



Claudio Pacchierotti

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Birth date: 27 August 1987

CURRENT POSITION

Chargé de recherche de 2ème classe (CR2), Centre national de la recherche scientifique (CNRS), IRISA (UMR 6074), Equipe Lagadic, Rennes, France (from Dec 2016).

PAST POSITIONS

- 2015 – 2016** | **Postdoctoral Researcher** at the Dept. of Advanced Robotics, Italian Institute of Technology, Genova, Italy (Jun 2015 – Nov 2016).
- 2015** | **Postdoctoral Researcher** at the Dept. of Information Engineering and Mathematics, University of Siena, Siena, Italy (Jan 2015 – May 2015).
- 2012 – 2015** | **Visiting Scientist** at the Institute for Biomedical Technology and Technical Medicine (MIRA), University of Twente, Enschede, The Netherlands, under the supervision of Prof. S. Misra (Jul 2015, Aug 2015, Nov 2014, Jul 2013).
- 2012 – 2014** | **Ph.D. student** at the Dept. of Information Engineering and Mathematics, University of Siena, Siena, Italy, and at the Dept. of Advanced Robotics, Italian Institute of Technology, Genova, Italy (Jan 2012 – Dec 2014).
- 2014** | **Visiting Ph.D. student** at the Dept. of Mechanical Engineering and Applied Mechanics, Haptics Group, GRASP Laboratory, University of Pennsylvania, Philadelphia, PA, USA, under the supervision of Prof. K. J. Kuchenbecker (Jan 2014 – Jul 2014).
- 2013** | **Visiting Ph.D. student** at the Dept. of Innovation in Mechanics and Management (DIMEG), University of Padua, Padova, Italy, under the supervision of Prof. G. Rosati (Jan 2013).
- 2010 – 2011** | **Exchange graduate student** at Karlstad University, Karlstad, Sweden (Aug 2010 – Feb 2011).

EDUCATION

- 2014** | **Ph.D. in Information Engineering** (18 Dec 2014), University of Siena, Siena, Italy.
Specialization: Automatic Control and Robotics,
Dissertation: “Cutaneous haptic feedback in robotic teleoperation.”
- 2011** | **M.S. in Computer Engineering *con lode*** (26 Sept 2011), University of Siena, Siena, Italy.
Specialization: Robotics and Automation,
Dissertation: “Tactile feedback as a sensory subtraction technique in haptics.”
- 2009** | **B.S. in Information Engineering *con lode*** (18 Oct 2009), University of Siena, Siena, Italy.
Specialization: Robotics and Automation,
Dissertation: “RemoTouch: a novel system for remote tactile interaction.”

AWARDS AND HONORS

- 2016 | Silver Award (2nd best paper), Asia Haptics, Chiba, Japan.
- 2016 | **Best Demonstration Award**, IEEE Haptics Symposium (HAPTICS), Philadelphia, USA.
- 2015 | **Meritorious Service Award** as a Reviewer, IEEE Transactions on Haptics.

- 2015 | **EuroHaptics Best PhD Thesis Award** (best doctoral thesis in the field of haptics). Award granted by the EuroHaptics Society during the 2015 IEEE World Haptics Conference, Chicago, USA.
- 2015 | Best Student Paper Award finalist, **IEEE/RAS-EMBS International Conference on Rehabilitation Robotics (ICORR)**, Singapore, Republic of Singapore.
- 2014 | Most Involved Resident Award, **International House of Philadelphia**, Philadelphia, PA, USA.
- 2012 | Ranked 1st in the **Ph.D. admission exam**, **University of Siena**, Siena, Italy.
- 2010 | **RemoTouch** system (B.S. thesis project) selected to represent **Italian scientific innovations** during the World Expo 2010 in Shanghai, China.
- 2006 | **AICA premia i Giovani dell'Informatica** (best freshman).

RESEARCH GRANTS

- 2017 | **Rennes Métropole - Allocation d'Installation Scientifique (AIS)** (40.000 EUR) for the project "Haptic-Enabled Control of Multiple UAVs for Telemanipulation".
- 2015 | **Intuitive Surgical Technology Research Grant** (50.000 USD) for the project "Comparison of cutaneous feedback methods for pinching palpation in robotic surgery" (in collaboration with the University of Pennsylvania).

PUBLICATIONS

Books

1. **C. Pacchierotti**. "Cutaneous haptic feedback in robotic teleoperation." *Springer Series on Touch and Haptic Systems*, Springer International Publishing, 2015. [[LINK](#)]

International Journal Articles

1. **C. Pacchierotti**, S. Sinclair, M. Solazzi, A. Frisoli, V. Hayward, D. Prattichizzo. "Wearable haptic systems for the fingertip and the hand: taxonomy, review, and perspectives." *IEEE Transactions on Haptics*, In Press, 2017. [[PDF](#)]
2. M. Maisto, **C. Pacchierotti**, F. Chinello, G. Salvietti, A. De Luca, D. Prattichizzo. "Evaluation of wearable haptic systems for the fingers in Augmented Reality applications." *IEEE Transactions on Haptics*, In Press, 2017. This article has been featured on [Science Magazine](#). [[PDF](#)]
3. L. Meli, **C. Pacchierotti**, D. Prattichizzo. "Evaluation of magnified haptic feedback in robot -assisted needle insertion and palpation." *The International Journal of Medical Robotics and Computer Assisted Surgery*, In Press, 2017. [[PDF](#)]
4. **C. Pacchierotti**, F. Ongaro, F. van den Brink, C. Yoon, D. Prattichizzo, D. H. Gracias, S. Misra. "Steering and control of miniaturized untethered soft magnetic grippers with haptic feedback." *IEEE Transactions on Automation Science and Engineering*, In Press, 2017. [[PDF](#)]
5. **C. Pacchierotti**, S. Scheggi, D. Prattichizzo, S. Misra. "Haptic feedback for microrobotics applications: a review". *Frontiers in Robotics and AI*, 3(53), 2016. [[OPEN ACCESS](#)]
6. M. Abayazid, **C. Pacchierotti**, P. Moreira, P. Alterovitz, D. Prattichizzo, S. Misra. "Experimental evaluation of co-manipulated ultrasound-guided flexible needle steering." *The International Journal of Medical Robotics and Computer Assisted Surgery*, 12(2):219-230, 2016. [[PDF](#)]
7. **C. Pacchierotti**, D. Prattichizzo, K. J. Kuchenbecker. "Cutaneous feedback of fingertip deformation and vibration for robotic surgery." *IEEE Transactions on Biomedical Engineering*, 63(2):278-287, 2016. [[PDF](#)]
8. **C. Pacchierotti**, L. Meli, F. Chinello, M. Malvezzi, D. Prattichizzo. "Cutaneous haptic feedback to ensure the stability of robotic teleoperation systems." *International Journal of Robotics Research*, 34(14):1773-1787, 2015. [[PDF](#)]

9. **C. Pacchierotti**, V. Magdanz, M. Medina-Sánchez, O. G. Schmidt, D. Prattichizzo, S. Misra. “Intuitive control of self-propelled microjets with haptic feedback.” *Journal of Micro-Bio Robotics*, 10(1):37-53, 2015. [PDF]
10. **C. Pacchierotti**, K. J. Kuchenbecker, D. Prattichizzo. “Displaying sensed tactile cues with a fingertip haptic device.” *IEEE Transactions on Haptics*, 8(4):384-396, 2015. This article has been featured in a issue of *IEEE Computing Now*, in a section devoted to the “Best of Cutting-Edge Computing Research”. [PDF]
11. **C. Pacchierotti**, A. Tirmizi, G. Bianchini, D. Prattichizzo. “Enhancing the performance of passive teleoperation systems via cutaneous feedback.” *IEEE Transactions on Haptics*, 8(4):397-409, 2015. This article has been featured on the homepage of the *IEEE Transactions on Haptics* in Jan - Feb 2016. [PDF]
12. **C. Pacchierotti**, M. Abayazid, S. Misra, D. Prattichizzo. “Teleoperation of steerable flexible needles by combining kinesthetic and vibratory feedback.” *IEEE Transactions on Haptics*, 7(4):551-556, 2014. [PDF]
13. L. Meli, **C. Pacchierotti**, D. Prattichizzo. “Sensory subtraction in robot-assisted surgery: fingertip skin deformation feedback to ensure safety and improve transparency in bimanual haptic interaction.” *IEEE Transactions on Biomedical Engineering*, 61(4):1318-1327, 2014. [PDF]
14. G. Rosati, F. Oscari, **C. Pacchierotti**, D. Prattichizzo. “Effects of kinesthetic and cutaneous stimulation during the learning of a viscous force field.” *IEEE Transactions on Haptics, Special Issue on Haptics in Rehabilitation and Neural Engineering*, 7(2):251-263, 2014. [PDF]
15. **C. Pacchierotti**, A. Tirmizi, D. Prattichizzo. “Improving transparency in teleoperation by means of cutaneous tactile force feedback.” *ACM Transactions on Applied Perception*, 11(1):4-4, 2014. [PDF]
16. D. Prattichizzo, F. Chinello, **C. Pacchierotti**, M. Malvezzi. “Towards wearability in fingertip haptics: a 3-DoF wearable device for cutaneous force feedback.” *IEEE Transactions on Haptics*, 6(4):506-516, 2013. This article has been ranked as the most popular ToH paper on IEEEXplore for **16 months** (May 2014 – August 2015). [PDF]
17. D. Prattichizzo, **C. Pacchierotti**, G. Rosati. “Cutaneous feedback as a sensory subtraction technique in haptics.” *IEEE Transactions on Haptics*, 5(4):289-300, 2012. [PDF]

National Journal Articles

1. D. Prattichizzo, **C. Pacchierotti**. WEARHAP: sistemi robotici indossabili per uomini e robot. *E-Health magazine: Ingegneria Clinica*, Issue 26, 2013. [PDF]

Book Chapters

1. L. Meli, **C. Pacchierotti**, D. Prattichizzo. “Sensory subtraction via cutaneous feedback in robot-assisted surgery.” In *New Trends in Medical and Service Robots*, H. Bleuler, M. Bouri, F. Mondada, D. Pislá, A. Rodic, P. Helmer (eds.), Vol. 38, pp. 121-130, Mechanisms and Machine Science, 2016. [PDF]
2. **C. Pacchierotti**, D. Prattichizzo, K. J. Kuchenbecker. “A data-driven approach to remote tactile interaction: from a BioTac sensor to any fingertip cutaneous device.” In *Haptics: Neuroscience, Devices, Modeling, and Applications*, M. Auvray, C. Duriez (eds.), Vol. 8618, pp. 418-424, Lecture Notes in Computer Science, 2014. [PDF]
3. F. Chinello, M. Aurilio, **C. Pacchierotti**, D. Prattichizzo. “The HapBand: a cutaneous device for remote tactile interaction.” In *Haptics: Neuroscience, Devices, Modeling, and Applications.*, M. Auvray, C. Duriez (eds.), Vol. 8618, pp. 284-291, Lecture Notes in Computer Science, 2014. [PDF]
4. **C. Pacchierotti**, F. Chinello, M. Malvezzi, L. Meli, D. Prattichizzo. “Two finger grasping simulation with cutaneous and kinesthetic force feedback.” In *Haptics: Perception, Devices, Mobility, and Communication*, P. Isokoski, J. Springare (eds.), Vol. 7282, pp. 373-382, Lecture Notes in Computer Science, 2012. [PDF]
5. D. Prattichizzo, **C. Pacchierotti**, S. Cenci, K. Minamizawa, G. Rosati. “Using a fingertip tactile device to substitute kinesthetic feedback in haptic interaction.” In *Haptics: Generating and Perceiving Tangible Sensations*, A.M.L. Kappers, J.B.F. van Erp, W.M. Bergmann Tiest, F.C.T. van der Helm (eds.), Vol. 6191, pp. 125-130, Lecture Notes in Computer Science, 2010. [PDF]

Peer-Reviewed Conference Papers

1. J. Bimbo, **C. Pacchierotti**, M. Aggravi, N. Tsagarakis, D. Prattichizzo. “Teleoperation in cluttered environments using wearable haptic feedback.” *Proc. IEEE/RSJ Int. Conf. Intelligent Robots and Systems*, In Press, Vancouver, Canada, 2017.
2. M. Chauhan, N. Deshpande, G. Barresi, **C. Pacchierotti**, D. Prattichizzo, D.G. Caldwell, L. Mattos. “Design and control of a novel robotic microsurgical forceps for transoral laser microsurgery.” *Proc. IEEE/ASME International Conference on Advanced Intelligent Mechatronic*, In Press, Munich, Germany, 2017.
3. I. Hussain, L. Meli, **C. Pacchierotti**, D. Prattichizzo. “A soft robotic supernumerary finger and a wearable cutaneous finger interface to compensate the missing grasping capabilities in chronic stroke patients.” *Proc. IEEE World Haptics Conference (WHC)*, In press, Munich, Germany, 2017. [PDF]
4. I. Hussain, G. Spagnoletti, **C. Pacchierotti**, D. Prattichizzo. “A wearable haptic ring for the control of extra robotic fingers.” *Proc. Asia Haptics*, To appear, Chiba, Japan, 2016. [PDF]
5. F. Chinello, **C. Pacchierotti**, M. Malvezzi, D. Prattichizzo. “A novel 3RRS wearable fingertip cutaneous device for virtual interaction.” *Proc. Asia Haptics*, To appear, Chiba, Japan, 2016. [PDF]
6. N. Deshpande, M. Chauhan, **C. Pacchierotti**, D. Prattichizzo, D.G. Caldwell, L. Mattos. “Robot-assisted microsurgical forceps with haptic feedback for transoral laser microsurgery.”. *Proc. Annual International Conference of the IEEE Engineering in Medicine and Biology Society (EMBC)*, pages 5156-5159, Orlando, FL, USA, 2016. [PDF]
7. F. Ongaro, **C. Pacchierotti**, C. Yoon, D. Prattichizzo, D. H. Gracias, S. Misra. “Evaluation of electromagnetic system with haptic feedback for control of untethered, soft grippers affected by disturbances”. *Proc. IEEE RAS EMBS Int. Conf. on Biomedical Robotics and Biomechanics (BioRob)*, pages 908–913, Singapore, Republic of Singapore, 2016. [PDF]
8. **C. Pacchierotti**, G. Salvietti, I. Hussain, L. Meli, D. Prattichizzo. “The hRing: a wearable haptic device to avoid occlusions in hand tracking”. *Proc. IEEE Haptics Symposium (HAPTICS)*, pages 134–139, Philadelphia, PA, USA, 2016. The demonstration of this device, used together with a robotic extra finger, has won the [Best Demonstration Award](#) at the same conference. [PDF]
9. J. D. Brown, M. Ibrahim, E. D. Z. Chase, **C. Pacchierotti**, K. J. Kuchenbecker. “Data-driven comparison of four cutaneous displays for pinching palpation in robotic surgery”. *Proc. IEEE Haptics Symposium (HAPTICS)*, pages 147–154, Philadelphia, PA, USA, 2016. [PDF]
10. F. Chinello, **C. Pacchierotti**, N. G. Tsagarakis, D. Prattichizzo. “Design of a wearable skin stretch cutaneous device for the upper limb”. *Proc. IEEE Haptics Symposium (HAPTICS)*, pages 14–20, Philadelphia, PA, USA, 2016. [PDF]
11. A. Tirmizi, **C. Pacchierotti**, I. Hussain, G. Alberico, D. Prattichizzo. “A perceptually-motivated deadband compression approach for cutaneous haptic feedback”. *Proc. IEEE Haptics Symposium (HAPTICS)*, pages 223–228, Philadelphia, PA, USA, 2016. [PDF]
12. L. Fichera, **C. Pacchierotti**, E. Olivieri, D. Prattichizzo, L. S. Mattos. “Kinesthetic and vibrotactile haptic feedback improves the performance of laser microsurgery”. *Proc. IEEE Haptics Symposium (HAPTICS)*, pages 59–64, Philadelphia, PA, USA, 2016. [PDF]
13. F. Chinello, M. Malvezzi, **C. Pacchierotti**, D. Prattichizzo. “Design and development of a 3RRS wearable fingertip cutaneous device.” *Proc. IEEE/ASME International Conference on Advanced Intelligent Mechatronic*, pages 293–298, Busan, Republic of Korea, 2015. [PDF]
14. I. Hussain, G. Salvietti, L. Meli, **C. Pacchierotti**, D. Prattichizzo. “Using the robotic sixth finger and vibrotactile feedback for grasp compensation in chronic stroke patients.” *Proc. IEEE/RAS-EMBS International Conference on Rehabilitation Robotics (ICORR)*, pages 67–72, Singapore, Republic of Singapore, 2015. Best Student Paper Award finalist. [PDF]

15. S. Scheggi, L. Meli, **C. Pacchierotti**, D. Prattichizzo. “Touch the virtual reality: using the Leap Motion controller for hand tracking and wearable tactile devices for immersive haptic rendering.” *Proc. ACM Special Interest Group on Computer Graphics and Interactive Techniques Conference (SIGGRAPH) posters*, page 31, Los Angeles, USA, 2015. [PDF]
16. I. Hussain, L. Meli, **C. Pacchierotti**, G. Salvietti, D. Prattichizzo. “Vibrotactile haptic feedback for intuitive control of robotic extra fingers.” *Proc. IEEE World Haptics Conference (WHC)*, pages 394–399, Chicago, USA, 2015. The device presented in this paper has been featured in the cover of the conference proceedings. [PDF]
17. **C. Pacchierotti**, M. Abayazid, S. Misra, D. Prattichizzo. “Steering of flexible needles combining kinesthetic and vibratory force feedback.” *Proc. IEEE/RSJ Int. Conf. Intelligent Robots and Systems (IROS)*, pages 1202–1207, Chicago, USA, 2014. [PDF]
18. L. Meli, S. Scheggi, **C. Pacchierotti**, D. Prattichizzo. “Wearable haptics and hand tracking via an RGB-D camera for immersive tactile experiences.” *Proc. ACM Special Interest Group on Computer Graphics and Interactive Techniques Conference (SIGGRAPH) posters*, page 56, Vancouver, Canada, 2014. [PDF]
19. **C. Pacchierotti**, A. Tirmizi, G. Bianchini, D. Prattichizzo. “Improving transparency in passive teleoperation by combining cutaneous and kinesthetic force feedback.” *Proc. IEEE/RSJ Int. Symp. Intelligent Robots and Systems (IROS)*, pages 4958–4963, Tokyo, Japan, 2013. [PDF]
20. A. Ramos, **C. Pacchierotti**, D. Prattichizzo. “Vibrotactile stimuli for augmented haptic feedback in robot-assisted surgery.” *Proc. IEEE World Haptics Conference (WHC)*, pages 473–478, Daejeon, Korea, 2013. [PDF]
21. A. Tirmizi, **C. Pacchierotti**, D. Prattichizzo. “On the role of cutaneous force in teleoperation: subtracting kinesthesia from complete haptic feedback.” *Proc. IEEE World Haptics Conference (WHC)*, pages 371–376, Daejeon, Korea, 2013. [PDF]
22. **C. Pacchierotti**, F. Chinello, D. Prattichizzo. “Cutaneous device for teleoperated needle insertion.” *Proc. 4th IEEE RAS EMBS Int. Conf. on Biomedical Robotics and Biomechatronics (BioRob)*, pages 32–37, Rome, Italy, 2012. [PDF]
23. F. Chinello, M. Malvezzi, **C. Pacchierotti**, D. Prattichizzo. “A three DoFs wearable tactile display for exploration and manipulation of virtual objects.” *Proc. IEEE Haptics Symposium (HAPTICS)*, pages 71–76, Vancouver, Canada, 2012. [PDF]
24. **C. Pacchierotti**, G. Rosati, D. Petroni, D. Prattichizzo. “Sensory subtraction and active constraints for teleoperation.” *Proc. Automatica.it* (National conference), Pisa, Italy, 2011.
25. D. Prattichizzo, F. Chinello, **C. Pacchierotti**, K. Minamizawa. “RemoTouch: a system for remote touch experience.” *Proc. IEEE Int. Symp. in Robot and Human Interactive Communication (ROMAN)*, pages 676–679, Viareggio, Italy, 2010. This work has been presented to the EXPO 2011 in Shanghai within the “Italia degli Innovatori” initiative. [PDF]

Short Peer-Reviewed Conference Papers, Extended Abstracts, and Demonstrations

1. G. Gioioso, G. Spagnoletti, L. Meli, T. Lisini Baldi, **C. Pacchierotti**, and D. Prattichizzo. “Interacting with the virtual reality: rendering of pressure, textures, and making/break contact sensations via fingertip wearable haptic devices.” *Short paper at the IEEE World Haptics Conference (WHC)*, Munich, Germany, 2017.
2. G. Gioioso, G. Spagnoletti, L. Meli, T. Lisini Baldi, **C. Pacchierotti**, and D. Prattichizzo. “Interacting with the virtual reality: rendering of pressure, textures, and making/break contact sensations via fingertip wearable haptic devices.” *Hands-on demonstration at the IEEE World Haptics Conference (WHC)*, Munich, Germany, 2017.
3. O. A. Moreno, J. Bimbo, **C. Pacchierotti**, G. Bianchini, and D. Prattichizzo. “Optimizing damping factors in a 3DoF passive two-layer approach for bilateral telemanipulation.” *Short paper at the IEEE World Haptics Conference (WHC)*, Munich, Germany, 2017.
4. G. Spagnoletti, I. Hussain, **C. Pacchierotti**, G. Salvietti, and D. Prattichizzo. “The hRing as a wearable haptic interface for extra robotic fingers.” *Hands-on demonstration at the IEEE Haptics Symposium (HAPTICS)*, Philadelphia, PA, USA, 2016. **Best Demonstration Award** winner.

5. **C. Pacchierotti**, V. Magdanz, M. Medina-Sánchez, O. G. Schmidt, D. Prattichizzo, S. Misra. “Teleoperation of self-propelled microjets with haptic feedback.” *Short Paper at the IEEE World Haptics Conference (WHC)*, Chicago, USA, 2015.
6. L. Meli, S. Scheggi, **C. Pacchierotti**, D. Prattichizzo. “Using the Leap Motion controller for hand tracking and wearable haptic devices for contact rendering.” *Hands-on demonstration at the IEEE World Haptics Conference (WHC)*, Chicago, USA, 2015. [PDF]
7. **C. Pacchierotti**, D. Prattichizzo. “Sensory subtraction via cutaneous feedback: a novel technique to improve the transparency of robotic surgery.” *4th Joint Workshop on Computer/Robot Assisted Surgery (CRAS)*, Genova, Italy, 2014. [PDF]
8. **C. Pacchierotti**, P. Shirsat, J. K. Koehn, D. Prattichizzo, K. J. Kuchenbecker. “Cutaneous feedback of planar fingertip deformation and vibration on a da Vinci Surgical robot.” *Workshop on “The Role of Human Sensorimotor Control in Surgical Robotics”, IEEE/RSJ Int. Symp. Intelligent Robots and Systems (IROS)*, Chicago, USA, 2014. [PDF]
9. **C. Pacchierotti**, D. Prattichizzo. “Wearable haptics: cutaneous feedback and teleoperation.” *Workshop on “Wearable haptics: from neurophysiology foundations to new wearable haptic designs and exoskeletons”, IEEE Haptics Symposium (HAPTICS)*, Houston, USA, 2014.
10. D. Prattichizzo, **C. Pacchierotti**, S. Mulatto, S. Nencini, M. de Pascale, M. Fei, and E. Fei. “The role of robotics in Second Life.” *Workshop on “Simulation and Second Life”, Hyperborea, Centre for Policy Modelling, Second Life*, 2007. [PDF]

Invited Talks

1. **C. Pacchierotti**. “Cutaneous haptic feedback to improve the performance and safety of robotic teleoperation systems.” *Invited lecture at the Robotics Research Jam Sessions*, Pisa, Italy, 2016.
2. **C. Pacchierotti**. “Cutaneous haptic feedback in robotic teleoperation.” *Invited lecture at the Université de Picardie Jules Verne*, Amiens, France, 2016.
3. **C. Pacchierotti**. “Comparison of cutaneous feedback methods for pinching palpation in robotic surgery” *Invited talk at Intuitive Surgical Inc.*, Santa Clara, CA, USA, 2016.
4. **C. Pacchierotti**. “Haptic feedback for robot-assisted surgery and telemanipulation” *Invited lecture at the Inria Rennes-Bretagne Atlantique research center*, Rennes, France, 2015.
5. **C. Pacchierotti**. “Improving the performance and safety of robotic teleoperation systems via cutaneous haptic feedback.” *Invited lecture at the University of Groningen*, Groningen, The Netherlands, 2015.
6. **C. Pacchierotti**. “Cutaneous haptic feedback in robotic teleoperation.” *Invited lecture at the University of Edinburgh*, Edinburgh, United Kingdom, 2015.
7. **C. Pacchierotti**. “Enhancing the performance of robotic teleoperation systems via cutaneous feedback.” *Invited lecture at the University of Agder*, Grimstad, Norway, 2015.
8. **C. Pacchierotti**. “Cutaneous haptic feedback in robotic teleoperation.” *Invited semi-plenary talk at the IEEE World Haptics Conference (WHC)*, Chicago, USA, 2015.

PROFESSIONAL AND UNIVERSITY SERVICE

Program Committees, Conference Organization, and Other Research Leadership Roles

- Publicity Co-Chair, Asia Haptics, 2018.
- Judge, “Robotics Made in Italy Video Contest,” 2017.
- Associate Editor, IEEE World Haptics, München, Germany, 2017.
- Publicity Chair, IEEE World Haptics, München, Germany, 2017.

Claudio Pacchierotti, Ph.D.

Judge, “EuroHaptics Best PhD thesis” award, 2017.

Co-Organizer (with S. Sinclair, M. Solazzi, A. Frisoli, V. Hayward, and D. Prattichizzo) of the workshop on “Wearable haptic systems: design, applications, and perspectives,” IEEE World Haptics Conference, München, Germany, 2017. The workshop has been the most attended workshop of the conference (100+ attendees!).

Co-Organizer (with K. J. Kuchenbecker and D. Prattichizzo) of the workshop on “Cutaneous Feedback for Teleoperation in Medical Robotics,” IEEE World Haptics Conference, Chicago, USA, 2015.

Dept. of Information Engineering and Mathematics, University of Siena, Siena, Italy

Teaching Assistant for the course “Robotics II” (Fall 2014).

Teacher for the course “Elements of control systems” (Fall 2012).

Teacher for the course “LaTeX for beginners” (Jun 2011 and Mar 2012).

Teaching Assistant for the course “Robotics I” (Fall 2011).

Teaching Assistant for the course “Human-centered robotics” (Spring 2011).

Member of the Orientation Committee (2010 – 2011).

Member of the Graduate Curriculum Committee (2010 – 2011).

Institute of Electrical and Electronics Engineers (IEEE)

Senior Reviewer, IEEE Robotics & Automation Society Young Reviewers Program (from 2016).

Member of the IEEE Robotics & Automation Society Italian Chapter (I-RAS) secretariat (2006 – 2010).

Reviews

Journal paper reviews: IEEE Transactions on Haptics, IEEE Transactions on Robotics, IEEE Transactions on Mechatronics, Journal of Biomedical and Health Informatics, IEEE Transactions on Biomedical Engineering, IEEE Transactions on Human-Machine Systems, IEEE Transactions on Automation Science and Engineering, International Journal of Computer Assisted Radiology and Surgery, Robotics & Automation Letters, Presence: Teleoperators and Virtual Environments, and Electronics.

Conference paper reviews: IEEE Haptics Symposium, EuroHaptics, IEEE International Conference on Robotics and Automation (ICRA), World Haptics (WHC), IEEE/RJS International Conference on Intelligent Robots and Systems (IROS), IEEE Int. Conference on Biomedical Robotics and Biomechatronics (BioRob), IEEE Humanoid Robots (Humanoids), Automatica.it, Annual Conference of IEEE Industrial Electronics Society (IECON), IMEKO TC4, IEEE Symposium on 3D User Interfaces.

Book proposal reviews: Elsevier.

ADVISING

Researchers with dashed underlining have been co-advised with Prof. Domenico Prattichizzo (UNISI), researchers with solid underlining have been co-advised with Dr. Paolo Robuffo Giordano (CNRS), and researchers with wavy underlining have been co-advised with Dr. Anatole Lécuyer (INRIA). I have been the sole advisor for researchers with no underlining.

Postdoctoral Researchers

Marco Aggravi, started Feb 2017.

PostDoc at the Institut de Recherche en Informatique et Systèmes Aléatoires (IRISA), Rennes, France.

Project: “Wearable haptics for the intuitive control of unmanned aerial vehicles.”

João Bimbo, started March 2016.

PostDoc at the Italian Institute of Technology (IIT), Genova, Italy.

Project: “Robotic controllers for performing soft, gentle, and strong manipulation.”

Leonardo Meli, started August 2016

PostDoc at the University of Siena, Siena, Italy.

Project: “Wearable haptic interfaces for robot-assisted surgery applications.”

Ph.D. Students

Rahaf Rahal, starting October 2017.

Ph.D. student at the Institut de recherche en informatique et systèmes aléatoires (IRISA), Rennes, France.
Project: “Mixed tactile-force feedback for safe and intuitive robotic teleoperation.”

Xavier De Tinguy de la Girouliere, starting September 2017.

Ph.D. student at the Institut de recherche en informatique et systèmes aléatoires (IRISA), Rennes, France.
Project: “Conception de techniques d’interaction multi-sensorielles pour la manipulation dextre d’objets en réalité virtuelle.”

Olmo Alonso Moreno Franco, started November 2015.

Ph.D. student at the Italian Institute of Technology (IIT), Genova, Italy.
Project: “Tank-based passivity control approaches in robotic teleoperation systems with cutaneous haptic feedback.”

Leonardo Meli, graduated July 2016

Ph.D. student at the Italian Institute of Technology (IIT), Genova, Italy.
Project: “Mixing kinesthetic and vibrotactile haptic feedback to improve the performance of robot-assisted surgery.”

Asad Tirmizi, graduated April 2016.

Ph.D. student at the University of Siena, Siena, Italy.
Thesis: “Attuning cutaneous, vibrotactile, and kinesthetic components of haptic feedback in teleoperation.”
Winner of the “SIDRA Award” for the best Italian PhD Thesis in the field of Systems and Control Engineering.

Undegraduate Students

Pierre Perraud

B.S. student at ENIB, Brest, France.

Pauline Morin

B.S. student at ENS Rennes, Rennes, France.

Florent Pausé, to graduate September 2017

M.S. student at INSA, Strasbourg, France.

Maurizio Maisto, graduated November 2016

M.S. student at the University of Rome “La Sapienza,” Roma, Italy.
Thesis: “Wearable haptics for virtual and augmented reality.”

Mirko Aurilio, graduated October 2014

B.S. student at the University of Siena, Siena, Italy.
Thesis: “The HapBand: un dispositivo cutaneo per l’interazione tattile remota.”

Leonardo Meli, graduated July 2012

M.S. student at the University of Siena, Siena, Italy.
Thesis: “A novel approach for two fingers grasping devices with cutaneous and kinesthetic force feedback.”

Omar Al Atassi, graduated December 2011.

B.S. student at the University of Siena, Siena, Italy.
Thesis: “Design of a robotic finger for grasping enhancement.”

PRESS

Article Maisto et al. (2017)

Apr 25, 2017 – Science Magazine – article “Finger devices let users *touch* virtual objects.” (EN).

Apr 25, 2017 – ANSA – article “Tatto virtuale per videogiochi, e-commerce e chirurgia” (IT).

AsiaHaptics Silver Award (2016)

- Dec 7, 2016 – SienaFree – article “AsiaHaptics Silver Award per il laboratorio di Robotica e Sistemi dell’Università di Siena.” (IT).
- Dec 7, 2016 – La Nazione – article “Robotica indossabile da premio a Tokyo.” (IT).
- Dec 7, 2016 – Il Corriere di Siena – article “Il gruppo del Professor Prattichizzo premiato a Tokyo.” (IT).
- Dec 6, 2016 – *i-Siena* – article “AsiaHaptics Silver Award per il laboratorio di Robotica e Sistemi dell’Università di Siena” (IT).

Haptics Symposium Best Demonstration Award (2016)

- Jul 26, 2016 – Il Corriere di Siena – article “Ecco il robot che aiuta nella riabilitazione fisica dopo l’ictus” (IT).
- Jul 26, 2016 – Radio Siena TV – article “Protesi robotica indossabile per pazienti con ictus ideata a Siena” (IT).
- May 11, 2016 – inToscana.it – article “Le protesi indossabili dell’Ateneo di Siena conquistano Philadelphia” (IT).
- May 6, 2016 – Agenzia Giornalistica Italia – article “A Siena protesi robotica per migliore funzionalità mani” (IT).
- May 6, 2016 – Oggi Scienza – article “Robotica e disabilità: gli studi vincenti dell’Università di Siena” (IT).
- May 12, 2016 – Ok Salute e Benessere – article “Ictus: ecco il sesto dito robotico che aiuta la mano paralizzata” (IT).
- May 11, 2016 – SienaFree.it – article “Una protesi robotica indossabile per i pazienti affetti da ictus sviluppata all’Università di Siena” (IT).

EuroHaptics Best PhD Award (2014)

- December 3, 2015 – SiBlogga! – interview “Una tesi fant-aptica. L’interSvista all’autore: Claudio Pacchierotti” (IT).
- August 11, 2015 – GeniusLab – article “Da IIT una tecnologia per dare ai chirurghi il senso del tatto a distanza durante le operazioni con i robot” (IT).
- July 16, 2015 – La Nazione – article “La migliore tesi di dottorato è di uno studente senese” (IT).

RemoTouch project (2010)

- June 1, 2017 – Radio 24 – article “Tatto virtuale: come funziona la tecnologia che vuole rivoluzionare la realtà virtuale” (IT).
- December 13, 2013 – La Repubblica – article “L’archivio delle carezze le nostre emozioni in un file” (IT).
- March 27, 2010 – Sky TG24 – interview “Io Reporter” (IT).
- March 22, 2010 – La Repubblica.it/Affari&Finanza – article “Il tocco esperto del medico arriva via Skype” (IT).
- March 16, 2010 – Il Corriere di Siena – article “Esperienze tattili a distanza” (IT).

RESEARCH PROJECTS

I have been working on the following national and international projects.

“WEARHAP - WEARable HAPTics for humans and robots”

(funded by the European Union Seventh Framework Programme FP7/2007-2013 under grant agreement n° 601165)

“ACTIVE - Active Constraints Technologies for Ill-defined or Volatile Environments”

(funded by the European Union Seventh Framework Programme FP7/2007-2013 under grant agreement n° 270460)

“THE - THE Hand Embodied”

(funded by the European Union Seventh Framework Programme FP7/2007-2013 under grant agreement n° 248587)

“ROBOCAST - ROBOt and sensors integration for Computer Assisted Surgery and Therapy”
(funded by the European Union Seventh Framework Programme FP7/2007-2013 under grant agreement n° 215190)

“Underactuated systems for manipulation in virtual environment”
(funded by the Italian Ministry of Education, Universities and Research under the 2008 PRIN programme)

“Establishing IEEE/RAS Points of Presence and Initiatives in Second Life (SL)”
(funded by the IEEE Robotics and Automation Society under the 2007 New Initiatives programme)