

Giuseppe ORIOLO

Curriculum Vitae

I General Information

I.1 Current Position

Full Professor of Automatic Control and Robotics, di Automatica (ING-INF/04), Sapienza University of Rome. Before: Associate Professor and Assistant Professor, Sapienza University of Roma; Visiting Scholar, University di California at Santa Barbara.

I.2 Education

- 1992: PhD in Systems Engineering, Sapienza University of Rome.
- 1989: Specialization Course in Theory and Mathematical Methods for Analysis and Control of Systems, Sapienza University of Rome
- 1987: Laurea in Electrical Engineering, Sapienza University of Rome.

I.3 Honors and Awards

- 2016: IEEE Fellow, class of 2017, for "contributions to motion planning and control methods in complex robotic systems".
- 2016: Best Paper Award at the 10th International Conference on Swarm Intelligence (ANTS 2016) for the paper "Random walks in swarm robotics: An experiment with Kilobots," by C. Dimidov, G. Oriolo, V. Trianni.
- 2013: Abilitazione Scientifica Nazionale for the rank of Full Professor of Automatic Control.
- 2010: Co-author of "The Sensor-Based Random Graph Method for Cooperative Robot Exploration" (IEEE/ASME Trans. On Mechatronics, 2009), winner of the 2010 IEEE RAS Italian Chapter Young Author Best Paper Award.
- 2008: PROSE Award (American Publishers Award for Professional and Scholarly Excellence) awarded as co-author of Springer Handbook of Robotics.
- 2001: Co-author of "Robot localization in nonsmooth environments: Experiments with a new filtering technique", finalist for Best Student Paper Award at 2001 IEEE Int. Conf. on Robotics and Automation.
- 1998: Anderson Best Paper Award, 7th Int. Symp. on Robotics with Applications.
- 1990: Best Student Paper Award, 2nd Int. Workshop on Advances in Robot Kinematics.
- 1989: Best Thesis Contraves Prize, Specialization Course in Theory and Mathematical Methods for Analysis and Control of Systems, Sapienza University.

2 Scientific Activity

2.1 Brief description

- The research activity has focused on topics of modeling, planning and control for nonlinear robotic systems:
 - Planning of optimal trajectories for manipulators (1998-1999)
 - Planning and control for kinematically redundant robots (1989-pres.)
 - Motion planning for robots among obstacles (1989-pres.)
 - Planning and control of underactuated robots (1990-pres.)
 - Map building and sensor-based navigation (1993-pres.)
 - Localization and sensor fusion (1994-pres.)
 - Planning and control of nonholonomic robots (1995-pres.)
 - Constrained motion planning for robots (2001-pres.)
 - Multi-robot systems (2007-pres.)
 - Visual control of robotic systems (2001-pres.)

- Exploration of unknown environments (2003-pres.)
 - Service robotics (2005-pres.)
 - Biped robots and humanoids (2001-pres.)
 - Planning and control for Unmanned Aerial Vehicles (2008-pres.)
- Publication list: <http://www.diag.uniroma1.it/~oriolo/pub.html>
 - Since 2004, coordinator of the DIAG Robotics Lab at Sapienza University. Information on the lab is available at <http://www.diag.uniroma1.it/labrob> and <http://www.youtube.com/RoboticsLabSapienza>.

2.2 Citation indices (source: Google Scholar, Oct 2018)

Total citations: 11054

h-index: 46

i10-index: 128

2.3 Participation to research projects

- Principal Investigator of Sapienza research unit for project COMANOID (Multi-contact Collaborative Humanoids in Aircraft Manufacturing) funded by EU under Horizon 2020. Funding for research unit: € 719,215 (4 years, 2015-2019).
- Principal Investigator of Sapienza research unit for project MEMONET (MultiRobot Exploration MOBILE supported by ad-hoc NETWORKS), funded by MIUR under PRIN 2008. Funding for research unit: € 32,857 (2 years).
- Principal Investigator of Sapienza research unit for project ASPICE (Assistive System for Patient's Increase of Communication, ambient control and mobility in the absence of muscular Effort), funded by Fondazione Telethon under UILDM 2003. Funding for research unit: € 35,500 (2 years).
- Principal Investigator of Sapienza research unit for project TIGER (Telepresence Instant Groupware for higher Education in Robotics), funded by MIUR under FIRB 2001. Funding for research unit: € 87,370 (3 years).
- Coordinator of research projects funded by Sapienza University in 1998, 1999, 2000, 2001, 2002, 2003, 2004, 2005, 2006, 2008, 2009, 2012, 2015.
- Coordinator of educational project "A remote laboratory for robotic control experiments", funded by Sapienza University in 1999 and 2001.
- Member of Sapienza research unit in national and international research projects, including: SAPHARI, EC, FP7-IP (2011-2015); PHRIENDS, EC, FP6-Strep (2006-2009); CyberWalk, EC, FP6-Strep (2004-2006); EURON and EURON II, EC (2000-2003 and 2004-2007); ERNET, EC, Human Capital and Mobility Programme (1994-1996); PROMOTION, EC, ESPRIT III (1992-1995); PICTURE, MIUR, PRIN 2004; MATRICES, MIUR, PRIN 2002; MISTRAL, MIUR, PRIN 2000; RAMSETE, MIUR, PRIN 1998; FAI ROBOT, CNR (2001-2003); SUPER, ASI (2003-2004).

3 Teaching

3.1 Current teaching at Sapienza University of Rome

- 2009-pres., Fondamenti di Automatica
- 2009-pres., Autonomous and Mobile Robotics (in English)
- 2009-pres., Analysis and Control of Multi-Robot Systems (in English)
- 2014-pres., Control of Autonomous Multi-Agent Systems (in English)
- 2018-pres., Underactuated Robots (in English)

3.2 Previous teaching at Sapienza University of Rome

- 2000-2009, Automatic Control I and Automatic Control II
- 2005-2009, Adaptive Systems
- 2001-2007, Control of Nonholonomic Systems

- 1998-2001, Automatic Control
- 1994-2000, Adaptive Control

3.3 Student supervision

- Advisor of 110 master theses
- Advisor of 20 doctoral students

3.4 Other teaching activities

- Since 2018, director of the PhD program in Automatic Control, Bioengineering and Operations Research of Sapienza University of Rome
- 2010, Organizer and instructor (with D. Prattichizzo, L. Villani) of the SIDRA Doctoral School
- 2006-2008, Advanced Automatic Control (5 ECTS), University of Roma Tre
- 2003-2005, Automatic Control II (5 ECTS), University of Roma Tre
- 2002-03, Automatic Control I (annual course), University of Roma Tre
- 2002, Instructor of the CIRA Doctoral School
- 1997-98, System Theory (annual course), University of Cassino
- 1992-93, System Theory (annual course), University of Siena

4 Other activities

4.1 Editorial activities and contributions to scientific organizations

- 2015-pres., editorial board member and Section Editor (area: Ground Mobile Robots) for Encyclopedia of Robotics, Springer (scheduled publication date: 2018)
- 2014-2016, Editor, Conference Paper Review Board of IEEE/RSJ Int. Conf. on Intelligent Robots and Systems
- 2009-2014, Senior Editor, IEEE Transactions on Robotics
- 2013-2015, editorial board member, Nonlinear Dynamics and Mobile Robotics
- 2011-2013, member, Committee for the Young Author Best Paper Award of the IEEE RAS, Italian Chapter
- 2011-pres., member, IFAC Technical Committee 7.5 "IAV-Intelligent Autonomous Vehicles"
- Founding Member, IEEE RAS Technical Committee for Automation in Logistics
- Founding Member, IEEE RAS Technical Committee for Algorithms for Planning and Control of Robot Motion
- 2008-2011, Associate Editor, IEEE RAS Conference Editorial Board
- 2006-2008, member, Italian Robocup Committee
- 2003-2007, editorial board member, Computers and Electrical Engineering (Elsevier)
- 2000-2006, member, Advisory Committee of IEEE RAS Italian Chapter
- 2001-2005, Associate Editor, IEEE Transactions on Robotics and Automation
- Since 1991, IEEE Member (CSS and RAS); elevated to Senior Member in 2002; IEEE Fellow since 2017

4.2 Organization of scientific events

- IPC Co-Chair, 2016 IFAC Symp. on Intelligent Autonomous Vehicles
- IPC member, IFAC Workshop on Multivehicle Systems (MVS) in editions: MVS 2015, MVS 2012
- Associate Editor and IPC member, IEEE-RAS Int. Conf. On Humanoid Robots (Humanoids) in editions: Humanoids 2017, Humanoids 2016, Humanoids 2015, Humanoids 2014
- IPC member, IEEE/RSJ Int. Conf. On Intelligent Robots and Systems (IROS) in editions: IROS 2015, IROS 2014, IROS 2011, IROS 2007, IROS 2006, IROS 2003
- IPC member, IEEE Int. Conf. On Methods and Models in Automation and Robotics (MMAR) in editions 2003-2016
- IPC member and Technical Associate Editor, 2014 IFAC World Congress
- IPC member, Robotics: Science and Systems (RSS) Conference in editions: RSS2018, RSS 2017, RSS 2014, RSS 2012
- IPC member, Int. Conf. On Advanced Robotics (ICAR) in editions: ICAR 2013, ICAR 2007, ICAR 2005

- IPC member, IFAC Symp. on Intelligent Autonomous Vehicles (IAV) in editions: IAV 2013, IAV 2010
- IPC member, IEEE Int. Conf. On Robotics and Automation (ICRA) in editions: ICRA 2011 ICRA 2010, ICRA 2009, ICRA 2008, ICRA 2007, ICRA 2006, ICRA 2005, ICRA 2004, ICRA 2003, ICRA 2002
- IPC member, 10th Int. Symp. on Distributed Autonomous Robotic Systems
- IPC member, 2nd Int. Conf. on Robot Communication and Coordination
- IPC member, 18th European Conf. on Artificial Intelligence
- Area Chair (Planning and Control), 2008 Robotics: Science and Systems
- Organization Chair, 2007 IEEE Int. Conf. on Robotics and Automation
- IPC member, Int. Conf. On Industrial Electronics, Technology & Automation (IETA) in editions: IETA 2005, IETA 2001
- IPC member, Int. Symp. on Robotics with Applications (ISORA) in editions: ISORA 2004, ISORA 2002
- IPC member, 2004 IEEE Conf. On Control Applications
- IPC member, 2004 IEEE Conf. On Robotics, Automation and Mechatronics
- Member, Organizing Committee of RoboCup 2003 7th Int. Symp. and Competitions
- NOC Member, 1995 European Control Conf.

4.3 Review of research projects

- Reviewer of projects, UIF, Bando VINCI, 2017
- Reviewer of projects, EU, ERC Consolidator Grants, 2015
- Evaluator, Reviewer and Rapporteur of projects, EU, ECHORD ++, 2014
- Rapporteur of projects, MIUR, SIR, 2014
- Evaluator and Rapporteur of projects, EU, ECHORD, 2010
- Reviewer of projects, EU ERC Starting Grants, 2009
- Evaluator of projects, French National Research Agency, Interactive Systems and Robotics, 2006