

Personal information

Surname(s) / First name(s)
Address(es)
Telephone(s)
Email(s)
Nationality(-ies)
Date of birth
Gender

Salvietti Gionata, Ph.D.

Loc. Badicorte 10, 52047 Marciano della Chiana, Arezzo, Italy
+390575845321 Mobile: +393395699506
gionata9@gmail.com
Italian
22 July 1983
Male

Summary of Experience

- Published researcher with 7+ years of experience in robotics.
- Theoretical knowledge and practical experience in robotics, teleoperation, haptics and control.
- Teaching experience in Master and Bachelor courses.
- Proven ability to collaborate with interdisciplinary teams as well as work independently with global perspective.
- Hands-on experience on robotic multi-fingered hands, multi-contact teleoperation systems, assistive robots, haptic interfaces and real-time control systems.
- Excellent analytical, quantitative, and problem solving skills.
- Excellent experience in EU Research Project management, proposal writing and drafting of deliverable and milestone documents.
- Coordination of small research groups of PhD students and supervision of several bachelor and master students.

Experience

Dates
Occupation or position held
Main activities
Name and type of organization

From March 2016
Assistant Professor at Department of Information Engineering and Mathematics, University of Siena
Research on medical and assistive robotics, robotic and human grasping and teleoperation.
Department of Information Engineering and Mathematics, Italy

Dates
Occupation or position held
Main activities

From April 2015 to February 2016
Scholarship at Department of Information Engineering and Mathematics, University of Siena

- Research on medical robotics, robotic grasping and teleoperation.
- Support in the realization of the massive on-line course “The art of grasping” financed by Mathworks.

Name and type of organization

Department of Information Engineering and Mathematics, Italy

Dates
Occupation or position held
Main activities

October 2012 - March 2015
PostDoc at Istituto Italiano di Tecnologia

- Theoretical and practical experience on teleoperation, human and robotic hand grasping and medical robotic applications.
- Development of the Matlab toolbox SYNGRASP, a tool for robotic grasping analysis that has overcome 3000 downloads.
- Active participation to four EU Integrated Projects: ACTIVE (robotic brain surgery), The Hand Embodied (robotic hand control and design), WEARHAP (wearable haptics) and HANDS.DVI (control of robotic hands).

Name and type of organization

Department of Advanced Robotics, Istituto Italiano di Tecnologia (IIT), Genova, Italy

Dates
Occupation or position held

June 2012 - September 2012
Visiting Researcher at Deutsches Zentrum für Luft- und Raumfahrt (DLR)

Main activities	<ul style="list-style-type: none"> • Research on human-inspired control of robotic hands through mapping algorithm and implementation of new algorithms for the control of the DLR Hand II. • Software development for Matlab/Simulink environment and the Real-Time Workshop (RTW). • Software development for the DLR Hand II, which is a complex mechatronic system with 12 motors and about 100 sensors.
Name and type of organization	Institute for Robotics and Mechatronics, Deutsches Zentrum für Luft- und Raumfahrt (DLR) - Oberpfaffenhofen, Germany.
Dates	July 2008 - January 2009
Occupation or position held	Visiting student at TAMS Lab, University of Hamburg
Main activities	<ul style="list-style-type: none"> • Research on modular robot as grasping devices. • Development of a grasping application for a modular snake-like robot. • Development of hierarchical control framework based on task-priority. • Development of a simulation environment based on <i>C++</i> using ODE and OpenGL libraries.
Name and type of organization	Department of Informatics, TAMS Lab (Technical Aspects of Multimodal Systems), University of Hamburg, Hamburg, Germany
Collaboration to EU research projects	
Dates	from April 2009
Main activities	Participation to the proposal preparation, organization and the realization of scientific activities with relative reports of the following EU co-founded research projects: <ul style="list-style-type: none"> • SOMA - SOft MAnipulation. • THE - The Hand Embodied. • ACTIVE - Active Constraints Technologies for Ill-defined or Volatile Environments. • WEARHAP - WEARable HAPtics for humans and robots. • ROBOCAST - ROBOt and sensor integration for Computer Assisted Surgery and Therapy. • HANDS.DVI - A DeVice Independent programming and control framework for robotic HANDS) as part of the ECHORD experiment.
Name and type of organization	Department of Information Engineering and Mathematics, University of Siena and Department of Advanced Robotics, Istituto Italiano di Tecnologia, Italy
Teaching Activities	
Dates	November 2012 - January 2013
Occupation or position held	Lecturer assistant
Main activities	Teaching in the Dynamic System class
Name and type of organization	Department of Information Engineering and Mathematics, University of Siena, Italy
Dates	September 2012 - December 2012
Occupation or position held	Lecturer
Main activities	Teaching Fundamentals of Automation and Robotics at the technical course IFTS "Tecnico superiore per l'automazione industriale" organized by Tuscany Region with D.D. 5253 of 24/11/2011
Name and type of organization	Department of Information Engineering and Mathematics, University of Siena, Italy
Dates	January 2012
Occupation or position held	Lecturer assistant
Main activities	Teaching in the Dynamic System class
Name and type of organization	Department of Information Engineering and Mathematics, University of Siena, Italy

Dates	April 2011 - July 2011
Occupation or position held	Lecturer assistant
Main activities	Teaching in the Control System Design class
Name and type of organization	Department of Information Engineering and Mathematics, University of Siena, Italy
Dates	January 2011 - February 2011
Occupation or position held	Lecturer assistant
Main activities	Teaching in the Dynamic System class
Name and type of organization	Department of Information Engineering and Mathematics, University of Siena, Italy
Dates	March 2010 - June 2010
Occupation or position held	Lecturer assistant
Main activities	Teaching in the Control System Design class
Name and type of organization	Department of Information Engineering and Mathematics, University of Siena, Italy

Education and training

Dates	October 2009 - November 2012
Title of qualification awarded	PhD on Information Engineering research track Automatic control and Robotics
Name and type of organization providing education and training	Department of Information Engineering and Mathematics, University of Siena, Italy
Thesis title	An Object-Based Approach to Map Human Hand Synergies onto Robotic Hands with Dissimilar Kinematic
Dates	April 2009 - September 2009
Occupation or position held	Visiting student
Main activities	Research on Teleoperation and Haptics in the context of the European Project ROBOCAST
Name and type of organization	Department of Information Engineering and Mathematics, University of Siena, Italy
Dates	October 2006 - April 2009
Title of qualification awarded	“Laurea Specialistica” on Computer Science Engineering, “cum laude”
Name and type of organization providing education and training	Department of Information Engineering and Mathematics, University of Siena, Italy
Thesis title	Task Priority Grasping and Locomotion Control of Modular Robot
Dates	October 2002 - July 2006
Title of qualification awarded	“Laurea” in Automation Engineering
Name and type of organization providing education and training	Department of Information Engineering, University of Siena, Italy
Thesis title	Il Robot SBPP 3000: Sviluppo di Circuiti per il Controllo
Dates	January 2001 - December 2002
Title of qualification awarded	Head of Industrial Automation Systems and Robotic Professional training
Principal subjects	Department of Information Engineering, University of Siena, in collaboration with European Community and Tuscany Region
Name and type of organization providing education and training	

Personal skills and competences

Technical skills and competences

Develop of control strategies for robotic hands in autonomous and teleoperation scenarios. Develop and test of control systems and electronic circuits for medical robotics and haptics. Control of robotic hand/arm systems as well as robotic mobile platforms.

Computer skills and competences

Deep knowledge of MAC OS X, LINUX and WINDOWS operative systems. Deep knowledge of L^AT_EX and Microsoft Office suite for word processing. Good CAD and Electronic spreadsheet skills. Programming languages known: Matlab, C++, C, Pascal, VHDL, PLC programming, V+. Optimal ability to retrieve information and documents from internet. Deep knowledge of IEEEExplore and Google Scholar tools for technical web searching.

Mother tongue(s)

Italian

Other language(s)
Self-assessment
European level^()*

English
German
French

Understanding		Speaking		Writing
Listening	Reading	Spoken interaction	Spoken production	
C1	C1	C1	C1	C1
A2	A2	A2	A2	A2
B1	B1	A2	A2	A2

^(*) Common European Framework of Reference (CEF) level

Language certifications

P.E.T. Cambridge University – Final mark: pass with Merit
Spoken English for Speakers of Other Languages Trinity College London – Final mark: grade 5, pass with Merit
Vorgesaltete DaF-Kurse Hamburg University - DaF 9, Level A1.1/A1.2

Social skills and competences

During my PostDoc and PhD activities I had the opportunity to work in collaboration with many colleagues and I learned how team-work can enhance the obtained results and speed-up the work-flow.

Organisational skills and competences

During my PostDoc I had the opportunity to organize and lead a small research sub-group composed by PhD students. I participated to the drafting of Milestones and Deliverables related to EU project research activities in collaboration with other research units.

Driving license(s)

Italian driving license valid in all the EU community.

Work experience

Dates
Occupation or position held
Main activities
Name and address of employer
Type of business or sector

February 2014 - December 2014
External consultant
Lecturer, course on advanced technical writing
Estra S.p.A., Italy
Energy provider

Dates
Occupation or position held
Main activities
Name and address of employer
Type of business or sector

January 2001 - August 2003
External consultant
Organization of musical and social events, organization of advertising campaigns
JWR Grandi Eventi S.r.l., Via della Stazione, 54/A 52048 - Monte S. Savino (Arezzo), Italy
Marketing, Management

Activities as Reviewer

International Journals

IEEE Transaction on Robotics, IEEE Robotics and Automation Magazine, IEEE Robotics and Automation Letters, International Journal on Robotic Research, Plos One, Advanced Robotics, IEEE/ASME Transaction on Mechatronics, Transaction on Haptics, Journal of Advanced Robotic System.

International Conferences

IEEE International Conference on Robotics and Automation (ICRA), IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS), Robotics, Science and Systems (RSS), American Conference on Control (ACC), IEEE Conference on Decision and Control (CDC), IEEE International Symposium on Robot and Human Interactive Communication (RO-MAN), IEEE International Conference on Biomedical Robotics and Biomechanics (BIOROB), IEEE Conference on Robotics and Biomimetics (ROBIO), IEEE/RAS-EMBS International Conference on Rehabilitation Robotics (ICORR), International Symposium on Robotic Research (ISRR).

Speaker at International Meetings

International Conferences

IEEE International Conference on Robotics and Automation (ICRA), IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS), Robotics, Science and Systems (RSS), IEEE International Symposium on Robot and Human Interactive Communication (RO-MAN)

Talks in EU projects review meetings
Invited Talks

University of Pisa, Italy, University Pierre e Marie Curie, Paris, University Rey Juan Carlos III, Madrid, Istituto Italiano di Tecnologia, Italy.
University of Agder, Norway

Selected Publications

- M. Santello, M. Bianchi, M. Gabiccini, E. Ricciardi, G. Salvietti, D. Prattichizzo, M. Ernst, A. Moscatelli, H. Jorntell, A. M. L. Kappers, K. Kyriakopoulos, A. Abu Schaeffer, C. Castellini, and A. Bicchi, "Hand synergies: Integration of robotics and neuroscience for understanding the control of biological and artificial hands," *Phys Life Rev*, 2016
- G. Salvietti, I. Hussain, D. Cioncoloni, S. Taddei, S. Rossi, and D. Prattichizzo, "Compensating hand function in chronic stroke patients through the robotic sixth finger," *Transaction on Neural System and Rehabilitation Engineering*, 2016
- I. Hussain, G. Salvietti, G. Spagnoletti, and D. Prattichizzo, "The soft-sixthfinger: a wearable emg controlled robotic extra-finger for grasp compensation in chronic stroke patients," *IEEE Robotics and Automation Letters*, 2016
- C. Pacchierotti, G. Salvietti, I. Hussain, L. Meli, and D. Prattichizzo, "The hring: a wearable haptic device to avoid occlusions in hand tracking," in *Proc. IEEE Haptics Symposium (HAPTICS)*. In Press, no. 0, (Philadelphia, PA, USA), 2016
- M. Aggravi, G. Salvietti, and D. Prattichizzo, "Haptic assistive bracelets for blind skier guidance," in *Proc. Augmented Human 2016*, (Geneva, Switzerland), 2016
- I. Hussain, G. Salvietti, L. Meli, C. Pacchierotti, and D. Prattichizzo, "Vibrotactile haptic feedback for intuitive control of a robotic extra finger," in *Proc. World Haptic 2015*, (Chicago), 2015
- I. Hussain, G. Salvietti, L. Meli, C. Pacchierotti, D. Cioncoloni, S. Rossi, and D. Prattichizzo, "Using the robotic sixth finger and vibrotactile feedback for grasp compensation in chronic stroke patients," in *Proc. ICORR 2015*, (Singapore), 2015.
Finalist for Best Student Award
- G. Salvietti, M. Malvezzi, G. Gioioso, and D. Prattichizzo, "Modeling compliant grasps exploiting environmental constraints," in *Proc. IEEE Int. Conf. on Robotics and Automation*, (Seattle, USA), 2015
- M. Malvezzi, G. Gioioso, G. Salvietti, and D. Prattichizzo, "Syngrasp: A matlab toolbox for underactuated and compliant hands," *Robotics Automation Magazine, IEEE*, 2015
- G. Salvietti, L. Meli, G. Gioioso, and D. Prattichizzo, "Toward a general bilateral teleoperation framework between dissimilar kinematic structures," in *Proc. 20th IMEKO TC4 Int. Symp. and 18th Int. Workshop on ADC Modelling and Testing Research on Electric and Electronic Measurement for the Economic Upturn*, (Benevento, Italy), 2014
- S. Scheggi and G. Salvietti, "Haptic guidance in urban search and rescue scenarios with reduced visibility," in *Proc. 20th IMEKO TC4 Int. Symp. and 18th Int. Workshop on ADC Modelling and Testing Research on Electric and Electronic Measurement for the Economic Upturn*, (Benevento, Italy), 2014
- D. Prattichizzo, M. Malvezzi, I. Hussain, and G. Salvietti, "The sixth-finger: a modular extra-finger to enhance human hand capabilities," in *Proc. IEEE Int. Symp. in Robot and Human Interactive Communication*, (Edinburgh, United Kingdom), 2014
- D. Prattichizzo, G. Salvietti, F. Chinello, and M. Malvezzi, "An object-based mapping algorithm to control wearable robotic extra-fingers," in *Proc. IEEE/ASME Int. Conf. on Advanced Intelligent Mechatronics*, (Besançon, France), 2014
- G. Salvietti, M. Malvezzi, and D. Prattichizzo, "Simulation of soft finger contact model with rolling effects in point-contact haptic interfaces," in *Proc. of Eurohaptics*, (Versailles, France), 2014
- F. Sanfilippo, H. Zhang, K. Y. Pettersen, G. Salvietti, and D. Prattichizzo, "Modgrasp: an open-source rapid-prototyping framework for designing low-cost sensorised modular hands," in *Proc. IEEE Int. Conf. on Biomedical Robotics and Biomechatronics*, (Sao Paulo, Brazil), 2014
- G. Salvietti, M. Malvezzi, G. Gioioso, and D. Prattichizzo, "On the use of homogeneous transformations to map human hand movements onto robotic hands," in *Proc. IEEE Int. Conf. on Robotics and Automation*, no. 0, (Hong Kong, China), 2014
- G. Gioioso, A. Franchi, G. Salvietti, S. Scheggi, and D. Prattichizzo, "The flying hand: a formation of uavs for cooperative aerial tele-manipulation," in *Proc. IEEE Int. Conf. on Robotics and Automation*, no. 0, (Hong Kong, China), 2014

- G. Gioioso, G. Salvietti, M. Malvezzi, and D. Prattichizzo, "Mapping synergies from human to robotic hands with dissimilar kinematics: an approach in the object domain," *IEEE Trans. on Robotics*, vol. 29, pp. 825–837, August 2013
- G. Salvietti, G. Gioioso, M. Malvezzi, D. Prattichizzo, A. Serio, E. Farnioli, M. Gabiccini, A. Bicchi, I. Sarakoglou, N. Tsagarakis, and D. Caldwell, "Hands.dvi: A device-independent programming and control framework for robotic hands," in *Gearing up and accelerating cross-fertilization between academic and industrial robotics research in Europe - Technology transfer experiments from the ECHORD project*, Springer Tracts in Advanced Robotics, Springer, 2013
- G. Salvietti, L. Meli, G. Gioioso, M. Malvezzi, and D. Prattichizzo, "Object-based bilateral telemanipulation between dissimilar kinematic structures," in *Proc. IEEE/RSJ Int. Symp. Intelligent Robots and Systems*, (Tokyo, Japan), 2013
- G. Salvietti, T. Wimboeck, and D. Prattichizzo, "A static intrinsically passive controller to enhance grasp stability of object-based mapping between human and robotic hands," in *Proc. IEEE/RSJ Int. Symp. Intelligent Robots and Systems*, (Tokyo, Japan), 2013
- M. Malvezzi, G. Gioioso, G. Salvietti, D. Prattichizzo, and A. Bicchi, "Syngrasp: a matlab toolbox for grasp analysis of human and robotic hands," in *Proc. IEEE Int. Conf. on Robotics and Automation*, no. 0, (Karlsruhe, Germany), 2013
- G. Gioioso, G. Salvietti, M. Malvezzi, and D. Prattichizzo, "An object-based approach to map human hand synergies onto robotic hands with dissimilar kinematics," in *Robotics: Science and Systems VIII*, Sydney, Australia: The MIT Press, July 2012
- F. Sanfilippo, G. Salvietti, H. Zhang, H. P. Hildre, and D. Prattichizzo, "Efficient modular grasping: an iterative approach," in *Proc. IEEE Int. Conf. on Biomedical Robotics and Biomechanics*, (Rome, Italy), pp. 1281–1286, 2012
- G. Salvietti, M. Malvezzi, and D. Prattichizzo, "On the simulation of soft finger contact model with rolling in haptics," in *Proc. Int. Conf. on Multibody System Dynamics*, (Stuttgart, Germany), 2012
- G. Gioioso, G. Salvietti, M. Malvezzi, and D. Prattichizzo, "Mapping synergies from human to robotic hands with dissimilar kinematics: an object based approach," in *IEEE ICRA 2011 Workshop on Manipulation Under Uncertainty*, (Shanghai, China), May 2011
- S. Scheggi, G. Salvietti, and D. Prattichizzo, "Shape and weight rendering for haptic augmented reality," in *Proc. IEEE Int. Symp. in Robot and Human Interactive Communication*, (Viareggio, Italy), pp. 44–49, 2010
- H. Zhang, G. Salvietti, W. Wang, G. Li, J. Yu, and J. Zhang, "Efficient kinematic solution to a multi-robot with serial and parallel mechanisms," in *Proc. IEEE/RSJ Int. Symp. Intelligent Robots and Systems*, (Taipei, Taiwan), 2010
- G. Salvietti, H. Zhang, J. Gonzalez-Gomez, D. Prattichizzo, and J. Zhang, "Task priority grasping and locomotion control of modular robot," in *Proc. IEEE Int. Conf. on Robotics and Biomimetics*, (Guilin, China), December 2009

Date

March 2016

Signature

