Maura Casadio

Associate professor

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Education and training

2007

Master's Degree in Bioengineering University of Genoa Italy

Rehabilitation robotics - for stroke survivors minimally assistive and adaptive protocols for visuo-haptic tracking and bimanual coordination

Università di Genova - Genova - IT

2006

PhD Degree in Robotics Materials Science and Bioengineering

Neural Control of movement from the mechanical impedance to robot therapy

Università di Genova - Genova - IT

2002

Masters Degree in Electronic Engineering University of Pisa. Italy.

Study and set-up of a (ultrasound- infrared) system for ergometric evaluation of gait

Università di Pisa - Pisa - IT

Academic experience

2015 - ONGOING

Associate professor

Università di Genova - Genova - IT

2012 - 2014

Assistant professor

Università di Genova - Genova - IT

2008 - 2011

Post-doctoral fellow

Northwestern University Feinberg School of Medicine - Chicago - US

Work experience

2006 - 2007

Biomedical Engineer-Researcher (motion analysis lab).

Don Carlo Gnocchi Foundation - Sarzana La Spezia - IT

Language skills

Italian	**English**	**French**
Mother tongue	Proficient	Basic

Teaching activity

2018/2019

Biomedical Robotics (6 CF), Master's Program in Bioengineering, School of Engineering, University of Genoa

Biomedical Robotics (6 CF), Master's Program in Robotics Engeneering & Emaro, School of Engineering, University of Genoa

Rehabilitation Engineering (6 CF), Master's Program in Bioengineering, School of Engineering, University of Genoa

2016/2017 & 2017/2018

Biomedical Robotics (6 CF), Master's Program in Bioengineering, School of Engineering, University of Genoa

Rehabilitation Engineering (6 CF), Master's Program in Bioengineering, School of Engineering, University of Genoa

Biomeccanics and bioengeering (2 CF), Master's Program in Kinesiology, School of Medicine University of Genoa,

Biomeccanics (4 CF),Bachelor's Program in Kinesiology, School of Medicine University of Genoa, (1/2 course)

2015/2016 Biomedical Robotics (6 CF), Master's Program in Bioengineering, School of Engineering, University of Genoa

Rehabilitation Engineering (6 CF), Master's Program in Bioengineering, School of Engineering, University of Genoa

Biomeccanics and bioengeering (2CF), Master's Program in Kinesiology, School of Medicine University of Genoa

Biomeccanics (4CF),Bachelor's Program in Kinesiology, School of Medicine University of Genoa, (1/2 course)

2014/2015 Biomedical Robotics and Rehabilitation Engineering (6 CF), Master's Program in Bioengineering, School of Engineering, University of Genoa

Biomeccanics (4CF),Bachelor's Program in Kinesiology, School of Medicine University of Genoa, (1/2 course)

2013/2014 Biomedical Robotics and Rehabilitation Engineering (6 CF), Master's Program in Bioengineering, School of Engineering, University of Genoa

2013/2014 Neurorehabilitation and Biorobotics Laboratory (5CFU), Master's Program in Bioengineering, School of Engineering, University of Genoa

2013/2014 Movement Biomechanics and Rehabilitation Engineering (12 CF), Master's Program in Bioengineering, School of Engineering, University of Genoa, of unit on 'Rehabilitation Engineering' (6 CF)

2012/2013 Anthropomorphic Robotics. (5CF).
2012/2013 Control and models of biological systems (5 CF), Undergraduate curriculum of Biomedical Engineering. School of Engineering University of Genoa. Instructor of module on Controls.
2011/2012 Control and models of biological systems (5 CF), Undergraduate curriculum of Biomedical Engineering. School of Engineering University of Genoa. Instructor of module on Controls.

Postgraduate research and teaching activity

Supervision of PhD students, residents and post-doctoral fellows

PhD students advisor:
2017-present Fabio Rizzoglio (co-advisor FA MussaIvaldi) -Unige
2017-present Elisa Galofaro -Unige
2016-present Serena Ricci (co-advisors G. Arnulfo, MF Girardi) -Unige
2015-present Iandolo Riccardo (co-advisor M. Inglese) -Unige
2014-2017 Laura Pellegrino (co-advisor M. Coscia)-Unige
2013-2016 Alice De Luca -Unige
2013-2016 Camilla Pierella (co-advisor FA MussaIvaldi) -Unige
Participant PhD advisor commette:
2017-present Valay Shah - Marquette Univestity
Supervision of the foreign PhD students:
- Valay Shah visiting PhD student from Marquette Univestity (september 2017-august 2018)
- Julie Wagner visiting PhD student Marquette Univestity (september 2017-august 2018)
Research fellow advisor(assegnista di ricerca)
2017 Laura Pellegrino (post-doc)
2014 Riccardo Iandolo (pre-doc)

PhD committees membership

2013- present
Partecipazione Collegio Docenti del Dottorato 'BIOINGEGNERIA E ROBOTICA - BIOENGINEERING AND ROBOTICS'
2012 -2015
Partecipazione al Collegio Docenti del Dottorato 'BIOINGEGNERIA'

Research interests

Research interests:

- Body–machine interfaces
- Neural control of movement
- Neuromotor rehabilitation
- Robotics
- Sensory enhancement and substitution

Grants

2018 - ONGOING

Artificial Somatosensation for Humans and Humanoids Lab - Virtual lab Italy-Israel

MINISTRY OF SCIENCE AND TECHNOLOGY OF THE STATE OF ISRAEL - IL

Pricipal investigator

The Artificial Somatosensation for Humans and Humanoids Lab will advance groundbreaking research towards a future in which humans and robots will benefit from synergetic integration between natural and synthetic somatosensation for perception and control. These systems will be not only bioinspired, but also will go beyond human capabilities, such as tactile super-acuity, chemical sensing, and others. The lab will focus on advancing the understanding of distributed human sensorimotor loops and on using this understanding to develop devices, representation models, and control algorithms for implementing human-like sensorimotor loops in robotic rehabilitation and assistance, bionic devices, and humanoid robots. The Italian and Israeli partners and their students will collaborate to make the necessary technological and scientific leaps in sensing, representation, and control. They will educate the next generation of scientists and engineers in the development of bioinspired and bio-augmenting technologies and software for providing humans and humanoid robots with effective somatosensory feedback.

The research in the lab is expected to advance neuroscience, engineering, robotics and medicine, and will result in new scientific theories that will be eventually transferred to the industry and the clinic. The investigation of human somatosensation will generate new knowledge and models that describe natural somatosensation. The bioinspired sensorimotor loops will result in a new generation of humanoid robots and bionic devices that are capable of much greater degree of motor autonomy than exists today. In addition, new devices for sensing of tactile information and for conveying somatosensory information to human users will be developed. These new systems and devices will be transferred to the industry and promote the competiveness of Israeli and Italian industry in the European and global markets. The scientific theories and devices will also be integrated in the clinical treatment of stroke survivors and will improve rehabilitation of neurological disorders and the quality of neuroprostheses for the benefit of worldwide and specifically Italian and Israeli population.

Editorial activity

Reviewing activity

Research organizations: National Science Foundation (NSF),USA

International journals: Clinical rehabilitation, Clinical Biomechanics, IEEE Transaction on Biomedical Engineering, IEEE transaction on Haptics, IEEE Transactions on Neural Systems and Rehabilitation Engineering, Computational Intelligence and Neuroscience, Journal of Neurophysiology, Plos Computational Biology, Journal of NeuroEngineering and Rehabilitation, Esperimental Brain Research, IEEE Robotics and Automation

Letters
Conferences

- **Editor** - member of the Executive Program Committee of the 7th IEEE RAS/EMBS International Conference on Biomedical Robotics and Biomechatronics(**BioRob 2018)**.
- **Associate Editor** of IEEE International Conference on Rehabilitation Robotics (**ICORR**), London, UK, 17-20 July
- **Scientific committee** member IEEE International Conference on Rehabilitation Robotics (ICORR), Singapore, Singapore
- **Associate Editor** IEEE International Conference on Rehabilitation Robotics (**ICORR**), Singapore, Singapore
- **Associate Editor** - The IEEE International Conference on Biomedical Robotics and Biomechatronics – **Biorob 2014** 12-15 Agosto, São Paulo, Brazil
- **Associate Editor -** IEEE International Conference on Robotics and Automation (ICRA). **ICRA 2014**
- **Associate Editor** - IEEE International Conference on Robotics and Automation (ICRA). **ICRA 2013**
  Karlsruhe, May 6 - 10, 2013

Assigments abroad

2008-2011 Visiting scholar (9/2008-12/2011)-Postdoctoral fellow (3/2009-9/2011)
- Northwestern University, Feinberg School of Medicine, Chicago, USA
Department of Physical Medicine and Rehabilitation (September 2008-February 2009)
Department of Physiology (March 2009-December 2011)
- Robotics Laboratory, Sensory Motor Performance Program, Rehabilitation Institute of Chicago,
Chicago, USA.

Dal 09-04-2012 a oggi - Adjunct Professor in the department of Physiology, Northwestern University, Chicago, USA
http://www.feinberg.northwestern.edu/f aculty-profiles/az/profile.html?xid=2477 9
dal 19-06-2016 a oggi - Adjunct Associate Professor, Department of biomedical Engineering,Marquette University , Milwaukee, USA. I am part of the NeuroMotor Control Laboratory - http://www.eng.mu.edu/scheidtr/Scheidt_MUCOE/People.html).