 IEEE/RSJ International Conference on Intelligent Robots and Systems  
2004 IEEE/RSJ International Conference on Intelligent Robots and Systems  
2006 IEEE/RSJ International Conference on Intelligent Robots and Systems*

*IEEE International Workshop on Control Problems in Robotics and Automation*  
*3rd IFAC Symposium on Robot Control*  
*4th IFAC Symposium on Robot Control*  
*5th IFAC Symposium on Robot Control*  
*6th IFAC Symposium on Robot Control*  
*7th IFAC Symposium on Robot Control*  
*8th IFAC Symposium on Robot Control*  
*1st IFAC Workshop on Space Robotics*  
*5th International Conference on Advanced Robotics*  
*11th International Conference on Advanced Robotics*  
*11th International Conference on Advanced Robotics*  
*14th International Symposium of Robotics Research*  
*5th International Symposium on Methods and Models in Automation and Robotics*  
*9th International Symposium on Methods and Models in Automation and Robotics*  
*1st International Workshop on Advances in Robot Kinematics*  
*2nd International Workshop on Advances in Robot Kinematics*  
*3rd International Workshop on Advances in Robot Kinematics*  
*4th International Workshop on Advances in Robot Kinematics*  
*5th International Symposium on Advances in Robot Kinematics*  
*6th International Symposium on Advances in Robot Kinematics*  
*7th International Symposium on Advances in Robot Kinematics*  
*9th International Symposium on Advances in Robot Kinematics*  
*10th International Symposium on Advances in Robot Kinematics*  
*12th International Symposium on Advances in Robot Kinematics*  
*3rd International Symposium on Experimental Robotics*  
*8th International Symposium on Experimental Robotics*  
*Robotics: Science and Systems 2011*  
*Workshop on Intelligent Systems: A Festschrift for Richard Volz*

**1984–pres.** Reviewer for several international conferences

## Awards and Honours

- Feb./Mar. 2012** *Invited Speaker*, “Grasping and control of multifingered hands”, *International Expert Days 2012*, Hausen, Germany
- Dec. 2011** *Invited Speaker*, “Strengthening industry–academia cooperation: Challenges and opportunities for European service robotics”, *Taller de Robótica de Servicio*, Bilbao, Spain
- Nov. 2011** *Invited Speaker*, “Perspectives and future of robotics”, *Symposium on Challenges in Robotics: Down to Earth*, Oberpfaffenhofen, Germany
- Nov. 2011** *Keynote Speaker*, “Robots moving closer to humans”, *4th International Workshop on Human-Friendly Robotics*, Enschede, The Netherlands
- July 2011** *Keynote Speaker*, “Robots moving closer to humans”, *8th International Conference on Informatics in Control, Automation and Robotics*, Noordwijkerhout, The Netherlands
- Dec. 2010** *Keynote Speaker*, “Robots moving closer to humans”, *11th International Conference on Control, Automation, Robotics, and Vision*, Singapore
- Dec. 2010** *Panelist*, “Control — The Present and The Future”, *11th International Conference on Control, Automation, Robotics, and Vision*, Singapore
- Nov. 2010** *Plenary Speaker*, “Interaction control for robots cooperating with humans”, *7th International Conference on Ubiquitous Robots and Ambient Intelligence*, Busan, Korea
- Nov. 2010** *Keynote Speaker*, “Force and visual control for safe humanrobot interaction”, *Symposium on Brain, Body and Machine*, Montréal, Canada

- Nov. 2010** *Invited Speaker*, “I robot: sogno e bisogno della vita quotidiana”, *Istituto Italiano di Cultura*, Montréal, Canada
- Oct. 2010** *Keynote Speaker*, “Robots moving closer to humans”, *International Mediterranean and Latin American Modelling Multiconference 2010*, Fes, Morocco
- Sep. 2010** *Plenary Speaker*, “Tightening the chord between academia and industry for European robotics”, *9th Portuguese Conference on Automatic Control*, Coimbra, Portugal
- July 2010** *Plenary Speaker*, “Robot interaction control using force and vision”, *2010 IEEE/ASME International Conference on Advanced Intelligent Mechatronics*, Montréal, Canada
- June 2010** *Invited Lecturer*, “Robot force control”, *International Summer School on Robotics*, Dubrovnik, Croatia
- May 2010** *Invited Speaker*, “Robots moving closer to humans”, *Eurobot Conference 2010*, Rapperswil, Switzerland
- May 2010** *Invited Speaker*, “I robot: sogno e bisogno della vita quotidiana”, *Società Elettrica Sopracenerina*, Locarno, Switzerland
- Feb. 2010** *Invited Speaker*, “Fast visual grasp of unknown objects with a multi-fingered hand”, *International Expert Days 2010*, Hausen, Germany
- Nov. 2009** *Invited Speaker*, “L’era della robotica”, *Futuro Remoto 2009*, Napoli, Italy
- Oct. 2009** *Invited Speaker*, “Roboter!”, *Wissenschaft beim Göttinger Literaturherbst*, Göttingen, Germany
- May 2009** *Invited Speaker*, “Robot: sogno e bisogno”, *Come alla Corte di Federico II*, Napoli, Italy
- May 2009** **Election to IFAC Fellow, “For outstanding contributions to research and education on theory and application of automatic control to robotic systems, and for professional leadership in the field”**
- Feb. 2009** **PROSE Awards for Excellence in Physical Sciences & Mathematics, and for Engineering & Technology, Springer Handbook of Robotics, American Association of Publishers, Washington, DC**
- Nov. 2008** *Invited Speaker*, “What robots sense and do”, *ICT 2008, Session: Sensing, Understanding Robotics*, Lyon, France
- June 2008** *Plenary Speaker*, “The importance of close collaboration between academia and industry — Successful examples from recent years and future challenges”, *IEEE/IFR Joint Forum on Innovation and Entrepreneurship in Robotics and Automation*, München, Germany
- June 2008** Award of *IPE Alumni Association*, Napoli, Italy
- May 2008** *Invited Speaker*, “DEXterous and autonomous dual-arm/hand robotic manipulation with sMART sensory-motor skills: A bridge from natural to artificial cognition”, *2008 IEEE International Conference on Robotics and Automation, Tutorial: Is human-like dexterous manipulation within our robotic grasp?*, Pasadena, California
- April 2008** *Invited Speaker*, “DEXterous and autonomous dual-arm/hand robotic manipulation with sMART sensory-motor skills: A bridge from natural to artificial cognition”, *International Conference on Cognitive Systems (CogSys 2008)*, Karlsruhe, Germany
- Feb. 2008** *Invited Speaker*, “Status and perspectives of robotics”, *International Symposium on Robotics: A New Science, Accademia Nazionale dei Lincei*, Roma, Italy
- Oct. 2007** *Invited Speaker*, “Robotica per la sicurezza: problematiche di ricerca, evoluzione dei sistemi e prospettive del settore”, *Forum Expo Safety & Security*, Roma, Italy
- Feb. 2007** *Invited Lecturer*, “Robot force control”, *International Master on Robotics, Università di Genova, DIMEC*, Genova, Italy
- Oct. 2006** *Invited Speaker*, “Force and visual control for physical human-robot interaction”, *International Symposium on Advanced Robotics and Machine Intelligence*, Rome, Italy

- Sep. 2006** *Invited Speaker*, “The future of robotics in medicine and health”, *22nd Annual Meeting of the Cardiovascular and Interventional Radiological Society of Europe*, Rome, Italy
- Sep. 2006** *Invited Speaker*, “Toward future robotics”, *New Trends in Automation and Industrial IT '06*, Västerås, Sweden
- May 2006** *Invited Speaker*, “Force and visual control for physical human-robot interaction”, *Workshop CASY on Advances in Control Theory and Applications*, Bertinoro, Italy
- Feb. 2006** *Invited Lecturer*, “Robot interaction control”, *Doctorate Course in “Automática y Robótica”*, *Universidad Politécnica de Madrid, ETSII, Depto. de Automática, Ingeniería Electrónica e Informática Industrial*, Madrid, Spain
- Oct. 2005** **Election to IEEE Robotics and Automation President-Elect**
- Sep. 2005** *Plenary Speaker*, “Robotics for medical innovation and technology”, *17th International Conference of Society for Medical Innovation and Technology*, Naples, Italy
- May 2004** **Appointment as IEEE Robotics and Automation Society Distinguished Lecturer**
- Nov. 2003** *Invited Lecturer*, “Interaction control”, *Course on Robotics*, Prof. Yoshihiko Nakamura, *Graduate School of Information Science and Technology, University of Tokyo*, Tokyo, Japan
- Nov. 2003** *Invited Speaker*, “Research experience on service and rescue robotics”, *Workshop on Research on Humanoid, Service and Rescue Robots in Italy and in Japan*, Tokyo, Japan
- Dec. 2002** **Election to ASME Fellow**
- Feb. 2002** Advisor of Gianluca Antonelli’s doctorate thesis: ex-aequo winner, and of Ciro Natale’s doctorate thesis: finalist, EURON Ph.D. Thesis Award, Pisa, Italy
- Sep. 2000** *Panelist*, “A new generation of robots — New tasks for control”, *6th IFAC Symposium on Robot Control*, Wien, Austria
- Apr. 2000** *Master Class Tutorial*, “Force control”, *European Advanced Robotics Systems Masterclass and Conference – Robotics 2000*, Salford, UK
- Jan. 2000** **Election to IEEE Fellow, “For contributions to dynamic modeling and control of robotic systems and for leadership in robotics education”**
- Nov. 1999** *Invited Speaker*, “Robot force control”, *Workshop on Industrial Robotics*, Lisboa, Portugal
- Aug. 1998** *Plenary Speaker*, “On the use of quaternions for robot interaction control tasks”, *5th International Symposium on Methods and Models in Automation and Robotics*, Międzyzdroje, Poland
- Sep. 1997** *Invited Tutorial*, “Robot manipulator interaction with environment: force and motion control”, *5th IFAC Symposium on Robot Control*, Nantes, France
- Mar. 1997** *Plenary Speaker*, “Force and motion control of robot manipulators. Part 1: Theoretical results. Part 2: Experimental results”, *16th Benelux Meeting on Systems and Control*, Houffalize, Belgium
- Dec. 1996** Advisor of Ciro Natale, whose Laurea thesis received the UCIMU National Award for the best thesis of the section “Robot Design and Applications”, Milano, Italy
- May 1996** *Invited Tutorial*, “Force-motion control of robot manipulators”, *2nd World Automation Congress*, Montpellier, France
- 1996–1998** *Consultant, Directorate General XII Science, Research and Development — Directorate C: Industrial and Materials Technologies, European Commission*
- Sep. 1992** *Panelist*, “Relevance of dynamic models in analysis and synthesis of control laws for flexible manipulators”, *9th CISM-IFTOMM Symposium on Theory and Practice of Robots and Manipulators — Round Table: The Role of Dynamic Control in Contemporary and Tomorrow’s Robotics*, Udine, Italy

- 1992–pres.** Requested letters of recommendation for *tenure, promotion to associate and full professor, fellowship/award* of more than 100 foreign scholars
- Sep. 1989** Grantee of a *Science and Technology Agency (STA) Fellowship* to spend an 18-month research activity period at a Japanese institution: declined
- June 1988** *Best Presentation Award* for Session TA4 “Control of Motion Systems” at *1988 American Control Conference*, Atlanta, Georgia (see paper [Cr-15] in the list of publications below)
- Dec. 1986** *Jean Vertut National Award* for the best paper published on Robotics by an Italian scholar under 35 (see paper [Jr-1] in the list of publications below)
- Mar. 1986** Grantee of an *ESA Research Fellowship* to spend a 1-year research activity period (with possible 1-year renewal) at the European Space Research and Technology Center (ESTEC), Spacecraft Technology Department: declined
- 1985–1986** Grantee of a *NATO Research Fellowship (Sensory Systems for Robotic Control Panel)* to spend a period of research activity on “Adaptive control for light-weight flexible robotic arms” at the Georgia Institute of Technology, School of Mechanical Engineering

### Invited Seminars Abroad [93]

- Oct. 2011** *Carnegie Mellon University, The Robotics Institute, Pittsburgh, PA*  
“ECHORD — European Clearing House for Open Robotics Development”
- Oct. 2011** *University of Southern California, Center for Robotics and Embedded Systems, Los Angeles, CA*  
“ECHORD — European Clearing House for Open Robotics Development”
- Oct. 2011** *Stanford University, Artificial Intelligence Lab & Biomimetics and Dexterous Manipulation Lab, Stanford, CA*  
“ECHORD — European Clearing House for Open Robotics Development”
- May 2011** *Max-Planck-Institut für biologische Kybernetik, Tübingen, Germany*  
“Perspectives and future of robotics”
- Dec. 2010** *National University of Singapore & Singapore–MIT Alliance for Research and Technology, Singapore*  
“Perspectives and future of robotics”
- Nov. 2010** *Seoul National University, Robotics Laboratory, Seoul, Korea*  
“Robots moving closer to humans”
- Nov. 2010** *École Polytechnique Montréal, Montréal, Canada*  
“Robot interaction control using force and vision”
- Nov. 2010** *École de technologie supérieure, Montréal, Canada*  
“Robots moving closer to humans”
- Nov. 2010** *Concordia University, Department of Computer Science and Software Engineering, Montréal, Canada*  
“Robot interaction control using force and vision”
- Nov. 2010** *Canadian Space Agency, Saint-Hubert, Canada*  
“Robot interaction control using force and vision”
- Nov. 2010** *University of Manchester, School of Electrical and Electronic Engineering, Manchester, UK*  
“Robot interaction control using force and vision”
- Mar. 2009** *Universiteit Gent, IEEE Student Branch, Gent, Belgium*  
“Robots moving closer to humans”

- July 2008** *Technische Universität München, Lehrstuhl für Steuerungs- und Regelungstechnik, München, Germany*  
“Force and visual control for physical human-robot interaction”
- Nov. 2007** *Massachusetts Institute of Technology, Computer Science and Artificial Intelligence Laboratory, Cambridge, Massachusetts*  
“Force and visual control for physical human-robot interaction”
- Nov. 2007** *Georgia Institute of Technology, Robotics and Intelligent Machines, Atlanta, Georgia*  
“Force and visual control for physical human-robot interaction”
- Sep. 2006** *ABB Robotics, Västerås, Sweden*  
“Force and visual control for physical human-robot interaction”
- Feb. 2006** *Universidad Politécnica de Madrid, ETSII, Depto. de Automática, Ingeniería Electrónica e Informática Industrial, Madrid, Spain*  
“Toward future robotics”
- Dec. 2005** *Universidad de Sevilla, Escuela Técnica Superior de Ingenieros, Sevilla, Spain*  
“Robot interaction control”
- Jan. 2004** *Stanford University, Robotics Laboratory, Stanford, CA*  
“A brief overview of research projects”
- Jan. 2004** *University of California at Berkeley, Department of Mechanical Engineering, Department of Industrial Engineering and Operations Research, Berkeley, CA*  
“Robot interaction control”
- Nov. 2003** *University of Tokyo, Department of Mechano-Informatics, Tokyo, Japan*  
“Robot interaction control”
- Nov. 2003** *Waseda University, Humanoid Research Institute, Tokyo, Japan*  
“A brief overview of research projects”
- Nov. 2003** *Tokyo Institute of Technology, Department of Mechanical and Aerospace Engineering, Tokyo, Japan*  
“Robot interaction control”
- Nov. 2003** *National Institute of Advanced Industrial Science and Technology, Tsukuba, Japan*  
“Robot interaction control”
- Apr. 2003** *Örebro Universitet, Centre for Autonomous Agents Sensors and Systems, Örebro, Sweden*  
“Robot interaction control”
- Apr. 2003** *Kungl Tekniska Högskolan, Centre for Autonomous Systems, Stockholm, Sweden*  
“Robot interaction control”
- Dec. 2002** *National Taiwan University, Department of Computer Science and Industrial Engineering, Taipei, Taiwan, ROC*  
“Real-time visual tracking of 3D objects”
- Dec. 2002** *Hong Kong University of Science and Technology, Department of Electrical and Electronic Engineering, Kowloon, Hong Kong, PRC*  
“Real-time visual tracking of 3D objects”
- Dec. 2002** *Chinese University of Hong Kong, Department of Automation and Computer-Aided Engineering, Department of Electronic Engineering, Shatin NT, Hong Kong, PRC*  
“Real-time visual tracking of 3D objects”
- Apr. 2001** *Ørsted • Danmarks Tekniske Universitet, Lyngby, Denmark*  
“Robot force control”
- Dec. 1999** *ABB Robotics, Västerås, Sweden*  
“Industrial robotics research at PRISMA Lab”
- Dec. 1999** *Lunds Tekniska Högskola, Institutionen för Reglerteknik, Lund, Sweden*  
“Six-DOF impedance control of robot manipulators”

- Oct. 1999** *Massachusetts Institute of Technology, Department of Mechanical Engineering, Cambridge, Massachusetts*  
“Quaternion-based six-DOF impedance control”
- Sep. 1999** *Gerhard Mercator Universität GH Duisburg, First Colloquium of the SFB 291, Duisburg, Germany*  
“Six-dof impedance control of robot manipulators”
- Sep. 1999** *Georgia Institute of Technology, Manufacturing Research Center, Atlanta, Georgia*  
“Six-dof impedance control based on angle/axis representations”
- Oct. 1998** *McGill University, Center for Intelligent Machines, Montréal, Canada*  
“Six-dof impedance control based on quaternions”
- July 1995** *European Space Agency — ESTEC, Robotics Division, Noordwijk, The Netherlands*  
“Recent results on force/position robot control”
- June 1995** *Simon Fraser University, School of Engineering Science, Burnaby, Canada*  
“Coordinated motion of a two-manipulator system”
- June 1995** *Simon Fraser University, School of Engineering Science, Burnaby, Canada*  
“A unified framework for design of interaction control schemes for robot manipulators”
- June 1995** *University of British Columbia, Department of Electrical Engineering, Vancouver, Canada*  
“Force regulation and motion control of robot manipulators”
- June 1995** *University of Victoria, Department of Mechanical Engineering, Victoria, Canada*  
“Force regulation and motion control of robot manipulators”
- June 1995** *University of Victoria, Department of Mechanical Engineering, Victoria, Canada*  
“Robotics research activities at University of Naples”
- June 1995** *University of Washington, Department of Electrical Engineering, Seattle, Washington*  
“Robotics research activities at University of Naples”
- June 1995** *FS ČVUT Praha, Technická Mechanika, Praha, Czech Republic*  
“Coordinated motion of a two-manipulator system”
- May 1994** *California Institute of Technology, Jet Propulsion Laboratory, Pasadena, California*  
“Force regulation and position control of compliant robot manipulators”
- May 1994** *University of Southern California, Department of Computer Science, Los Angeles, California*  
“Robotics research activities at University of Naples”
- May 1994** *University of California at Santa Barbara, Department of Mechanical Engineering, Santa Barbara, California*  
“Robotics research activities at University of Naples”
- Apr. 1994** *Stanford University, Department of Computer Science, Robotics Laboratory, Stanford, California*  
“Robotics research activities at University of Naples”
- Apr. 1994** *University of California at Berkeley, Department of Mechanical Engineering*  
“Force regulation and position control of compliant robot manipulators”
- Nov. 1993** *Osaka University, Department of Systems Engineering, Osaka, Japan*  
“Robotics research activities at University of Naples”
- Nov. 1993** *Nagoya University, Department of Mechano-Informatics and Systems, Nagoya, Japan*  
“Robotics research activities at University of Naples”
- Oct. 1993** *Ritsumeikan University, Department of Mechanical Engineering, Kyoto, Japan*  
“Robotics research activities at University of Naples”
- Oct. 1993** *Kobe University, Department of Computer and Systems Engineering, Kobe, Japan*  
“Recent results on lightweight flexible arms and cooperative arm systems”

- Oct. 1993** *Hiroshima University, Department of Industrial and Systems Engineering, Higashi-Hiroshima, Japan*  
“The augmented task space approach for redundant manipulators & The parallel approach to force/position robot control”
- Oct. 1993** *Ministry of International Trade and Industry, Mechanical Engineering Laboratory, Tsukuba, Japan*  
“Robotics research activities at University of Naples”
- Oct. 1993** *Tokyo Institute of Technology, Departments of Mechano-Aerospace Engineering and of Control Engineering, Tokyo, Japan*  
“Recent theoretical and experimental results on: Inverse kinematics for redundant and singular manipulators, Independent joint control of a parallel robot, Force/position control of compliant manipulators”
- Oct. 1993** *University of Tokyo, Department of Mechano-Informatics, Tokyo, Japan*  
“Robotics research activities at University of Naples”
- Oct. 1993** *University of Tokyo, Institute of Industrial Science, Tokyo, Japan*  
“A user-oriented task description for controlling two cooperative spatial robot manipulators”
- Oct. 1993** *Tohoku University, Department of Aeronautics and Space Engineering, Sendai, Japan*  
“Robotics research activities at University of Naples”
- July 1993** *Technische Universiteit Delft, Faculteit der Elektrotechniek, Delft, The Netherlands*  
“Robotics research activities at University of Naples”
- June 1993** *Ecole Polytechnique Fédérale de Lausanne, Institut d’Automatique, Lausanne, Switzerland*  
“A task-oriented control strategy for cooperative spatial manipulators”
- May 1993** *Katholieke Universiteit Leuven, Departement Werktuigkunde Afdeling Produktietechnieken, Machinebouw en Automatisering, Leuven, Belgium*  
“A task-oriented control strategy for cooperative spatial manipulators”
- May 1993** *Rensselaer Polytechnic Institute, NASA Center for Robotic Systems in Space Exploration, Troy, New York*  
“Regulation of force and position for compliant robot manipulators with gravity parameter adaptation”
- May 1993** *NASA Langley Research Center, Hampton, Virginia*  
“Regulation and nonlinear tracking control of lightweight flexible manipulators”
- Jan. 1993** *European Space Agency — ESTEC, Robotics Division, Noordwijk, The Netherlands*  
“Robotics research activities at University of Naples”
- Jan. 1993** *Clemson University, Department of Electrical and Computer Engineering, Clemson, South Carolina*  
“Regulation of force and position for compliant robot manipulators with gravity parameter adaptation”
- Jan. 1993** *University of Tennessee Knoxville, Mechanical and Aerospace Engineering Department, Knoxville, Tennessee*  
“Robotics research activities at University of Naples”
- Jan. 1993** *Oak Ridge National Laboratory, Robotics and Process Systems Division, Telerobotic Systems Section, Oak Ridge, Tennessee*  
“Regulation of force and position for compliant robot manipulators with gravity parameter adaptation”
- Jan. 1993** *Georgia Institute of Technology, School of Mechanical Engineering, Atlanta, Georgia*  
“Regulation of force and position for compliant robot manipulators with gravity parameter adaptation”

- June 1992** *McGill University, Department of Mechanical Engineering, McGill Research Center for Intelligent Machines, Montréal, Canada*  
“Regulation and nonlinear tracking control of lightweight flexible manipulators”
- June 1992** *University of Illinois at Chicago, Department of Mechanical Engineering, Chicago, Illinois*  
“Stable PID force/position control of robotic arms”
- June 1992** *University of Illinois at Urbana–Champaign, Decision and Control Laboratory, Coordinated Science Laboratory, Urbana, Illinois*  
“Stable PID force/position control of robotic arms”
- Sep. 1991** *Universitetet i Trondheim, Norges tekniske høgskole, Institutt for teknisk kybernetikk, Trondheim, Norway*  
“Modelling and control of lightweight flexible arms”
- Aug. 1991** *Lunds Tekniska Högskola, Institutionen för Reglerteknik, Lund, Sweden*  
“Robotics research activities at University of Naples”
- June 1991** *Boston University, Department of Aerospace and Mechanical Engineering, Boston, Massachusetts*  
“Closed-form dynamic modelling of multi-link lightweight manipulators”
- Sep. 1990** *Univerza “Edvard Kardelj”, Institut “Jožef Stefan”, Ljubljana, Yugoslavia*  
“A short survey on redundancy resolution techniques and recent results on the task space augmentation approach with task priority”
- May 1990** *Georgia Institute of Technology, School of Mechanical Engineering, Atlanta, Georgia*  
“Task space analysis of multi-arm systems with manipulability ellipsoids”
- Feb. 1990** *École Nationale Supérieure d’Ingénieurs Electriciens de Grenoble, Institut National Polytechnique de Grenoble, Laboratoire d’Automatique de Grenoble, Saint-Martin-d’Hères, France*  
“Modelling and control of flexible arms”
- Feb. 1990** *École Nationale Supérieure d’Ingénieurs Electriciens de Grenoble, Institut National Polytechnique de Grenoble, Laboratoire d’Automatique de Grenoble, Saint-Martin-d’Hères, France*  
“Computational algorithms for solving the robot inverse kinematic problem”
- Oct. 1989** *Institut National de Recherche en Informatique et en Automatique, Unité de Recherche Sophia-Antipolis, Valbonne, France*  
“Cooperative multi-arm systems: Manipulability ellipsoids and dynamic control”
- Oct. 1989** *Institut National de Recherche en Informatique et en Automatique, Unité de Recherche Sophia-Antipolis, Valbonne, France*  
“Modelling and control of flexible arms”
- Oct. 1989** *Université Montpellier II Sciences et Techniques du Languedoc, Laboratoire d’Automatique et de Microélectronique de Montpellier, Montpellier, France*  
“Modelling and control of flexible arms”
- Oct. 1989** *École Supérieure d’Électricité, Laboratoire des Signaux et Systèmes, Gif-sur-Yvette, France*  
“Modelling and control of flexible arms”
- Oct. 1989** *Université Pierre et Marie Curie, Laboratoire de Robotique de Paris, Paris, France*  
“Modelling and control of flexible arms”
- Oct. 1989** *École Nationale Supérieure de Mécanique de Nantes, Laboratoire d’Automatique de Nantes, Nantes, France*  
“Cooperative multi-arm systems: Manipulability ellipsoids and dynamic control”
- Oct. 1989** *École Nationale Supérieure de Mécanique de Nantes, Laboratoire d’Automatique de Nantes, Nantes, France*  
“Modelling and control of flexible arms”

- Apr. 1989** *Deutsche Forschungs- und Versuchsanstalt für Luft- und Raumfahrt e. V. (DLR), Institut für Dynamik der Flugsysteme, Oberpfaffenhofen, Germany*  
“Analysis and control of cooperative robot systems”
- June 1988** *University of Pennsylvania, Department of Computer and Information Science, Philadelphia, Pennsylvania*  
“A computational scheme for solving the inverse kinematics of general robot geometries”
- June 1988** *Georgia Institute of Technology, School of Mechanical Engineering, Atlanta, Georgia*  
“Recent research developments in flexible arm control”
- Apr. 1988** *University of Oxford, Department of Engineering Science, Oxford, UK*  
“A computational algorithm to solve the inverse kinematic problem for general robotic manipulators”
- May 1986** *Georgia Institute of Technology, School of Mechanical Engineering, Atlanta, Georgia*  
“A singular perturbation approach to control of lightweight flexible manipulators”
- Apr. 1986** *California Institute of Technology, Jet Propulsion Laboratory, Pasadena, California*  
“Tracking control of lightweight flexible arms”

## Publications

### International Books [12]

#### Monographs

- [Bm-6] B. SICILIANO, L. Sciavicco, L. Villani, G. Oriolo, *Robotics — Modelling, Planning and Control*, Springer Advanced Textbooks in Control and Signal Processing Series, London, UK, 2009  
Italian edition: *Robotica — Modellistica, Pianificazione e Controllo*, McGraw-Hill Libri Italia, Milano, 2008
- [Bm-5] L. Villani, G. Oriolo, B. SICILIANO, *Solution Manual to Accompany Robotics — Modelling, Planning and Control*, Springer, London, UK, 2009  
available on the site  
<http://www.springer.com/engineering/robotics/book/978-1-84628-641-4>
- [Bm-4] B. SICILIANO, L. Villani, *Robot Force Control*, Kluwer Academic Publishers International Series in Engineering and Computer Science 540, Boston, MA, 1999
- [Bm-3] L. Sciavicco, B. SICILIANO, *Modelling and Control of Robot Manipulators*, McGraw-Hill Electrical and Computer Engineering Series, New York, NY, 1996  
International Student Edition, Singapore, 1996  
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Italian edition: *Robotica Industriale — Modellistica e Controllo di Robot Manipolatori*, McGraw-Hill Libri Italia, Milano, 1995  
2nd Italian edition: McGraw-Hill Libri Italia, Milano, 2000
- [Bm-2] B. SICILIANO, L. Villani, *Solutions Manual to Accompany Modelling and Control of Robot Manipulators*, McGraw-Hill, New York, NY, 1996  
2nd edition: Springer-Verlag, London, UK, 2000  
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- [Bm-1] C. Canudas de Wit, B. SICILIANO, G. Bastin (Eds.), *Theory of Robot Control*, Springer-Verlag Communications and Control Engineering Series, London, UK, 1996

#### Edited Volumes

- [Be-6] B. SICILIANO, O. Khatib, *Springer Handbook of Robotics*, Springer Handbook Series, Heidelberg, Germany, 2008, **AAP PROSE Awards for Excellence in Physical Sciences & Mathematics, and for Engineering & Technology**
- [Be-5] B. SICILIANO, A. De Luca, C. Melchiorri, G. Casalino (Eds.), *Advances in Control of Articulated and Mobile Robots*, Springer Tracts in Advanced Robotics 10, Heidelberg, Germany, 2004
- [Be-4] B. SICILIANO, P. Dario (Eds.), *Experimental Robotics VIII*, Springer Tracts in Advanced Robotics 5, Heidelberg, Germany, 2003
- [Be-3] B. SICILIANO (Ed.), *2001 IEEE/ASME International Conference on Advanced Intelligent Mechatronics Proceedings*, Omnipress, Madison, WI, 2001
- [Be-2] S. Nicosia, B. SICILIANO, A. Bicchi, P. Valigi (Eds.), *RAMSETE — Articulated and Mobile Robotics for Services and Technologies*, Springer-Verlag Lecture Notes on Control and Information Sciences 270, Heidelberg, Germany, 2001
- [Be-1] B. SICILIANO, K.P. Valavanis (Eds.), *Control Problems in Robotics and Automation*, Springer-Verlag Lecture Notes on Control and Information Sciences 230, London, UK, 1998

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- [Jr-47] G. Di Gironimo, L. Pelliccia, B. SICILIANO, A. Tarallo, “Biomechanically-based motion control for a digital human”, *International Journal on Interactive Design and Manufacturing*, Springer, Heidelberg, Germany, in press, 2011
- [Jr-46] V. Lippiello, B. SICILIANO, L. Villani, “Interaction control of robot manipulators using force and vision”, *International Journal of Optomechatronics*, **2**, 257–274, Taylor & Francis, London, UK, July 2008
- [Jr-45] A. De Santis, B. SICILIANO, L. Villani, “A unified fuzzy logic approach to trajectory planning and inverse kinematics for a fire fighting robot operating in tunnels”, *Intelligent Service Robotics*, **1**, 41–49, Springer, Heidelberg, Germany, Jan. 2008
- [Jr-44] V. Lippiello, B. SICILIANO, L. Villani, “An open architecture for sensory feedback control of a dual-arm industrial robotic cell”, *Industrial Robot*, **34**, 46–53, Emerald, Bingley, UK, Jan. 2007
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- [Jr-42] V. Lippiello, B. SICILIANO, L. Villani, “Adaptive extended Kalman filtering for visual motion estimation of 3D objects”, *Control Engineering Practice*, **15**, 123–134, Elsevier, Amsterdam, The Netherlands, Jan. 2007
- [Jr-41] A. De Luca, B. SICILIANO, L. Zollo, “PD control with on-line gravity compensation for robots with elastic joints: Theory and experiments”, *Automatica (brief paper)*, **41**, 1809–1819, Elsevier, Amsterdam, The Netherlands, Oct. 2005
- [Jr-40] L. Zollo, B. SICILIANO, A. De Luca, E. Guglielmelli, P. Dario, “Compliance control for an anthropomorphic robot with elastic joints: Theory and experiments”, *ASME Journal of Dynamic Systems, Measurement, and Control (paper)*, **127**, 321–328, ASME Press, New York NY, USA, Sep. 2005
- [Jr-39] L. Zollo, L. Dipietro, B. SICILIANO, E. Guglielmelli, P. Dario, “A bio-inspired approach for regulating and measuring visco-elastic properties of a robot arm”, *Journal of Robotic Systems*, **22**, 397–419, Wiley, New York NY, USA, Aug. 2005
- [Jr-38] L. Zollo, B. SICILIANO, C. Laschi, G. Teti, P. Dario, “An experimental study on compliance control for a redundant personal robot arm”, *Robotics and Autonomous Systems*, **44**, 101–129, Elsevier, Amsterdam, The Netherlands, Aug. 2003
- [Jr-37] F. Caccavale, B. SICILIANO, L. Villani, “The Tricept robot: Dynamics and impedance control”, *IEEE/ASME Transactions on Mechatronics (short paper)*, **8**, 263–268, IEEE Press, Piscataway NJ, USA, June 2003
- [Jr-36] L. Villani, C. Natale, B. SICILIANO, C. Canudas de Wit, “An experimental study of adaptive force/position control algorithms”, *IEEE Transactions on Control Systems Technology (paper)*, **8**, 777–786, IEEE Press, Piscataway NJ, USA, Sep. 2000
- [Jr-35] M.A. Arteaga, B. SICILIANO, “On tracking control of flexible robot arms”, *IEEE Transactions on Automatic Control (technical note)*, **45**, 520–527, IEEE Press, Piscataway NJ, USA, Mar. 2000
- [Jr-34] F. Caccavale, B. SICILIANO, L. Villani, “Robot impedance control with nondiagonal stiffness”, *IEEE Transactions on Automatic Control (technical note)*, **44**, 1943–1946, IEEE Press, Piscataway NJ, USA, Ott. 1999
- [Jr-33] S. Chiaverini, B. SICILIANO, L. Villani, “A survey of robot interaction control schemes with experimental comparison”, *IEEE/ASME Transactions on Mechatronics (regular paper)*, **4**, 273–285, IEEE Press, Piscataway NJ, USA, Set. 1999

- [Jr-32] B. SICILIANO, “The Tricept robot: Inverse kinematics, manipulability analysis and closed-loop direct kinematics algorithm”, *Robotica*, **17**, Cambridge University Press, Cambridge UK, 437–445, July/Aug. 1999
- [Jr-31] B. SICILIANO, “Closed-loop inverse kinematics algorithm for constrained flexible manipulators under gravity”, *Journal of Robotic Systems*, **16**, Wiley, New York NY, USA, 353–362, June 1999
- [Jr-30] F. Caccavale, C. Natale, B. SICILIANO, L. Villani, “Six-dof impedance control based on angle/axis representations”, *IEEE Transactions on Robotics and Automation (regular paper)*, **15**, 289–300, IEEE Press, Piscataway NJ, USA, Apr. 1999
- [Jr-29] B. SICILIANO, L. Villani, “Passivity-based interaction controller and observer for robot manipulators”, *ASME Journal of Dynamic Systems, Measurement, and Control (technical brief)*, **120**, 516–520, ASME Press, New York NY, USA, Dec. 1998
- [Jr-28] F. Caccavale, C. Natale, B. SICILIANO, L. Villani, “Resolved-acceleration control of robot manipulators: A critical review with experiments”, *Robotica*, **16**, 565–573, Cambridge University Press, Cambridge, UK, Sep./Oct. 1998
- [Jr-27] F. Caccavale, S. Chiaverini, B. SICILIANO, “Second-order kinematic control of robot manipulators with Jacobian damped least-squares inverse: Theory and experiments”, *IEEE/ASME Transactions on Mechatronics (regular paper)*, **2**, 188–194, IEEE Press, Piscataway NJ, USA, Sep. 1997
- [Jr-26] B. SICILIANO, L. Villani, “An output feedback parallel force/position regulator for a robot manipulator in contact with a compliant environment”, *Systems & Control Letters*, **29**, 295–300, Elsevier, Amsterdam, The Netherlands, Feb. 1997
- [Jr-25] P. Chiacchio, S. Chiaverini, B. SICILIANO, “Direct and inverse kinematics for coordinated motion tasks of a two-manipulator system”, *ASME Journal of Dynamic Systems, Measurement, and Control (full paper)*, **118**, 691–697, ASME Press, New York NY, USA, Dec. 1996
- [Jr-24] B. SICILIANO, L. Villani, “A passivity-based approach to force regulation and motion control of robot manipulators”, *Automatica (brief paper)*, **32**, 443–447, Elsevier, Oxford, UK, Mar. 1996
- [Jr-23] S. Chiaverini, B. SICILIANO, O. Egeland, “Review of the damped least-squares inverse kinematics with experiments on an industrial robot manipulator”, *IEEE Transactions on Control Systems Technology (paper)*, **2**, 123–134, IEEE Press, Piscataway NJ, USA, Jun. 1994
- [Jr-22] L. Sciavicco, B. SICILIANO, “Decentralized control schemes for industrial robot manipulators”, *Modelling, Measurement & Control*, **52B**, 41–52, AMSE Press, Tassin, France, 1994
- [Jr-21] S. Chiaverini, B. SICILIANO, L. Villani, “Force/position regulation of compliant robot manipulators”, *IEEE Transactions on Automatic Control (technical note)*, **39**, 647–652, IEEE Press, Piscataway NJ, USA, Mar. 1994
- [Jr-20] A. De Luca, B. SICILIANO, “Inversion-based nonlinear control of robot arms with flexible links”, *AIAA Journal of Guidance, Control, and Dynamics (full-length paper)*, **16**, 1169–1176, AIAA Press, Washington DC, USA, Nov./Dec. 1993
- [Jr-19] A. De Luca, B. SICILIANO, “Regulation of flexible arms under gravity”, *IEEE Transactions on Robotics and Automation (short paper)*, **9**, 463–467, IEEE Press, Piscataway NJ, USA, Aug. 1993
- [Jr-18] P. Chiacchio, F. Pierrot, L. Sciavicco, B. SICILIANO, “Robust design of independent joint controllers with experimentation on a high-speed parallel robot”, *IEEE Transactions on Industrial Electronics (regular paper)*, **40**, 393–403, IEEE Press, Piscataway NJ, USA, Aug. 1993
- [Jr-17] P. Chiacchio, S. Chiaverini, L. Sciavicco, B. SICILIANO, “Reply to ‘Comments on global task space manipulability ellipsoids for multiple-arm systems and further considerations’”, *IEEE Transactions on Robotics and Automation (correspondence)*, **9**, 235–236, IEEE Press, Piscataway NJ, USA, Apr. 1993

- [Jr-16] P. Chiacchio, S. Chiaverini, L. Sciavicco, B. SICILIANO, “Influence of gravity on the manipulability ellipsoid for robot arms”, *ASME Journal of Dynamic Systems, Measurement, and Control (technical brief)*, **114**, 723–727, ASME Press, New York NY, USA, Dec. 1992
- [Jr-15] B. SICILIANO, J.V.R. Prasad, A.J. Calise, “Output feedback two-time scale control of multilink flexible arms”, *ASME Journal of Dynamic Systems, Measurement, and Control (full paper)*, **114**, 70–77, ASME Press, New York NY, USA, Mar. 1992
- [Jr-14] S. Chiaverini, O. Egeland, B. SICILIANO, “Redundancy resolution for the human-arm-like manipulator”, *Robotics and Autonomous Systems*, **8**, 239–250, Elsevier, Amsterdam, The Netherlands, 3/1991
- [Jr-13] P. Chiacchio, S. Chiaverini, L. Sciavicco, B. SICILIANO, “Task space dynamic analysis of multiarm system configurations”, *International Journal of Robotics Research (communication)*, **10**, 708–715, MIT Press, Cambridge MA, USA, Dec. 1991
- [Jr-12] P. Chiacchio, S. Chiaverini, L. Sciavicco, B. SICILIANO, “Global task space manipulability ellipsoids for multiple arm systems”, *IEEE Transactions on Robotics and Automation (regular paper)*, **7**, 678–685, IEEE Press, Piscataway NJ, USA, Oct. 1991
- [Jr-11] P. Chiacchio, S. Chiaverini, L. Sciavicco, B. SICILIANO, “Closed-loop inverse kinematics schemes for constrained redundant manipulators with task space augmentation and task priority strategy”, *International Journal of Robotics Research (regular paper)*, **10**, 410–425, MIT Press, Cambridge MA, USA, Aug. 1991
- [Jr-10] A. De Luca, B. SICILIANO, “Closed-form dynamic model of planar multilink lightweight robots”, *IEEE Transactions on Systems, Man, and Cybernetics (regular paper)*, **21**, 826–839, IEEE Press, Piscataway NJ, USA, July/Aug. 1991
- [Jr-9] B. SICILIANO, “A closed-loop inverse kinematic scheme for on-line joint-based robot control”, *Robotica*, **8**, 231–243, Cambridge University Press, Cambridge, UK, July/Sep. 1990
- [Jr-8] A.J. Calise, J.V.R. Prasad, B. SICILIANO, “Design of optimal output feedback compensators in two-time scale systems”, *IEEE Transactions on Automatic Control (technical note)*, **35**, 488–492, IEEE Press, Piscataway NJ, USA, Apr. 1990
- [Jr-7] B.-S. Yuan, W.J. Book, B. SICILIANO, “Direct adaptive control of a one-link flexible arm with tracking”, *Journal of Robotic Systems (full-length paper)*, **6**, 663–680, Wiley, New York NY, USA, Dec. 1989
- [Jr-6] A. De Luca, B. SICILIANO, “Trajectory control of a non-linear one-link flexible arm”, *International Journal of Control*, **50**, 1699–1715, Taylor & Francis, Basingstoke, UK, Nov. 1989
- [Jr-5] P. Chiacchio, B. SICILIANO, “A closed-loop Jacobian transpose scheme for solving the inverse kinematics of nonredundant and redundant wrists”, *Journal of Robotic Systems (full-length paper)*, **6**, 601–630, New York NY, USA, Oct. 1989
- [Jr-4] B. SICILIANO, W.J. Book, “A singular perturbation approach to control of lightweight flexible manipulators”, *International Journal of Robotics Research (regular paper)*, **7**(4), 79–90, MIT Press, Cambridge MA, USA, Aug. 1988
- [Jr-3] L. Sciavicco, B. SICILIANO, “A solution algorithm to the inverse kinematic problem for redundant manipulators”, *IEEE Journal of Robotics and Automation (regular paper)*, **4**, 403–410, IEEE Press, Piscataway NJ, USA, Aug. 1988
- [Jr-2] A. Balestrino, G. De Maria, L. Sciavicco, B. SICILIANO, “An algorithmic approach to coordinate transformation for robotic manipulators”, *Advanced Robotics*, **2**, 327–344, VSP, Zeist, The Netherlands, 4/1988
- [Jr-1] L. Sciavicco, B. SICILIANO, “Coordinate transformation: A solution algorithm for one class of robots”, *IEEE Transactions on Systems, Man, and Cybernetics (regular paper)*, **16**, 550–559, IEEE Press, Piscataway NJ, USA, July/Aug. 1986

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- [Ji-19] A. De Santis, B. Siciliano, A. De Luca, A. Bicchi, “An atlas of physical human–robot interaction”, *Mechanism and Machine Theory*, **43**, 253–270, Elsevier, Amsterdam, The Netherlands, Mar. 2008
- [Ji-18] F. Caccavale, C. Natale, B. SICILIANO, L. Villani, “Integration for the next generation: Embedding force control into industrial robots”, *IEEE Robotics and Automation Magazine*, **12**(3), 53–64, IEEE Press, Piscataway NJ, USA, Sep. 2005
- [Ji-17] V. Lippiello, B. SICILIANO, L. Villani, “3-D objects motion estimation based on Kalman Filter and BSP tree models for robot stereo vision”, *Archives of Control Sciences*, **12**, 71–88, Gliwice, Poland, Dec. 2002
- [Ji-16] F. Caccavale, C. Natale, B. SICILIANO, L. Villani, “Achieving a cooperative behaviour in a dual-arm robot system via a modular control structure”, *Journal of Robotic Systems (full-length paper)*, **18**, 691–700, New York NY, USA, Dec. 2001
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- [Ji-14] B. SICILIANO, L. Villani, “An inverse kinematics algorithm for interaction control of a flexible arm with a compliant surface”, *Control Engineering Practice*, **9**, 191–198, Elsevier, Oxford, UK, Feb. 2001
- [Ji-13] B. SICILIANO, L. Villani, “Parallel force and position control of flexible manipulators”, *IEE Proceedings – Control Theory and Application*, **147**, 605–612, IEE, London, UK, Nov. 2000
- [Ji-12] B. SICILIANO, L. Villani, “From indirect to direct force control: A roadmap for enhanced industrial robots”, *Robótica*, **39**(2), 16–26, Publindústria, Porto, Portugal, 2000
- [Ji-11] S. Chiaverini, B. SICILIANO, “The unit quaternion: A useful tool for inverse kinematics of robot manipulators”, *Systems Analysis Modelling Simulation*, **35**, 45–60, Overseas Publishers Association, Amsterdam, The Netherlands, 1999
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- [Ji-7] L. Sciavicco, B. SICILIANO, L. Villani, “Lagrange and Newton-Euler dynamic modeling of a gear-driven rigid robot manipulator with inclusion of motor inertia effects”, *Advanced Robotics*, **10**, 317–334, VSP, Zeist, The Netherlands, 3/1996
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[Cr-126] M. Momeni-K., S.C. Diamantas, F. Ruggiero, B. SICILIANO, “Height estimation from a single camera view”, *2012 IEEE International Conference on Robotics and Automation*, St. Paul, MN, May 2012

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