

# Gennaro Raiola

## Curriculum Vitae

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## Education

- 01/2017- *Post-Doc*  
current at ADVR-DLS, Istituto Italiano di Tecnologia (IIT), Genova, Italy.  
🌐 [www.](#)
- 03/2017- *Post-Doc*  
07/2017 at Robotics and Mechatronics group, University of Twente, Enschede, The Netherlands. 🌐 [www.](#)
- 2016-2017 *Ph.D. student in Robotics*  
at CEA-List (French Alternative Energies and Atomic Energy Commission), Gif-sur-Yvette, France. 🌐 [www.](#)
- 2014-2015 *Ph.D. student in Robotics*  
at INRIA - Flowers / ENSTA-ParisTech, Palaiseau, 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.
- 2006-2010 *Bachelor's Degree (B.Sc) in Computer 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

- Post-doc Energy based control strategies for collaborative robots  
Keywords: Safety in robotics, Impedance Control, Collaborative robotics.
- Ph.D. Thesis "Co-manipulation with a library of Virtual Guides"  
Supervisors: Prof. Freek Stulp (ENSTA-ParisTech), Dr. Xavier Lamy (CEA-List).  
Keywords: Collaborative robotics, Industrial applications, Controls, Machine Learning.

M.Sc. Thesis "Learning Parameterized Skills through Models with Expanded Kernels"  
Supervisors: Prof. Bruno Siciliano (PRISMA lab.) and Prof. Freek Stulp (ENSTA-ParisTech).  
Keywords: Motion Primitives, Machine Learning.












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## Technical Skills and Software projects

### Technical Skills

Programming C/C++, Python, MATLAB, ROS, Orocos, Qt, Boost, RTAI/Xenomai, Eigen, php (Basics)  
Systems/Tools Linux/Ubuntu, CMake, Latex, QtCreator, Gazebo, Eclipse, git, svn, Virtual-Box, Docker (Basics), EtherCAT (Basics)  
Hardware Arduino





### Software projects

Software "ros-control"   
Ros packages to make controllers generic to all robots.  
Software "virtual-fixtures"     
Library of virtual guides for co-manipulation.  
Software "mekabot"   
Meka robot packages.  
Software "m3ros-control"   
C++ bridge to integrate the control layer of the Meka robot into a ROS environment.  
Software "DmpBbo"     
C++ framework for motion primitives and black-box optimization.  
Software "Stack-of-Task"    
Integration of the stack of tasks inverse kinematics solver on the Reem-H and Reem-C robots at PAL Robotics.

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## Publications

- 2017 **Gennaro Raiola**, Carlos Cardenas Alberto, Tadele Shiferaw Tadele, Theo De "Development of a Safety-Aware Intrinsically Passive Controller for Collaborative Robots".  
Under review in *IEEE Robotics and Automation Letters*.
- 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*.

- 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*.

## Service

- Open-source Maintainer of ros-control 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).

## Languages

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