

# Gennaro Raiola

## Curriculum Vitae

Wooldriksweg 134  
7512 BE Enschede, NL

✉ [gennaro.raiola@gmail.com](mailto:gennaro.raiola@gmail.com)

📄 [perso.ensta-paristech.fr/~raiola/](http://perso.ensta-paristech.fr/~raiola/)

## Education

- 2017-current *Post-Doc*  
at Robotics and Mechatronics group, University of Twente  
🌐 [www.](#)
- 2016-2017 *Ph.D. student in Robotics*  
at CEA-List (French Alternative Energies and Atomic Energy Commission)  
🌐 [www.](#)
- 2014-2015 *Ph.D. student in Robotics*  
at INRIA - Flowers / ENSTA-ParisTech 🌐 [www.](#)
- 2010-2012 *Master's Degree (M.Sc) with honor in Automation and Control Engineering*  
given by the University of Naples "Federico II".
- 2006-2010 *Bachelor's Degree (B.Sc) in Computer Engineering*  
given by the University of Naples "Federico II".

## Profession

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

## Research

- Post-doc Energy based control strategies for prosthetics  
Supervisors: Prof. Stefano Stramigioli.  
Topics: Controls, Passivity.
- Ph.D. Thesis "Co-manipulation with a library of Virtual Guides"  
Supervisors: Prof. Frek Stulp (ENSTA-ParisTech), Dr. Xavier Lamy (CEA-List).  
Topics: Cobotics, Industrial applications, Controls, Machine Learning.
- M.Sc. Thesis "Learning Parameterized Skills through Models with Expanded Kernels"  
Supervisors: Prof. Bruno Siciliano (PRISMA lab.) and Prof. Frek Stulp (ENSTA-ParisTech).  
Topics: 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, 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

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

## References

- Dr. Freek Stulp Head of Department   
Department of Cognitive Robotics Institute of Robotics and Mechatronics  
DLR - German Aerospace Center (Previously ENSTA-ParisTech)
- Dr. Xavier Lamy Research Engineer   
Laboratory of interactive robotics at CEA-LIST

Dr. Adolfo Senior Robotics Engineer   
Rodriguez Intermodalics (Previously PAL Robotics)  
Tsouroukdissian