

Leonardo Serra De Mattos

HOME ADDRESS

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WORK ADDRESS

IIT - Via Morego 30
16163 Genoa, Italy
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PERSONAL INFO

Citizenship: USA and Brazil (dual citizenship; fluent in English, Portuguese and Italian)
Marital Status: Married

EDUCATION

DOCTOR OF PHILOSOPHY IN ELECTRICAL ENGINEERING 6/2003 – 5/2007
North Carolina State University (NCSU), Raleigh, NC, USA
Supervisor: Edward Grant
Commission: Donald Bitzer, Troy Nagle, John Muth, Randy Thresher

MASTER OF SCIENCE IN ELECTRICAL ENGINEERING 1/2001 – 5/2003
North Carolina State University (NCSU), Raleigh, NC, USA
Supervisor: Prof. Edward Grant
Commission: Troy Nagle, John Muth, Mark White

BACHELOR OF SCIENCE IN ELECTRICAL ENGINEERING 2/1994 – 12/1998
Universidade de São Paulo (USP), São Carlos, SP, Brazil

TECHNICAL DEGREE IN ELECTRONICS 2/1990 – 12/1992
Colégio Técnico de Campinas (COTUCA – UNICAMP), Campinas, SP, Brazil

EXPERIENCE

PERMANENT RESEARCHER (TECHNOLOGIST), Istituto Italiano di Tecnologia (IIT), Genoa, Italy 10/2016 – Present

- Head of the Biomedical Robotics Laboratory, Department of Advanced Robotics: 2 Senior Researchers, 1 Researcher, 6 Post-Docs, 5 PhD students, 3 Research Fellows, 3 Technicians, 2 MSc students
- Principal Investigator and Coordinator of the €1.03 million translational project **Robotic Microsurgery**, a 2-year project (2017–2019) funded by Fondazione Istituto Italiano di Tecnologia
- Work Package Leader of the €3.5 million project **INAL-Teleop**, a 3-year project (2017–2020) funded by INAIL
- Principal Investigator and Coordinator of the €1.13 million research project **TEEP-SLA** (Tecnologie Espressive ed Empatiche per Persone con SLA), a 3-year project (2015–2018) funded by Fondazione Roma
- Graduated 11 PhD students, 3 MSc students
- Conducting, supervising and coordinating research in surgical robotics, medical imaging, assistive systems, user interfaces, and biomanipulation automation
- Strong collaboration with surgeons (San Martino Hospital, Genoa; AIMS Academy, Milan), clinicians (Fondazione Roma, Rome), industries (El.En. Group; ValueBiotech S.R.L.), and other research groups (Politecnico di Milano, University of Verona, North Carolina State University)

TEAM-LEADER, Istituto Italiano di Tecnologia (IIT), Genoa, Italy 10/2011 – 10/2016

- Head of the Biomedical Robotics Laboratory, Department of Advanced Robotics
- Grew the laboratory from 2 PhD students to 2 Senior Researchers, 4 Post-Docs, 4 PhD students
- Principal Investigator and Coordinator of **TEEP-SLA** (see above)
- Principal Investigator and Coordinator of the €3.6 million research project **μRALP** - Micro-Technologies and Systems for Robot-Assisted Laser Phonomicrosurgery, a 3-year project (2012–2015) funded by the European Commission under the Seventh Framework Programme (FP7). Rated “Excellent” at final assessment
- Graduated 5 PhD students, 2 MSc students
- Developed strong collaboration with surgeons, clinicians, industries and other research groups

POST-DOCTORAL RESEARCHER, Istituto Italiano di Tecnologia (IIT), Genoa, Italy 10/2007 – 10/2011

- Created a new research laboratory for biomedical robotics research: The IIT's Biomedical Robotics Laboratory

- Initiated research in biomanipulations and laser phonomicrosurgeries within the Advanced Robotics Dept.
- Developed a new system for the automation of adherent cell and embryo microinjections, which is used for research in: microinjection control methods; biomedical image processing; mixed-reality training; visual servoing; user interfaces; and teleoperation.
- Designed and developed a new robotic system for laser phonomicrosurgery, including a novel motorized laser scanner; new user interfaces and associated control systems. System continues to be used for research in user interfaces; assistive systems; surgical safety; new surgical strategies and protocols; new calibration and control methods for micro-robotic systems; image processing for disease detection; and surgical automation
- Supervised a PhD student conducting research in biomedical image processing
- Supervised a PhD student researching safety and user interfaces for laser phonomicrosurgeries
- Initiated research collaborations with: IIT's Neuroscience Department; Center for Robotics and Intelligent machines (CRIM, NCSU, USA); Animal Models Core (AMC, UNC-CH, USA); ENT Department of the San Martino's Hospital (Genoa, Italy); Femto-ST (Besançon, France); University Hospital of Besançon (France); Leibniz Universität Hannover (Germany)

RESEARCH ASSISTANT, *Center for Robotics and Intelligent Machines, NCSU* 1/2002 – 8/2007

- Designed, implemented and evaluated an automated system for the microinjection of embryonic stem cells into blastocysts. Research conducted in collaboration with the Animal Models Core Facility at UNC-Chapel Hill.
- Designed and prototyped a wireless aircraft structural monitoring system in collaboration with the Institute for Maintenance Science and Technology at NCSU and the company DRS Technical Services, Inc.
- Worked on a multidisciplinary team to research and develop new tools for minimally invasive robotic heart surgery. Funded by a \$1.5 Million NIH Grant
- Created an automatic control and calibration module for a commercial biological tissue strain device. Funded by Flexcell International
- Created the EvBot-II (an autonomous robot for evolutionary robotics research)
- Designed and developed a USB DAQ system with simultaneous sampling of audio 8 channels
- Designed and developed a navigation and tracking system for the EvBot-II based on a small-scale acoustic array
- Participated in the designed and construction of a large scale e-textiles acoustic array with the College of Textiles (NCSU) and Draper Labs. Funded by DARPA
- Designed the electrical system and PLC code for a garment compression machine. Funded by Sara Lee Intimate Apparel Division
- Designed and built an RFID-based sensor system to detect and identify thread breaks in textile machines. Funded by the National Textile Center (NTC)
- Collaborated in the designed and developed of a capacitive sensor to measure the mass of fiberglass for on-line quality control during the manufacturing process. Funded by PPG Industries Fiber Glass Products
- Constructed an actigraph for wireless sleep motion monitoring
- Created code for automatic color segmentation on digital images based on neural networks
- Developed experimental setup for the characterization of photoluminescent materials
- Created a 360° camera system based on an inexpensive web-camera

TEACHING ASSISTANT, *ECE Department, NCSU* 8/2001 – 5/2002

- TA for ECE435 – Feedback Control Systems

ELECTRICAL ENGINEER, *Aerodyn Wind Tunnel, Charlotte, NC* 2/2001 – 7/2001

- Developed a pressure data acquisition system with 288 input channels to be used on the wind tunnel
- Created the software for data acquisition, experiments control, data logging and MS Excel interface using SoftWire and Visual Basic
- Implemented a LAN and the necessary software for real time sharing of experimental data

FIELD SERVICE ENGINEER, *FANUC America Corporation, Charlotte, NC* 5/1999 – 1/2001

- Performed on-site customer assistance
- Troubleshoot and repaired CNCs, motors, drivers, industrial lasers and other precision machine components

PROJECT ENGINEER, *Psychology Department, UFSCar, São Carlos, SP, Brazil* 7/1998 – 1/1999

- Designed and implemented an automated system for experimental learning studies on mice
- Created software for automatic experiment control and data logging

- ELECTRICAL ENGINEER INTERN, FMC Brazil, Araraquara, SP, Brazil** 1/1998 – 5/1998
- Participated in the project and construction of a new automated machine to make plastic bags
 - Designed electrical diagrams, connection boxes and cabinets for the new machine
 - Wrote installation check-up procedures for the new machine
- UNDERGRADUATE RESEARCH, Medical Image Analysis Laboratory (ALADIM)** 7/1997 – 2/1999
Electrical Engineering Dept., USP, São Carlos, SP, Brazil
- Researched the quality of X-Ray images, particularly the influence of the Heel Effect
- UNDERGRADUATE RESEARCH, Optics Lab., EE Dept., USP, São Carlos, SP, Brazil** 8/1995 – 2/1997
- Designed and developed circuits to test wireless optical communication systems
 - Researched optical sensors for electrical currents
- ELECTRONICS TECHNICIAN INTERN, AsGa Microeletronica, Paulinia, SP, Brazil** 2/1993 – 8/1993
- Designed and developed an equipment for coupling optical fibers to PIN-FET's
 - Supported engineering team with the design and development of test circuits for product quality control

FUNDED PROJECTS

SMART INJECTIONS

- Work package leader
- €1.6 million, 3 years (2020 – 2023), Industrial Research Project

ATLAS - AUTONOMOUS INTRALUMINAL SURGERY

- Partner for training and secondments
- €3.94 million, 3 years (2019 – 2023)
- Funded by European Commission's Marie Skłodowska Curie Innovative Training Networks

ROBOTIC MICROSURGERY

- Principal Investigator and Project Coordinator
- €1.03 million, 3 years (2017 – 2020), funded by IIT

INAIL TELEOPERATION

- Work package leader and member of steering committee
- €3.5 million, 3 years (2017 – 2020), funded by INAIL

TEEP-SLA - Tecnologie Espressive ed Empatiche per Persone con SLA (Technologies for ALS patients)

- Principal Investigator and Project Coordinator
- €1.13 million, 3.5 years (2015 – 2019), funded by Fondazione Roma

ROBOT-ASSISTED LASER MICROSURGERY

- Research collaboration with the company ELEN SpA (2015 – 2021)
- €100K in equipment and technical support provided by the company

μRALP - Micro-Technologies and Systems for Robot-Assisted Laser Phonomicrosurgery

- Principal Investigator and Project Coordinator
- €3.6 million, 3 years (2012 – 2015), funded by European Commission's FP7 Framework Programme
- Small and Targeted Research Project (STREP); Assessed as "Excellent" at its final review.
- 3 countries (Italy, Germany, France); 5 institutions (2 hospitals, 3 engineering centers); 75 people involved

PATENTS AND INVENTION DISCLOSURES

1. **Mattos, L., Cheng, Z., Davies, B., Caldwell, D.**, "Dispositivo portatile per l'inserimento di un ago in un materiale non omogeneo, particolarmente per cateterizzazione endovenosa" (short English title: "Hand-held device for assistive venous catheterization"), Italian Patent Application IT 102017000059659 (PT170362), International Patent Application PCT/EP2018/063871, May 31st, **2017**
2. **Mattos, L., Pane, G., Caldwell, D.**, "Device for the spherical orientation of an optical element, in particular for directing a light beam, such as a laser beam", WO2015181771A1, TO2014A000432, May 30th, **2014** [Link](#)
3. **Mattos, L., Olivieri, E., Caldwell, D.**, "Distal scanning module, in particular to control the aiming and the movement of an optical apparatus of a medical device, such as a diagnostic or surgical instrument," Patent numbers: IT TO2013A000943, PCT/IB2014/066127, US 10,045,684, November 20th, **2013** [EU patent](#), [US patent](#)
4. Grant, E., **Mattos, L.S., Thresher, R.**, "Methods, Systems, and Computer Readable Media for Facilitating Automation of Blastocyst Microinjection," WO Patent 2,009,079,474, June **2009**

5. Grant, E., **Mattos**, L.S., Luthy, K., Merritt, C., Craver, M., Simmons, J., Roberts, K., Scurria, N., Roth, R., Sanwald, R., Strenkowski, J., "Methods, Systems, and Computer Readable Media for Wireless Crack Detection and Monitoring," Patent numbers: US8510061B2, US20100094566, August **2008**
6. Grant, E., **Mattos**, L.S., Thresher, R., "A Controllable and Automated Micro/Nano-Injection System," NCSU Invention Disclosure No. 08-018, US Provisional Patent Application No. 421/221PROV, December **2007**
7. Buckner, G.D., Cormier, D.R., Laffitte, B.W., **Mattos**, L.S., Adcock, D.B., "Nitinol Mesh Retractor for Minimally Invasive Cardiac Surgery," NCSU Invention Disclosure No. 06-005, October **2005**

CURRENT AND FORMER POSTDOCTORAL FELLOWS

1. Dr. André Augusto Gerales, June 2019 - present
2. Dr. Abdeldjallil Naceri, February 2018 – present
3. Dr. Alperen Acemoglu, March 2018 – present
4. Dr. Veronica Penza, May 2018 – present
5. Dr. Cheng Zhuoqi, March 2018 – March 2020
6. Dr. Giacinto Barresi, May 2015 – November 2019
7. Dr. Jacopo Tessadori, March 2016 – March 2019
8. Dr. Alexey Petrushin, October 2016 – November 2018
9. Dr. Lucia Schiatti, March 2018 – November 2018
10. Dr. Nikhil Deshpande, June 2011 – November 2017
11. Dr. Diego Pardo, May 2011 – June 2014

CURRENT AND FORMER STUDENTS

1. Kapil Sawant, PhD student, "Flexible robotic tools for endoscopic microsurgery"
2. Alessandro Casella, PhD student, "Deep-Learning Methods for Medical Image Analysis"
3. Andrea Cimolato, PhD student, "Intelligent Controllers for Lower Limb Prosthesis"
4. Nabeel Kamal, PhD student, "Robotic technologies for pediatric neurosurgery"
5. Yonas Teodros Tefera, PhD student, "Real-time vision sensing of remote areas for advanced teleoperation"
6. Fanny Larradet, PhD, "Innovating Control and Emotional Expressive Modalities of User Interfaces for People with Locked-In Syndrome," February **2020**
7. André Augusto Gerales, PhD, "MEMS Varifocal Mirror for High-Power Laser Focusing," May **2019**
8. Alessandro Casella, MSc student, "Inter-Foetus Membrane Segmentation for TTTS–Treatment Guidance using Adversarial Networks," April **2019**
9. Damiano Salerno, MSc, "A Hybrid Visual Servoing Approach for Robotic Laser Tattoo Removal," March **2019**
10. Selene Malvicino, MSc, "Low cost EEG electrodes for assistive Brain-Computer interfaces," December **2018**
11. Sara Moccia, PhD, "Supervised Tissue Classification in Optical Images: Towards New Applications for Surgical Data Science," Winner of the Best Thesis Award "Gruppo Nazionale di Bioingegneria & Patron", May **2018**
12. Alperen Acemoglu, PhD, "A Magnetic Laser Scanner for Microsurgery," Outstanding PhD thesis published by Springer (in press), February **2018**
13. Cheng Zhuoqi, PhD, "Development and Evaluation of Hand-Held Robotic Technology for Safe and Successful Peripheral Intravenous Catheterization on Pediatric Patients," February **2018**
14. Lucia Schiatti, PhD, "Co-adaptive Control Strategies in Assistive Brain-Machine Interfaces," February **2018**
15. Veronica Penza, PhD, "Study of Computer Vision Algorithms to Enhance the Surgeon's Capabilities in Robotic Minimally Invasive Surgery," Winner of the Best Thesis Award "Istituto di Biorobotica", May **2017**
16. Manish Chauhan, PhD, "Towards robot-assisted, multiple degrees of freedom microsurgical forceps for Transoral Laser Microsurgery," April **2017**
17. Emidio Olivieri, PhD, "Bringing Haptics to Laser Microsurgery," April **2016**
18. Andrea Ciullo, MSc, "Synthetic Abdominal Phantom for Benchmarking of CAS Systems," April **2016**
19. Loris Fichera, PhD, "Cognitive Supervision for Robot-Assisted Minimally Invasive Laser Microsurgery," Outstanding PhD thesis published by Springer ([link](#)), April **2015**
20. Giacinto Barresi, PhD, "Brain-Controlled Augmented Reality: Feedback Design in Applied Scenarios," April **2015**
21. Corina Barbalata, MSc, "Vocal Cord Tumor Segmentation in Endoscopic Video," June **2013**
22. Giulio Dagnino, PhD, "New Technologies for Robot-Assisted Laser Phonomicrosurgery," April **2013**

23. Gabriele Becattini, PhD, "Automated System for the Microinjection of Adherent Cells Culture", April **2012**
24. Médhi Khoja, BSc, Internship on Robotic Microinjection with Force Sensing, **2011**

PHD EXAMINER

1. S. Portolés Díez, "Haptic Feedback for Soft-Tissue Robotic Surgery: from Training Palpation to Haptic Augmentation," KU Leuven, Belgium, June **2019**
2. A. Devreker, "Design and Control of Continuum Robots for Minimally Invasive Surgical Applications," KU Leuven, Belgium, **2017**
3. J.A.C. Pena, "Balancing and Walking of Humanoid Robots Using Robust MPC Techniques," UNIGE, Italy, **2016**
4. D. Mazzanti, "Enhancing User Experience in Interactive Environments," UNIGE, Italy, **2015**

STUDIES WITH ETHICAL COMMITTEE APPROVAL

IIT_ADVR_TELE01

- "Studio su esperienze e prestazioni di utenti in contesti simulativi di teleoperazione"
- Submitted to EC of Liguria on June 2019
- Approval: 16/03/2020, N. Registro CER Liguria: 229/2019 - ID 4621

IIT_ADVR_BEBI

- "Studio ex vivo della bioimpedenza elettrica di campioni di sangue di soggetti di minore età"
- Submitted to EC of Liguria on 22 Nov 2019
- Approval: 04/03/2020, N. Registro CER Liguria: 38/2020 - ID 10013

IIT_ADVR_SPFS01

- "Smart-Probe feasibility study: studio della bioimpedenza di tessuti sani e tumorali del tratto respiratorio superiore e della prima porzione dell'inferiore"
- Submitted to EC of Liguria on 22/03/2018 (prot. 12/04/2018)
- Approval: 21/01/2019, N. Registro CER Liguria P.R. 181/2018

IIT_ADVR_TEEP03

- "Studio di dati psicofisiologici di persone con SLA raccolti durante l'uso di interfacce utente per sistemi assistivi"
- Submitted to EC of Lazio: Studio 191.17, Protocollo 0207516/2017 del 20/12/2017
- Approval: 18/04/2018, Protocol N.0065390/2018

CALM-PIVC-MLS

- Studio di usabilità preliminare dei sistemi Computer-Assisted Laser Microsurgery (CALM), Micropinza motorizzata, Peripheral IntraVenous Catherter (PIVC) e Magnetic Laser Scanner (MLS)
- Submitted to EC of Liguria on 22/05/2017 (prot. 0014267/17)
- Approval: 12/10/2017, Verbale N. III/2017 (esenzione dall'approvazione espressa alla conduzione dello studio)

IIT_ADVR_TEEP02

- "Studio sulle variazioni fisiologiche di un individuo in compiti a diversi livelli di ecologicità"
- Submitted to EC of Liguria on 14/07/2017 (prot. 31/07/2017)
- Approval: 19/09/2017, N. Registro CER Liguria P.R. 318REG2017

IIT_ADVR_TEEP01

- Studio sul riconoscimento automatico di atti espressivi e stati affettivi di un individuo nell'interazione uomo-tecnologia
- Submitted to EC of Liguria on 28/03/2017 (prot. 30/03/2017)
- Approval: 11/04/2017, N. Registro CER Liguria P.R. 235REG2016, N. Registro Emendamenti: 01-11/04/2017

HONORS

ATHANASIOU ABME STUDENT AWARD, Best Article in Annals of Biomedical Engineering: "A New Venous Entry Detection Method Based on Electrical Bio-impedance Sensing", October 2019

BEST DEMO AWARD, CALM – Computer-Assisted Laser Microsurgery, CRAS 2019, March 2019

BEST DEMO RUNNER-UP, APSurg - Abdominal Positioning Surgical System, CRAS 2019, March 2019

WINNER START CUP 2018 (Start-Up contest), November 2018

BEST PAPER AWARD, CRAS 2018, September 2018

BEST POSTER RUNNER-UP, CRAS 2018, September 2018

BEST PHD THESIS AWARD (student: S. Moccia) by “Gruppo Nazionale di Bioingegneria & Patron,” May 2018
PRIMAGA AWARD WINNER: Best Paper in “Artificial intelligence applied to the analysis of images and videos,” GNB 2018, June 2018
BEST PAPER AWARD FINALIST, ISMR 2018, March 2018
BEST PAPER AWARD FINALIST, CRAS 2017, September 2017
BEST PAPER RUNNER-UP, Hamlyn Symposium on Medical Robotics, June 2017
BEST PHD THESIS AWARD (student: V. Penza) by “Istituto di Biorobotica,” May 2017
BEST PAPER AWARD RUNNER-UP, CRAS 2016, September 2016
BEST POSTER AWARD RUNNER-UP, CRAS 2016, September 2016
WINNER SMART CUP LIGURIA 2015 (Start-Up contest, €5,000.00 prize), November 2015
BEST MEDICAL ROBOTICS PAPER AWARD FINALIST, IEEE ICRA 2015, May 2015
BEST AUGMENTED-REALITY VIDEO AWARD, Hamlyn Symposium Workshop on AR and Surgical Vision, July 2014
BEST PAPER AWARD, ACHI 2010, February 2010
BEST LABORATORY AUTOMATION PAPER AWARD FINALIST, IEEE CASE 2009, August 2009
BEST PRESENTATION AWARD, ECE GSA Seminar, NCSU, April 2006
THE CHANCELLOR’S LIST, 2004-2005, Vol. 1, ISBN 1-56244-412-3
ETA KAPPA NU (HKN), Member since 2003

PROFESSIONAL AFFILIATIONS

IEEE, Member since 2003, Senior Member since 2018
IEEE ROBOTICS AND AUTOMATION SOCIETY (RAS), Member since 2005
IEEE ENGINEERING IN MEDICINE & BIOLOGY SOCIETY (EMBS), Member since 2010
NCEES CERTIFIED ENGINEERING INTERN (E.I.), May 2003

COMMUNITY ACTIVITIES

Conference & Workshop Organization

- Regional Program Chair, IEEE CBS 2020, Raleigh, NC, USA, September 16-18, 2020
- Program Co-Chair, IEEE ICAR 2019, Belo Horizonte, Brazil, December 2-6, 2019
- General Chair, CRAS 2019, Genoa, Italy, March 21-21, 2019
- Publication Chair, IEEE ICARM 2017, Heifei, China, August 27-31, 2017
- Organization Committee Member, CRAS 2017, Montpellier, France, Sept. 14–15, 2017
- Organization Committee Member, CRAS 2016, Pisa, Italy, Sept. 12–14, 2016
- Organization Committee Member, CRAS 2015, Brussels, Belgium, Sept. 10–12, 2015
- General Chair, CRAS 2014, Genoa, Italy, Oct. 14–16, 2014
- Chair, IEEE BioRob 2014 Workshop on Robotic Microsurgery and Image-Guided Surgical Interventions, Sao Paulo, Brazil, 2014
- Organization Committee Member, CRAS 2013, Verona, Italy, Sept. 11–13, 2013
- Chair, IEEE BioRob 2012 Workshop on Robot-Assisted Laryngeal Microsurgery, Rome, Italy, 2012

Editor

- Journal of Intelligent & Robotic Systems – ICAR 2019 Special Issue
- IEEE ICAR 2019, Editor for Contributed Papers
- Journal of Medical Robotics Research – CRAS 2016 Special Issue
- Journal of Medical Robotics Research – CRAS 2015 Special Issue

Associate Editor

- IEEE ICRA 2020, 2018, 2017, 2016
- IEEE BioRob 2020, 2018, 2016, 2014
- IEEE ISMR 2020
- IEEE MFI 2015, 2010

Technical Program Committee

- International Symposium on Medical Robotics (ISMR) 2019, 2018
- Hamlyn Symposium 2020, 2019, 2018, 2017
- CRAS 2020, 2019, 2018, 2017, 2016, 2015, 2014
- MIAR 2016
- ICINCO 2016, 2014

- IEEE MFI 2015, 2010, 2008
- Russian-German Conference 2013 (RGC2013)
- IADIS MCCSIS 2011
- IARIA/IEEE ACHI 2010

PEER REVIEWER

Journals

- Nature Machine Intelligence, 2019
- IEEE Transactions on Medical Robotics and Bionics, 2019
- IEEE Robotics and Automation Letters (RA-L), 2017, 2018, 2019
- Hindawi Computational and Mathematical Methods in Medicine, November 2016
- IEEE Transactions on Robotics (T-RO), February 2016
- International Journal of Computer Assisted Radiology and Surgery, IJCARS, January 2015
- Hindawi BioMed Research International, June 2014
- IEEE/ASME Transactions on Mechatronics, September 2013
- IEEE Transactions on Mechatronics, June 2013
- Elsevier Medical Engineering & Physics, January 2013
- ASME Journal of Mechanisms and Robotics, September 2012
- IEEE/ASME Transactions on Mechatronics, September 2012
- IEEE Transactions on Mechatronics, February 2012
- Sensors & Actuators: A. Physical, November 2011
- IEEE Transactions on Robotics (T-RO), October 2010
- IEEE Transactions on Information Technology in Biomedicine, September 2009
- ASME Journal of Mechanisms and Robotics, August 2009
- IEEE Transactions on Biomedical Engineering, April 2009
- IEEE Transactions on Industrial Electronics, November 2007
- Sensor Review, October 2007

Conferences

- International Symposium on Medical Robotics (ISMR): 2019, 2018
- IEEE ICAR 2019
- Hamlyn Symposium on Medical Robotics (HSMR): 2019, 2018, 2017
- IEEE/RSJ IROS: 2017, 2015, 2013
- IEEE ICRA: 2018, 2017, 2016, 2015, 2014, 2013, 2010
- IEEE MFI: 2015, 2014, 2010, 2008
- IEEE BioRob: 2016, 2014
- IEEE/ASME AIM: 2013
- IARIA/IEEE ACHI: 2011, 2010
- ICINCO 2016, 2014
- Russian-German Conference 2013 (RGC2013)
- IADIS Interfaces and Human Computer Interaction 2011 (IHCI 2011)
- Latin America Congress on Biomedical Engineering (CLAIB 2011)

Proposals

- Digital Innovation Hub – Healthcare Robotics (DIH-HERO) COVID-19 call, Reviewer of proposals, April 2020
- Katholieke Universiteit Leuven (KUL), Competitive Call for Research Proposals, Reviewer, March 2020
- AriSLA Foundation, Ice Bucket Call for Assistive Technology Projects: Reviewer of 21 proposals and participation to consensus meeting as expert. December 2015
- French National Research Agency (ANR): Research project proposal reviewer, February 2012

INVITED TALKS

1. "Surgical robotics research at IIT," *Esaote meets IIT*, Esaote, Genova, January 29, **2020**
2. "Perception and actuation in the surgical field: sensors, vision, augmented reality, teleoperation and task autonomy," Tutorial on Key Technologies for Autonomous Robotic Surgery, IEEE ICAR 2019, Belo Horizonte, Brazil, December 5, **2019**
3. "Medical Robots: Enabling Super-Human Capabilities for Precision Treatments," Kezhixing Medical Robot Forum, Beijing, China, October 20, **2019**

4. "Robotic instruments: Enabling technology for augmented capabilities and surgical performance," XLII Congress of the Italian Society of Surgical Oncology, Cagliari, Italy, September 9, **2019**
5. "Improving precision medical treatments with down-to-earth technology," *Meet the Jury* seminar, KU Leuven, Belgium, June 12, **2019**
6. "Developing robotic healthcare solutions for market use," DIH-HERO Deep Dive Workshop, Genoa, Italy, May 27, **2019**
7. "Hand-held device for inserting a needle into a non-homogeneous material, particularly for intravenous catheterization", InnovAgorà 2019, MUIR Patent Event, Milano, Italy, May 8, **2019**
8. "Device for the spherical orientation of an optical element, in particular for directing a light beam, such as a laser beam", InnovAgorà 2019, MUIR Patent Event, Milano, Italy, May 7, **2019**
9. "The Power of Light," session: Surgery and Technology 4.0, CRAS+SPIGC joint conference, Genoa, Italy, March 21, **2019**
10. "Liver graft steatosis assessment based on smartphone pictures," session: Transplantation, CRAS+SPIGC joint conference, Genoa, Italy, March 21, **2019**
11. "IIT-Ericsson collaboration @ Innovation Garage," Innovation Garage Inauguration Ceremony, Genoa, Italy, February 28, **2019**
12. "Tecnologie medicali: Ricerca ed innovazione a Genova," Genova Smart Week, November 22, **2018**
13. "Robotic Systems for Precision Medical Treatments," SMIT2018-IBEC2018, Seoul, Korea, November 8, **2018**
14. "Microsurgery Robots: addressing the needs of high-precision surgical interventions," Italy–Korea Bilateral Symposium on Medical Robotics, KAIST, Daejeon, Korea, November 6, **2018**
15. "MD Tech – A Medical Devices Technology Company", Start-Up Ideas, Keqiao, China, October 24, **2018**
16. "Laser Microsurgery Technologies: Current needs and potential solutions," lecture at the *IEEE COSUR Summer School*, Verona, Italy, July 13, **2018**
17. "Tecnologie IIT per le chirurgie di precisione," CoffeeTech, Confindustria, Genova, June 1, **2018**
18. "Computer-Assisted Technologies for Laser Microsurgery," International Symposium on Medical Robotics, Atlanta, USA, March 1, **2018**
19. "Assistive Robotic Systems for Medicine and Biology," North Carolina State University, Raleigh, USA, February 27, **2018**
20. "Medical Robotics – Current Activities & Potential Areas for Bilateral Collaboration," The 11th Korea–Italy Joint Committee on Science and Technology Cooperation, Seoul, Korea, November 28, **2017**
21. "La straordinaria robotica del futuro," Vodafone Technology Roadshow 2017, Milan, November 7, **2017**
22. "Il Mestiere del Ricercatore," Associazione Amici del Festival della Scienza, Genoa, October 20, **2017**
23. "Laser Microsurgery – Better with Robots?," KU Leuven, Belgium, June 9, **2017**
24. "Innovation in Medical Robotics: The IIT Experience," *Gynecological Robotic Surgery Club – 2nd Italian Meeting*, Genova, Italy, April 6, **2017**
25. "Surgical robotics for the benefit of humanity," IIT NEXT workshop, March 29, **2017**
26. "TEEP-SLA – Tecnologie Empatiche ed Espressive per Persone con SLA," *Congresso Nazionale SICP – Il Tempo delle Cure Palliative*, Rome, Italy, November 18, **2016**
27. "Robot-Assisted Laser Microsurgery," lecture at the *IEEE COSUR Summer School*, Verona, Italy, September 8, **2016**
28. "Robot-Assisted Transoral Laser Microsurgery: Enhancing Surgical Precision, Safety and Quality," *Robotics Research Jam Sessions*, Pisa, Italy, July 18, **2016**
29. "Robot-Assisted Laser Microsurgery: Overcoming Translational Barriers," *IEEE BIOROB 2016 Workshop in Surgical Robotics*, Singapore, June 26, **2016**
30. "Precision Medicine: the future of robotics in microsurgery," *Not Only Robotics... Minimally Invasive Digestive Surgery and Beyond*, Florence, Italy, June 7, **2016**

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OTHER INTERESTS: Outdoor sports (climbing, hiking, mountain biking, skiing, kayaking, sailing), volleyball, travel, music, and movies