

# Gennaro Raiola

## Curriculum Vitae

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### Education

- 2017-current *Post-Doc*  
at ADVR-DLS, Istituto Italiano di Tecnologia (IIT), Genova, Italy.  
🌐 [www.](#)
- 03/2017-08/2017 *Post-Doc*  
at Robotics and Mechatronics group, University of Twente, Enschede, The Netherlands. 🌐 [www.](#)
- 2014-2016 *Ph.D. student in Robotics*  
at CEA-List (French Alternative Energies and Atomic Energy Commission - Laboratory for Integration of Systems and Technology), Gif-sur-Yvette, France. 🌐 [www.](#)
- 2010-2012 *Master's Degree (M.Sc) with honor in Automation and Control Engineering*  
given by the University of Naples "Federico II", Naples, Italy.

### Profession






- 2012-2013 *Research Engineer in Motion Control of Humanoid Robots*  
at PAL Robotics S.L., Barcelona, Spain. 🌐 [www.](#)

### Research Interests

Controls, Software Engineering, Machine Learning, Motion Primitives, Collaborative robotics.


### Selected Software projects

- "ros-control" 🌐  
Ros packages to make controllers generic to all robots.
- "virtual-fixtures" 🌐 🎥 🎥  
Library of virtual guides for co-manipulation.
- "mekabot" 🌐  
Meka robot packages.
- "m3ros-control" 🌐  
C++ bridge to integrate the control layer of the Meka robot into a ROS environment.


- "DmpBbo"     
C++ framework for motion primitives and black-box optimization.
- "Stack-of-Task"    
Integration of the stack of tasks inverse kinematics solver on the Reem-H and Reem-C robots at PAL Robotics.


## Publications

### Journals

- 2017 **Gennaro Raiola**, Carlos Cardenas Alberto, Tadele Shiferaw Tadele, Theo De Vries, Stefano Stramigioli.  
"Development of a Safety and Energy Aware Impedance Controller for Collaborative Robots".  
In *IEEE Robotics and Automation Letters*.  
The contents of this paper were also selected by ICRA'18 Program Committee for presentation at the Conference.
- 2017 S. Chitta, E. Marder-Eppstein, W. Meeussen, V. Pradeep, A. Rodriguez Tsouroukdissian, J. Bohren, D. Coleman, B. Magyar, **G. Raiola**, M. Ludtke and E. Perdomo Fernandez.  
"ros\_control: A generic and simple control framework for ROS".  
In *The Journal of Open Source Software*.
- 2017 **Gennaro Raiola**, Susana Sanchez Restrepo, Pauline Chevalier, et al.  
"Co-manipulation with a Library of Virtual Guiding Fixtures".   
In *Autonomous Robots, Special Issue on Learning for Human-Robot Collaboration*.

### Conferences

- 2017 Pauline Chevalier, **Gennaro Raiola**, Brice Isableu, Jean-Claude Martin, Christophe Bazile and Adriana Tapus.  
"Do Sensory Preferences of Children with Autism Impact an Imitation Task with a Robot?".  
In *Conference on Human-Robot Interaction (HRI)*.
- 2017 Susana Sanchez Restrepo, **Gennaro Raiola**, Pauline Chevalier, Xavier Lamy, and Daniel Sidobre.  
"Iterative Virtual Guides Programming for Human-Robot Comanipulation".  
In *IEEE International Conference on Advanced Intelligent Mechatronics (AIM)*.
- 2015 **Gennaro Raiola**, Xavier Lamy, and Freek Stulp.  
"Co-manipulation with Multiple Probabilistic Virtual Guides".   
In *International Conference on Intelligent Robots and Systems (IROS)*.

- 2015 **Gennaro Raiola**, Pedro Rodriguez-Ayerbe, Xavier Lamy, Sami Tliba, and Freek Stulp.  
"Parallel Guiding Virtual Fixtures: Control and Stability".   
In *IEEE Multi-Conference on Systems and Control (MSC)*.
- 2014 Freek Stulp, Laura Herlant, Antoine Hoarau, and **Gennaro Raiola**.  
"Simultaneous On-line Discovery and Improvement of Robotic Skill". In *International Conference on Intelligent Robots and Systems (IROS)*.
- 2013 Freek Stulp, **Gennaro Raiola**, Antoine Hoarau, Serena Ivaldi, and Olivier Sigaud.  
"Learning Compact Parameterized Skills with a Single Regression". In *IEEE-RAS International Conference on Humanoid Robots*.

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## Service

- Open-source Maintainer of ROS packages.
- Research Reviewer for international conferences and journals:
- Autonomous Robots (Springer).
  - The International Conference on Robotics and Automation (ICRA).
  - IEEE-RAS International Conference on Humanoid Robots.
  - International Conference on Intelligent Robots and Systems (IROS).

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## Languages

- italian native proficiency
- english professional working proficiency
- french limited working proficiency
- spanish basic knowledge