Curriculum Vitae

Alessandro Formaglio

Personal info

- Alessandro Formaglio, PhD.
- Birth: December 13, 1977, Grosseto, Italy.
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Contacts

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  53100 Siena, Italy

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Current position

Research Associate from 2007, Department of Information Engineering, University of Siena.

Research interests

Robotics, haptically-enabled virtual reality, perception-based haptics, redundant and mobile haptic devices.

Education

- February 2008: Ph.D. in Robotics and Automation. University of Siena, Italy.
  Ph.D. Thesis: "*Simulation of manipulations tasks in large Virtual Reality environments*", advisors: prof. Domenico Prattichizzo and prof. Antonio Vicino.
- July 2005: Qualifying exam for engineer's profession, 2nd session 2005, University of Florence, Italy.
- February 2004 M.S. degree in Engineering of Automation. University of Siena, Italy.
  Master Thesis: "*Interfacce aptiche mobili con workspace illimitato*", advisor: prof. Domenico Prattichizzo.

FELLOWSHIP

- 2004: Research Fellow at Dipartimento d'Ingegneria dell'Informazione, University of Siena and with Dipartimento d'Informatica, Sistemistica e Telematica, University of Genova

PARTICIPATION TO RESEARCH PROJECTS

- FP7 "THE - The Hand Embodied" European Project within the 7th Framework Program, 2009.
- FP7 "RoboCAST" European Community Project within the 7th Framework Program, 2007.
- "Studio della Mano Umana con Metodologie e Tecnologie Robotiche per Applicazioni in Neuroscienze e Riabilitazione", supported by Fondazione Monte dei Paschi, 2006.
- PRIN 2005 "AIDA", supported by MIUR 2006/2007.
- "SI3 - Sistema Integrato per lo studio dell'Interazione uomo-macchina e la realizzazione di Interfacce multimodali", Progetto Grandi Attrezzature Università di Siena. 2004.
- PRIN 2002 "MATRICS", supported by MIUR 2003/2004.

TEACHING

- 2009/2010 Teaching Assistant, course: *Robotica e Automazione di Processo*, Department of Information Engineering, University of Siena.
- 2008/2009 Lecturer, course: *Laboratorio di Matlab*, Department of Information Engineering, University of Siena.
- 2008/2009 Teaching Assistant, course: *Robotica e Automazione di Processo*, Department of Information Engineering, University of Siena.
- 2007/2008 Teaching Assistant, course: *Robotica e Automazione di Processo*, Department of Information Engineering, University of Siena..
- 2007 Lecturer, course: *Robotica Industriale*, Progetto Automazione PMI, Eurobic, Sinalunga, Siena, 2007.
- 2007 Lecturer, course: *Robotica Industriale*, Progetto Formazione IFTS, Grosseto, 2007.
- 2006/2007 Teaching Assistant, course: *Robotica e Automazione di Processo*, Department of Information Engineering, University of Siena.
- 2005/2006 Teaching Assistant, course: *Robotica e Automazione di Processo*, Department of Information Engineering, University of Siena.
- 2005/2006 Teaching Assistant, course: *Robotica*, Department of Information Engineering, University of Siena - Arezzo.
- 2005 Lecturer, course: *Robotica Industriale*, Progetto Automazione PMI, Eurobic, Poggibonsi, Siena, 2005.

ATTENDED CONFERENCES, WORKSHOPS AND COURSES

- July 2010: EuroHaptics Conference 2010, Amsterdam, Holland. Regular talk.
- August 2009: EUCA European Conference on Control, Budapest, Hungary. Regular talk.
- June 2009: IEEE ICAR, Munich, Germany. Regular talk.
- November 2008: View Conference, Torino, Italy. Attendance.
- November 2008: Peach Industry Event, Torino, Italy. Attendance.
- October 2008: Workshop MIMOS 2008, Roma, Italy. Invited talk.
- September 2008: SIDRA Conference, Vicenza, Italy. Poster presentation.
- June 2008: EuroHaptics Conference 2008, Madrid, Spain. Regular talk.
- April 2007: International Conference on Robotics and Automation ICRA2007, Roma, Italy. Regular Talk.
- June 2006: EuroHaptics Conference 2006, Paris, France. Two Regular Talks.
- September 2006: SIDRA Conference, Milano, Italy. Invited talk.
- December 2006: Colloquium on Robotics and Automation, Napoli, Italy. Attendance.
- July 2005: HyCon PhD School on Hybrid Systems, Siena, Italy. PhD Course.
- March 2005: World Haptics Conference 2005, Pisa, Italy. Poster presentation.
- November 2005: ENACTIVE Conference 2005, Genova, Italy. Poster presentation.
- December 2004: Workshop on Robotics and Neuroscience, Siena, Italy. Attendance.

CONSULTING

- 01/06/2005 - 30/07/2005: consulting on Interface Programming for Industrial Automation, for CAPEL s.n.c., Sinalunga.

SOCIETY MEMBERSHIP

- IEEE Associate Member, from 2008.
- Member of PEACH - Presence Research in Action, from 2008.
- Member of MIMOS - Movimento Italiano Modellazione e Simulazione, from 2008.
- I-RAS Member from 2006.

ACTIVITY AS PEER-REVIEWER

Peer-reviewer of several Journals in the area of Robotics, Automation and Control, Haptics, including IEEE Transactions on Robotics, IEEE Transactions on Control Systems Technology, Virtual Reality Journal (Springer) , Presence (Mit Press), International Journal of Computers and Applications (ACTA Press).

Articles in journal or book chapters:

1) A. Formaglio, G. Baud-Bovy, D. Prattichizzo. Virtual surface discrimination via an anisotropic-stiffness contact model. In Haptics: Generating and Perceiving Tangible Sensations. Eurohaptics 2010, pp. 291-296, Lecture Notes in Computer Science, Springer Verlag, Amsterdam, The Netherlands, 2010.

2) S. Mulatto, A. Formaglio, M. Malvezzi, D. Prattichizzo. Animating a deformable hand avatar with postural synergies for haptic grasping. In Haptics: Generating and Perceiving Tangible Sensations. Eurohaptics 2010, pp. 203-210, Lecture Notes in Computer Science, Springer Verlag, Amsterdam, The Netherlands, 2010.

3) A. Formaglio, M. Fei, S. Mulatto, M. de Pascale, and D. Prattichizzo. Eurohaptics 2008, volume LNCS 5024 of Lecture Notes in Computer Science, chapter Autocalibrated gravity compensation for 3 DoF impedance haptic devices. Springer Verlag, 2008.

4) A. Formaglio, D. Prattichizzo, F. Barbagli, and A. Giannitrapani. Dynamic performance of mobile haptic interfaces. IEEE Trans. on Robotics, 24(3):559–575, June 2008.

5) D. Prattichizzo, M. Barni, H.Z. Tan, G. Menegaz, and A. Formaglio. Perceptual Issues in Haptic Digital Watermarking. IEEE MultiMedia Magazine, 14(3):84–91, July-September 2007.

6) A. Formaglio, M. de Pascale, and D. Prattichizzo. A mobile platform for haptic grasping in large environments. Virtual Reality, Springer - Special Issue on Multisensory Interaction in Virtual Environments, pp 11-23, 2006.

7) F. Barbagli, A. Formaglio, M. Franzini, A. Giannitrapani, and D. Prattichizzo. An experimental study of the limitations of mobile haptic interfaces. In Experimental Robotics IX, STAR, Springer Tracks in Advanced Robotics. Springer, Berlin Heidelberg, 2005.

8) D. Prattichizzo, M. de Pascale, and A. Formaglio. Robotica e medicina: studi e ricerche sull'interazione tattile presso l'Università di Siena. info@teoresi, pp 3–4, December 2005.

Conference articles:

1) A. Formaglio, S. Mulatto, and D. Prattichizzo. Iterative estimation of the end-effector apparent gravity force for 3DoF impedance haptic devices. EUCA European Conference on Control 2009, August 2009.

2) J. Semmoloni, R. Manganelli, A. Formaglio, and D. Prattichizzo. Control design issues for a microinvasive neurosurgery teleoperator system. Proc. IEEE Int. Conf. on Advanced Robotics, Munich, Germany, June 2009.

3) A. Formaglio, G. Baud-Bovy, and D. Prattichizzo. Conveying Virtual Tactile Feedback Via Augmented Kinesthetic Stimulation. In Proc. IEEE Int. Conf. on Robotics and Automation, pages 3995–4000, 2007.

4) S. Belloni, A. Formaglio, G. Menegaz, H.Z. Tan, D. Prattichizzo, and M. Barni. Is haptic watermaking worth it?. In Proc. IS&T and SPIE, International Symposium on Electronic Imaging, San Jose, California USA, January 16-20 2006.

5) A. Formaglio, G. Baud-bovy, and D. Prattichizzo. Is it possible to perceive the shape of an object without exploring it?. In Proc. of Eurohaptics, pages 441-446, 3-6 July 2006.

6) A. Formaglio, S. Belloni, G. Menegaz, H. Z. Tan, M. Barni, and D. Prattichizzo. Perceptibility of digital watermarking in haptically enabled 3D meshes. In Proc. of Eurohaptics, Paris, pages 407-412, 3-6 July 2006.

7) A. Formaglio, A. Giannitrapani, F. Barbagli, M.Franzini, and D. Prattichizzo. Performance of Mobile Haptic Interfaces. In Proc. IEEE Int. Conf. on Decision and Control, Seville, Spain, pages 8343-8348, December 12-15 2005.

8) A. Formaglio, A. Giannitrapani, M. Franzini, D. Prattichizzo, and F. Barbagli. Current Issues in Haptic Rendering Using Mobile Haptic Interfaces. In Proc. World Haptics Conference, Pisa, Italy, March 18-20 2005.

9) A. Formaglio and D. Prattichizzo. A Smooth Approximation of Mobile Platform Displacement for Mobile Haptic Interfaces. In Proceedings of 2nd International Conference on Enactive Interfaces, Genoa, Italy, November 17-18 2005.

Thesis:

1) A.Formaglio. *Simulation of manipulation tasks in large Virtual Reality environments*, Ph.D Thesis. Department of Information Engineering, University of Siena. 2004.

2) A.Formaglio. *Interfacce aptiche mobili con workspace illimitato*, M.S. Thesis. Department of Information Engineering, University of Siena. 2004.

For further information: http://www.dii.unisi.it/∼formaglio