Pietro Valdastri

Email: p.valdastri@leeds.ac.uk
WWW: www.stormlab.xyz

EDUCATION

Doctor of Philosophy, Biomedical Engineering
Scuola Superiore Sant'Anna, Pisa, Italy, December 2006
Dissertation Title: Multi-Axial Force Sensing in Minimally Invasive Robotic Surgery
Advisor: Paolo Dario
Laurea Degree, Electrical Engineering
University of Pisa, Pisa, Italy, February 2002

EMPLOYMENT

2016 – present	Director of the Institute of Robotics, Autonomous Systems and Sensing, University of Leeds, United Kingdom
2016 - present	Full Professor, Chair of Robotics and Autonomous Systems, Faculty of Engineering, University of Leeds, United Kingdom
2016 - present	Adjoint Professor of Mechanical Engineering, Vanderbilt University School of Engineering, Vanderbilt University
2015 - present	Senior Fellow, Department of Mechanical Engineering, Melbourne School of Engineering, University of Melbourne, Australia
2015 - 2016	Standing member of the Health Sciences 2 Institutional Review Board at Vanderbilt University.
2014 - 2015	Vanderbilt Junior Faculty Teaching Fellow
2014 - 2016	Assistant Professor, Electrical Engineering, Vanderbilt University (Secondary Appointment)
2013 - 2016	Assistant Professor of Medicine, Division of Gastroenterology, Hepatology, and Nutrition, Vanderbilt University School of Medicine (Secondary Appointment)
2011- 2016	Assistant Professor, Mechanical Engineering, Vanderbilt University (Primary Appointment)
2009-2011	Scientific Director, WINMEDICAL s.r.l.
2008-2011	Assistant Professor, Biomedical Engineering, Scuola Superiore Sant'Anna
2007-2011	Scientific Consultant, MicroTech s.r.l.
2007-2008	Postdoctoral fellow, Scuola Superiore Sant'Anna
2005	Visiting Researcher, Fujie's Lab, Waseda University, Tokyo, Japan

HONORS AND AWARDS

2016 **Overall Winner and Best Application Prize**, "Ultra-low-cost endoscopy for gastric cancer screening in low-income countries", Surgical Robot Challenge 2016, Hamlyn Symposium of Medical Robotics, London, UK

2016 **Wolfson Research Merit Award**, The Royal Society, UK

2015 **NSF CAREER Award** with the proposal "Lifesaving Capsule Robots"

2014 **Best Poster Award**, "A Modular Architecture for Miniature Capsule Robots Based on TinyOS", 12th ACM Conference on Embedded Networked Sensor Systems (SenSys 2014), Memphis, TN.

2014 **Second Place, Graduate Mechanisms Category, 2014 ASME Student Mechanism & Robot Design Competition**, "Laparoscopic Retractor Based on Local Magnetic Actuation", Buffalo, NY. https://sites.google.com/site/asmesmrdc/

2014 **Top 10 Abstract**, "Laparoscopic Wireless Palpation Probe: Feasibility of Simulated Tumor Detection in a Human Prostate", Engineering and Urology Society 2014 meeting, Orlando, FL.

2013 **OLYMPUS Best Laparoscopy/Robotic Paper Award**, "Laparoscopic Wireless Palpation Device: Preliminary Assessment of Simulated Tumor Detection in an Elastic Modulus", 31st World Congress of Endourology, New Orleans, LA – http://www.endourology.org/about/past_awards.php

2013 **First Place, Student Poster Symposium,** "Tablet Technology to Improve Colonoscopy", Student Research Symposium organized at Vanderbilt University by the Vanderbilt Center for Science Outreach, Nashville, TN

2013 **Top 10 Abstract**, "Fine tilt tuning of a laparoscopic camera by local magnetic actuation: Two-Port Laparoscopic Nephrectomy Experience on Human Cadavers", Engineering and Urology Society 2013 meeting, San Diego, CA.

2012 **OLYMPUS ISCAS Best Paper Award**, "Remote active magnetic actuation for a single-access surgical robotic manipulator", 16th Annual Conference of the International Society for Computer Aided Surgery (ISCAS) in Pisa, Italy

2012 **Best Oral Presentation Award**, "Magnetic Mechanism for Wireless Capsule Biopsy", ASME Design of Medical Devices Conference, Minneapolis, MN

2011 **Best Oral Presentation Award**, "A Novel Surgical Robotic Platform Minimizing Access Trauma", The 4th Hamlyn Symposium on Medical Robotics, London, UK

2011 **Best Technology Presentation Award**, "Magnetic air capsule robotic system: A novel approach for painless colonoscopy", The 19th International Congress of the European Association of Endoscopic Surgery, Turin, Italy

2010 **Best Exhibit Award**, The VECTOR Project, European Conference on Information and Communication Technologies, Bruxelles, Belgium

2009 **Co-Founder of the start-up company "WINMEDICAL s.r.l."**, Pisa, Italy

2008 **Best Paper Award**, "A Miniaturized Wireless Control Platform for Robotic Capsular Endoscopy using Pseudokernel Approach", Eurosensors 2008, Dresden, Germany

2008 **Best Innovative Idea**, Italian Ministry of Youth Policies

2007 **Best PhD dissertation in Biomedical Engineering**, Italian Society of Biomedical Engineering

2007 **Best PhD dissertation in Service Robotics**, SIRI - Italian Association of Robotic and Automation

2006 **Magna cum Laude**, Scuola Superiore Sant'Anna
2002 **Magna cum Laude**, University of Pisa

PUBLICATIONS AND SCHOLARSHIP

Refereed Journal Publications Currently In Press

1. N. Di Lorenzo, L. Cenci, M. Simi, C. Arcudi, V. Tognoni, A. L. Gaspari, **P. Valdastri**, "A Magnetic Levitation Robotic Camera for Minimally Invasive Surgery - Useful for NOTES?", Surgical Endoscopy, 2016, in press.
2. F. Leong, N. Garbin, C. Di Natali, A. Mohammadi, D. Thiruchelvam, D. Oetomo, **P. Valdastri**, "Magnetic Surgical Instruments for Robotic Abdominal Surgery", IEEE Reviews in Biomedical Engineering, 2016, in press, available on line.
3. C. J. Laborde, C. S. Bell, J. C. Slaughter, **P. Valdastri**, K. L. Obstein, "Evaluation of a novel tablet application for improvement in colonoscopy training and mentoring (with video)", Gastrointestinal Endoscopy, 2016, in press, available on-line.

Refereed Journal Publications In Print

4. M. Beccani, C. Di Natali, **P. Valdastri**, K. L. Obstein, "Restoring haptic feedback in NOTES procedures with a novel Wireless Tissue Stiffness Probe", Journal of Medical Robotics Research, 2016, Vol. 01, No. 02, 1650002.
5. E. Susilo, J. Liu, Y. Alvarado-Rayo, A. M. Peck, J. Montenegro, M. Gonyea, **P. Valdastri**, "eSMAC: an Affordable Modular Robotic Kit for Integrated STEM Education", IEEE Robotics and Automation Magazine, 2016, Vol. 23, No. 2, pp. 47-55.
6. M. Beccani, G. Aiello, N. Gkotsis, H. Tunc, A. Taddese, E. Susilo, P. Volgyesi, A. Ledeczi, E. De Momi, **P. Valdastri**, "Component Based Design of a Drug Delivery Capsule Robot", Sensors and Actuators A: Physical, 2016, Vol. 245, pp. 180–188.
7. C. Di Natali, M. Beccani, N. Simaan, **P. Valdastri**, "Jacobian-based Iterative Method For Magnetic Localization in Robotic Capsule Endoscopy", IEEE Transactions on Robotics, 2016, Vol. 32, N. 2, pp. 327-338.
8. N. Garbin, P. Slawinski, G. Aiello, C. Karraz, **P. Valdastri**, "Laparoscopic Camera based on an Orthogonal Magnet Arrangement", IEEE Robotics and Automation Letters, 2016, Vol. 1, N. 2, pp. 924-929.
9. P. Slawinski, K. L. Obstein, **P. Valdastri**, "Capsule Endoscopy of the Future: What's on the Horizon?", World Journal of Gastroenterology, 2015, Vol. 21, N. 37, pp. 10528-10541.
10. M. Beccani, H. Tunk, A. Taddese, E. Susilo, P. Volgyesi, A. Ledeczi, **P. Valdastri**, "Systematic Design of Medical Capsule Robots", IEEE Design & Test, Special Issue on Cyber Physical Systems for Medical Applications, 2015, Vol. 32, N. 5, pp. 98-108.
11. N. T. Hoang, C. S. Bell, **P. Valdastri**, "Utilization of LEDs in a Communication Protocol for Endoscopic Submarine Capsules", Young Scientist Journal, 2015, pp. 9-12.

12. P. Slawinski, K. L. Obstein, **P. Valdastri**, “Emerging issues and future developments in Capsule Endoscopy”, Techniques in Gastrointestinal Endoscopy, 2015, Vol. 17, N. 1, pp. 40–46.
13. R. Caprara, K. L. Obstein, G. Scozzarro, C. Di Natali, M. Beccani, D. R. Morgan, **P. Valdastri**, “A Platform for Gastric Cancer Screening in Low and Middle-Income Countries”, IEEE Transactions on Biomedical Engineering, 2015, Vol. 62, N. 5, pp. 1324-1332.
14. C. Di Natali, J. Buzzi, N. Garbin, M. Beccani, **P. Valdastri**, “Closed-Loop Control of Local Magnetic Actuation for Robotic Surgical Instruments”, IEEE Transactions on Robotics, 2015, Vol. 31, N. 1, pp. 143-156.
15. M. Beccani, C. Di Natali, C. E. Benjamin, C. S. Bell, N. E. Hall, **P. Valdastri**, “Wireless Tissue Palpation: head characterization to improve tumor detection in soft tissue”, Sensors and Actuators: A Physical, 2015, Vol. 223, pp. 180-190.
16. N. Garbin, C. Di Natali, J. Buzzi, E. De Momi, **P. Valdastri**, “Laparoscopic Tissue Retractor Based on Local Magnetic Actuation”, ASME Journal of Medical Devices, 2015, Vol. 9, 011005-1-10.
17. M. Beccani, E. Susilo, C. Di Natali, **P. Valdastri**, “SMAC: a Modular Open Source Architecture for Medical Capsule Robots”, International Journal of Advanced Robotic Systems, 2014, Vol. 11, N. 188, pp. 1-16.
18. B. A. Steele, C. S. Bell, K. L. Obstein, **P. Valdastri**, “Tablet Technology to Improve Colonoscopy”, Young Scientist Journal, 2014, Vol. 4, pp. 36-38.
19. T. Pasricha, B. F. Smith, V. R. Mitchell, B. Fang, E. Brooks, J. Gerding, M. Washington, **P. Valdastri**, K. L. Obstein, “Controlled colonic insufflation by a remotely-triggered capsule for improved mucosal visualization”, Endoscopy, 2014, Vol. 46, N. 7, pp. 614-618.
20. C. Di Natali, M. Beccani, K. L. Obstein, **P. Valdastri**, “A wireless platform for in vivo measurement of resistant properties of the gastrointestinal tract”, Physiological Measurements, 2014, Vol. 35, pp. 1197–1214.
21. G. Ciuti, M. Nardi, **P. Valdastri**, A. Menciassi, C. B. Fasolo, P. Dario, “HU-MOVE: a low-invasive wearable monitoring platform in sexual medicine”, Urology, 2014, Vol. 84, No. 4, pp. 976-981.
22. M. Beccani, C. Di Natali, L. Sliker, J. Schoen, M. E. Rentschler, **P. Valdastri**, “Wireless Tissue Palpation for Intraoperative Detection of Lumps in Soft Tissue”, IEEE Transactions on Biomedical Engineering, 2014, Vol. 61, N. 2, pp. 353-361.
23. C. S. Bell, K. L. Obstein, **P. Valdastri**, “Image partitioning and illumination in image-based pose detection for teleoperated flexible endoscopes”, Artificial Intelligence in Medicine, 2013, Vol. 59, N. 3, pp. 185-196.
24. M. Simi, G. Gerboni, A. Menciassi, **P. Valdastri**, “Magnetic Torsion Spring Mechanism for a Wireless Biopsy Capsule”, ASME Journal of Medical Devices, 2013, Vol. 7, N. 4, 041009:1-9.
25. A. Arezzo, A. Menciassi, **P. Valdastri**, G. Ciuti, G. Lucarini, M. Salerno, C. Di Natali, M. Verra, P. Dario, M. Morino, “Experimental assessment of a novel robotically-driven endoscopic capsule compared to traditional colonoscopy”, Digestive and Liver Disease, 2013, Vol. 45, N. 8, pp. 657-662.

26. C. Di Natali, M. Beccani, **P. Valdastri**, "Real-Time Pose Detection for Magnetic Medical Devices", IEEE Transactions on Magnetics, 2013, Vol. 49, N. 7, pp. 3524-3527.
27. M. Simi, R. Pickens, A. Menciassi, S. D. Herrell, **P. Valdastri**, "Fine tilt tuning of a laparoscopic camera by local magnetic actuation: Two-Port Nephrectomy Experience on Human Cadavers", Surgical Innovation, 2013, Vol. 20, N. 4, pp. 385-394.
28. T. Horeman, D. D. Kurteva, **P. Valdastri**, F. W. Jansen, J. J. van den Dobbelsteen, J. Dankelman, "The Influence of Instrument Configuration on Tissue Handling Force in Laparoscopy", Surgical Innovation, 2013, Vol. 20, N. 3, pp. 260-267.
29. J. L. Gorlewicz, S. Battaglia, B. F. Smith, G. Ciuti, J. Gerding, A. Menciassi, K. L. Obstein, **P. Valdastri**, and R. J. Webster III, "Wireless Insufflation of the Gastrointestinal Tract", IEEE Transactions on Biomedical Engineering, 2013, Vol. 60, N. 5, pp. 1225-1233.
30. K. L. Obstein, S. Battaglia, B. F. Smith, J. S. Gerding, **P. Valdastri**, "Novel approach for colonic insufflation via an untethered capsule (with video)", Gastrointestinal Endoscopy, 2013, Vol. 77, N. 3, pp. 516-517.
31. K. L. Obstein, **P. Valdastri**¸ "Advanced Endoscopic Technologies for Colorectal Cancer Screening", World Journal of Gastroenterology, 2013, Vol. 19, N. 4, pp. 431-439.
32. M. Simi, M. Silvestri, C. Cavallotti, M. Vatteroni, **P. Valdastri**, A. Menciassi, P. Dario, "Magnetically Activated Stereoscopic Vision System for Laparoendoscopic Single Site Surgery", IEEE/ASME Transactions on Mechatronics, 2013, Vol. 18, N. 3, pp. 1140-1151.
33. G. Ciuti, N. Pateromichelakis, M. Sfakiotakis, **P. Valdastri**, A. Menciassi, D. P. Tsakiris, P. Dario, "A wireless module for vibratory motor control and inertial sensing in capsule endoscopy", Sensors & Actuators A:Physical, 2012, Vol. 186, pp. 270-276.
34. **P. Valdastri**, M. Simi, R. J. Webster III, "Advanced technologies for gastrointestinal endoscopy", Annual Review of Biomedical Engineering, 2012, Vol. 14, pp. 397-429.
35. **P. Valdastri**, G. Ciuti, A. Verbeni, A. Menciassi, P. Dario, A. Arezzo, M. Morino, "Magnetic air capsule robotic system: Proof of concept of a novel approach for painless colonoscopy", Surgical Endoscopy, 2012, Vol. 26, N. 5, pp. 1238-1246.
36. G. Ciuti, M. Salerno, G. Lucarini, **P. Valdastri**, A. Arezzo, A. Menciassi, M. Morino, P. Dario, "A Comparative Evaluation of Control Interfaces for a Robotic-Aided Endoscopic Capsule Platform", IEEE Transactions on Robotics, 2012, Vol. 28, N. 2, pp. 534-538.
37. M. Simi, N. Tolou, **P. Valdastri**, J. L. Herder, A. Menciassi, P. Dario, "Modeling of a Compliant Joint in a Magnetic Levitation System for an Endoscopic Camera", Mechanical Sciences, 2012, Vol. 3, pp. 5-14.
38. M. Salerno, G. Ciuti, G. Lucarini, R. Rizzo, **P. Valdastri**, A. Menciassi, A. Landi, P. Dario, "A discrete-time localization method for capsule endoscopy based on on-board magnetic sensing", Measurement Science and Technology, 2012, 23 015701 (10pp).
39. C. Cavallotti, P. Merlino, M. Vatteroni, **P. Valdastri**, A. Abramo, A. Menciassi, P. Dario, "An FPGA-based flexible demo-board for endoscopic capsule design optimization", Sensors and Actuators A: Physical, 2011, Vol. 172, No. 1, pp. 301-307.
40. M. Silvestri, M. Simi, C. Cavallotti, M. Vatteroni, V. Ferrari, C. Freschi, **P. Valdastri**, A. Menciassi, P. Dario, "Autostereoscopic three-dimensional viewer evaluation through comparison with conventional interfaces in laparoscopic surgery", Surgical Innovation, 2011,

Vol. 18, No. 3, pp. 223-230.
41. **P. Valdastri**, E. Sinibaldi, S. Caccavaro, G. Tortora, A. Menciassi, P. Dario, "A novel magnetic actuation system for miniature swimming robots", IEEE Transactions on Robotics, 2011, Vol. 27, No. 4, pp. 769-779.
42. V. Pensabene, **P. Valdastri**, S. Tognarelli, A. Menciassi, A. Arezzo, P. Dario, "Mucoadhesive film for anchoring assistive surgical instruments in endoscopic surgery: in vivo assessment of deployment and attachment", Surgical Endoscopy, 2011, Vol. 25, No. 9, pp. 3071-3079.
43. **P. Valdastri**, E. Susilo, T. Förster, C. Strohhöfer, A. Menciassi, P. Dario, "Wireless implantable electronic platform for chronic fluorescent-based biosensors", IEEE Transactions on Biomedical Engineering, 2011, Vol. 58, No. 6, pp. 1846-1854.
44. M. Vatteroni, **P. Valdastri**, A. Sartori, A. Menciassi, P. Dario, "Linear-logarithmic CMOS pixel with tunable dynamic range", IEEE Transactions on Electron Devices, 2011, Vol. 58, No. 4, pp. 1108-1115.
45. S. Tognarelli, V. Pensabene, S. Condino, **P. Valdastri**, A. Menciassi, A. Arezzo, P. Dario, "A pilot study on a new anchoring mechanism for surgical applications based on mucoadhesives", Minimally Invasive Therapy & Allied Technologies, 2011, Vol. 20, No. 1, pp. 3-13.
46. M. Piccigallo, U. Scarfogliero, C. Quaglia, G. Petroni, **P. Valdastri**, A. Menciassi, P. Dario, "Design of a novel bimanual robotic system for single-port laparoscopy", IEEE/ASME Transactions on Mechatronics, 2010, Vol. 15, No. 6, pp. 871-878.
47. M. Vatteroni, D. Covi, C. Cavallotti, **P. Valdastri**, A. Menciassi, P. Dario, A. Sartori, "Smart optical CMOS sensor for endoluminal applications", Sensors and Actuators A: Physical, 2010, Vol. 162, No. 2, pp. 297-303.
48. D. Covi, C. Cavallotti, M. Vatteroni, L. Clementel, **P. Valdastri**, A. Menciassi, P. Dario, A. Sartori, "Miniaturized digital camera system for disposable endoscopic applications", Sensors and Actuators A: Physical, 2010, Vol. 162, No. 2, pp. 291-296.
49. E. Buselli, V. Pensabene, P. Castrataro, **P. Valdastri**, A. Menciassi, P. Dario, "Evaluation of friction enhancement through soft polymer micro-patterns in active capsule endoscopy", Measurement Science and Technologies, 2010, 21 105802 (7pp).
50. **P. Valdastri**, C. Quaglia, E. Buselli, A. Arezzo, N. Di Lorenzo, M. Morino, A. Menciassi, P. Dario, "A magnetic internal mechanism for precise orientation of the camera in wireless endoluminal applications", Endoscopy, 2010, Vol. 42, pp. 481-486.
51. J. L. Toennies, G. Tortora, M. Simi, **P. Valdastri**, R. J. Webster III, "Swallowable Medical Devices for Diagnosis and Surgery: The State of the Art", Proceedings of the Institution of Mechanical Engineers, Part C: Journal of Mechanical Engineering Science, 2010, Vol. 224, No. 7, pp. 1397-1414.
52. M. Simi, G. Ciuti, S. Tognarelli, **P. Valdastri**, A. Menciassi, P. Dario, "Magnetic link design for a robotic laparoscopic camera", Journal of Applied Physics, 2010, Vol.107, No. 9, pp. 09B302 - 09B302-3.
53. M. Simi, **P. Valdastri**, C. Quaglia, A. Menciassi, P. Dario, "Design, Fabrication and Testing of an Endocapsule with Active Hybrid Locomotion for the Exploration of the

Gastrointestinal Tract", IEEE Transactions on Mechatronics, 2010, Vol. 15, No.2, pp. 170-180.

54. G. Ciuti, R. Donlin, **P. Valdastri**, A. Arezzo, A. Menciassi, M. Morino, P. Dario, "Robotic versus manual control in magnetic steering of an endoscopic capsule", Endoscopy, 2010, Vol. 42, pp. 148-152.
55. G. Ciuti, **P. Valdastri**, A. Menciassi, P. Dario, "Robotic magnetic steering and locomotion of capsule endoscope for diagnostic and surgical endoluminal procedures", Robotica, 2010, Vol. 28, No. 2, pp.199-207.
56. R. Carta, G. Tortora, J. Thoné, B. Lenaerts, **P. Valdastri**, A. Menciassi, R. Puers, P. Dario, "Wireless powering for a self-propelled and steerable endoscopic capsule for stomach inspection", Biosensors and Bioelectronics, 2009, Vol. 25, No. 4, pp. 845-851.
57. C. Quaglia, E. Buselli, R. J. Webster III, **P. Valdastri**, A. Menciassi, P. Dario, "An Endoscopic Capsule Robot: A Meso-Scale Engineering Case Study", Journal of Micromechanics and Microengineering, 2009, Vol. 19, No. 10, 105007 (11pp).
58. G. Tortora, **P. Valdastri**, E. Susilo, A. Menciassi, P. Dario, F. Rieber, M. O. Schurr, "Propeller-based wireless device for active capsular endoscopy in the gastric district", Minimally Invasive Therapy & Allied Technologies, Vol. 18, No. 5, pp. 280-290, 2009.
59. E. Susilo, **P. Valdastri**, A. Menciassi, P. Dario, "A Miniaturized Wireless Control Platform for Robotic Capsular Endoscopy Using Advanced Pseudokernel Approach", Sensors and Actuators A: Physical, 2009, Vol. 156, No. 1, pp. 49-58.
60. C. Cavallotti, M. Piccigallo, E. Susilo, **P. Valdastri**, A. Menciassi, P. Dario, "An Integrated Vision System with Autofocus for Wireless Capsular Endoscopy", Sensors and Actuators A: Physical, 2009, Vol. 156, No. 1, pp. 72-78.
61. **P. Valdastri**, R. J. Webster III, C. Quaglia, M. Quirini, A. Menciassi, P. Dario, "A New Mechanism for Meso-Scale Legged Locomotion in Compliant Tubular Environments", IEEE Transactions on Robotics, 2009, Vol. 25, No. 5, pp. 1047-1057.
62. **P. Valdastri**, S. Tognarelli, A. Menciassi, P. Dario, "A scalable platform for biomechanical studies of tissue cutting forces", Measurement Science and Technology, 2009, Vol. 20, 045801 (11pp).
63. E. Buselli, **P. Valdastri**, M. Quirini, A. Menciassi, P. Dario, "Superelastic leg design optimization for an endoscopic capsule with active locomotion", Smart Materials and Structures, 2009, Vol. 18, 015001 (8pp).
64. **P. Valdastri**, C. Quaglia, E. Susilo, A. Menciassi, P. Dario, C. N. Ho, G. Anhoeck, M. O. Schurr, "Wireless Therapeutic Endoscopic Capsule: in-vivo Experiment", Endoscopy, 2008, Vol. 40, pp. 979-982.
65. **P. Valdastri**, A. Menciassi, P. Dario, "Transmission Power Requirements for Novel ZigBee Implants in the Gastrointestinal Tract", IEEE Transactions on Biomedical Engineering, 2008, Vol. 55, No. 6, pp. 1705-1710 – A picture from this paper appeared on the cover of the volume.
66. **P. Valdastri**, S. Rossi, A. Menciassi, V. Lionetti, F. Bernini, F. A. Recchia, P. Dario, "An Implantable ZigBee Ready Telemetric Platform For In Vivo Monitoring Of Physiological Parameters", Sensors and Actuators A: Physical, 2008, Vol. 142, No. 1, pp. 369-378.

67. A. Sieber, **P. Valdastri**, K. Houston, C. Eder, O. Tonet, A. Menciassi, P. Dario, "A Novel Haptic Platform for Real Time Bilateral Biomanipulation with a MEMS Sensor for Triaxial Force Feedback", Sensors and Actuators A: Physical, 2008, Vol. 142, No. 1, pp. 19-27.
68. A. Sieber, **P. Valdastri**, K. Houston, A. Menciassi, P. Dario, "Flip Chip Microassembly of a Silicon Triaxial Force Sensor on Flexible Substrates", Sensors and Actuators A: Physical, 2008, Vol. 142, No. 1, pp. 421-428.
69. L. Beccai, S. Roccella, L. Ascari, **P. Valdastri**, A. Sieber, M. C. Carrozza, P. Dario, "Development and Experimental Analysis of a Soft Compliant Tactile Microsensor to be Integrated in an Antropomorphic Artificial Hand", IEEE/ASME Transactions on Mechatronics, 2008, Vol. 13, No. 2, pp. 158-168.
70. C. Oddo, **P. Valdastri**, L. Beccai, S. Roccella, M.C. Carrozza, P. Dario, "Investigation on calibration methods for multi-axis, linear and redundant force sensors", Measurement Science and Technology, 2007, Vol. 18, pp.623-631.
71. **P. Valdastri**, K. Houston, A. Menciassi, P. Dario, A. Sieber, M. Yanagihara, M. Fujie, "Miniaturised Cutting Tool with Triaxial Force Sensing Capabilities for Minimally Invasive Surgery", ASME Journal of Medical Devices, 2007, Vol. 1, N. 3, pp. 206-211.
72. G. Turchetti, B. Labella, **P. Valdastri**, A. Menciassi, P. Dario, "The importance of giving an alternative: the case of fetal surgery", Int. J. Healthcare Technology and Management, 2007, Vol. 8, Nos. 3-4, pp.250–267.
73. **P. Valdastri**, K. Harada, A. Menciassi, L. Beccai, C. Stefanini, M. Fujie, and P. Dario, "Integration of a Miniaturised Triaxial Force Sensor in a Minimally Invasive Surgical Tool", IEEE Transactions on Biomedical Engineering, 2006, Vol. 53, No. 11, 2397-2400.
74. **P. Valdastri**, P. Corradi, A. Menciassi, T. Schmickl, K. Crailsheim, J. Seyfried, P. Dario, "Micromanipulation, Communication and Swarm Intelligence Issues in a Swarm Microrobotic Platform", Robotics and Autonomous Systems, 2006, Vol. 54, No. 10, pp. 789-804.
75. **P. Valdastri**, S. Roccella, L. Beccai, E. Cattin, A. Menciassi, M. C. Carrozza, P. Dario, "Characterization of a novel hybrid silicon three-axial force sensor", Sensors and Actuators A: Physical, 2005, Vol. 123-124C, pp. 249-257.
76. L. Beccai, S. Roccella, A. Arena, F. Valvo, **P. Valdastri**, A. Menciassi, M. C. Carrozza, P. Dario, "Design and fabrication of a hybrid silicon three-axial force sensor for biomechanical applications", Sensors and Actuators A: Physical, 2005, Vol. 120, No. 2, pp. 370-382.
77. **P. Valdastri**, A. Menciassi, A. Arena, C. Caccamo, P. Dario, "An Implantable Telemetry Platform System for in vivo Monitoring of Physiological Parameters", IEEE Transactions on Information Technology in Biomedicine, 2004, Vol. 8, No. 3, pp. 271-278.

Book Chapters

1. V. N. Valentine, **P. Valdastri**, "Capsule robots for endoscopy", AccessScience/McGraw-Hill Yearbook of Science & Technology 2015, YB150621.
2. J. L. Toennies, R. J. Webster III, **P. Valdastri**, "Mesoscale Mobile Robots for Gastrointestinal Minimally Invasive Surgery (MIS)", Chapter 10, pp. 224-251, in "Medical

Robotics - Minimally Invasive Surgery" edited by Paula Gomes, Woodhead Publishing Series in Biomaterials: Number 51, ISBN 0-85709-130-1.

3. A. Menciassi, **P. Valdastri**, K. Harada, P. Dario, "Single and Multiple Robotic Capsules for Endoluminal Diagnosis and Surgery", Chapter 14, pp. 313-354, in "Surgical Robotics - System Applications and Visions", edited by J. Rosen, B. Hannaford, R. Satava, published by Springer, 1st Edition., 2011, XXII, 819 p. 365 illus., Hardcover, ISBN: 978-1-4419-1125-4.

Refereed Conference Publications

1. A. Taddese, P. Slawinski, K. L. Obstein, and **P. Valdastri**, "Nonholonomic Closed-loop Velocity Control of a Soft-tethered Magnetic Endoscope", in Proc. of IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS 2016), Daejeon, Korea, October 9-14, 2016, in press.
2. A. Taddese, P. Slawinski, K. Obstein, **P. Valdastri**, "Closed Loop Control of a Tethered Magnetic Capsule Endoscope", Proceedings of Robotics: Science and Systems, Ann Arbor, Michigan, June 2016.
3. H. Gu, M. Bain, C. J. Yen, S. Fang, F. Leong, A. Mohammadi, **P. Valdastri**, D. Oetomo, "Local Magnetic Actuation Based Laparoscopic Camera for Minimally Invasive Surgery", Australasian Conference on Robotics and Automation (ACRA) 2015, in press.
4. M. Beccani, C. Benjamin, C. Di Natali, **P. Valdastri**, "A magnetic drug delivery capsule based on a coil actuation mechanism", Eurosensors 2015, Freiburg, Germany, September 2015, Procedia Engineering, Vol. 120, pp. 53–56.
5. A. Mohammadi, C. Di Natali, D. Samsonas, **P. Valdastri**, Y. Tan, D. Oetomo, "Speed Control of Non-collocated Stator-Rotor Synchronous Motor with Application in Robotic Surgery", in Proc. 10th Asian Control Conference 2015 (ASCC 2015), June 2015, Kota Kinabalu, Malaysia, pp. 1-6.
6. A. Mohammadi, C. Di Natali, D. Samsonas, **P. Valdastri**, Y. Tan, D. Oetomo, "Electromagnetic Actuator across Abdominal Wall for Minimally Invasive Robotic Surgery", ASME Design of Medical Devices Conference, April 2015, Minneapolis, Minnesota, ASME Journal of Medical Devices, 2015; 9(3):030937-030937-3.
7. C. Di Natali, A. Mohammadi, D. Oetomo, **P. Valdastri**, "Surgical Robotic Manipulator Based on Local Magnetic Actuation", ASME Design of Medical Devices Conference, April 2015, Minneapolis, Minnesota, ASME Journal of Medical Devices, 2015; 9(3):030936-030936-2.
8. J. Wade, M. Beccani, A. Myszka, E. T. Bekele, **P. Valdastri**, P. Flemming, T. Withrow, N. Sarkar, "Design and Implementation of an Instrumented Cane for Gait Recognition", in Proc. of IEEE International Conference on Robotics and Automation (ICRA) 2015, Seattle, WA, USA, May 2015, pp. 5904-5909.
9. A. Taddese, M. Beccani, E. Susilo, P. Volgyesi, A. Ledeczi, **P. Valdastri**, "Toward Rapid Prototyping of Miniature Capsule Robots", in Proc. of IEEE International Conference on Robotics and Automation (ICRA) 2015, Seattle, WA, USA, May 2015, pp. 4704-4709.
10. M. Beccani, C. Di Natali, N. E. Hall, C. E. Benjamin, C. S. Bell, **P. Valdastri**, "Wireless

Tissue Palpation: characterization of the probe head to improve detection of tumors in soft tissue", Eurosensors 2014, Brescia, Italy, in Procedia Engineering, Vol. 87, 2014, pp. 352–355.

11. G. A. Puerto-Souza, A. N. Staranowicz, C. S. Bell, **P. Valdastri**, G. L. Mariottini, "A Comparative Study of Ego-Motion Estimation Algorithms for Teleoperated Robotic Endoscopes", MICCAI 2014, Computer-Assisted and Robotic Endoscopy - CARE 2014.
12. C. S. Bell, G. Puerto, G. Mariottini, **P. Valdastri**, "Six DOF Pose Estimation for Teleoperated Flexible Endoscopes Using Optical Flow: A Comparative Study", IEEE International Conference on Robotics and Automation (ICRA) 2014, Hong Kong, China, pp. 5386-5392.
13. X. Wang, C. Di Natali, M. Beccani, M. Kern, **P. Valdastri**, M. Rentschler, "Novel Medical Wired Palpation Device: A Device Validation Study of Material Properties", Transducers 2013, Barcelona, Spain, pp. 1653-1658.
14. M. Beccani, C. Di Natali, M. E. Rentschler, **P. Valdastri**, "Wireless Tissue Palpation: Proof of Concept for a Single Degree of Freedom", IEEE International Conference on Robotics and Automation (ICRA) 2013, Karlsruhe, Germany, pp. 703-709.
15. M. Beccani, C. Di Natali, M. Rentschler, **P. Valdastri**, "Uniaxial Wireless Tissue Palpation Device for Minimally Invasive Surgery", ASME Design of Medical Devices Conference, April 2013, Minneapolis, Minnesota, ASME Journal of Medical Devices, Vol. 7, N. 2, 020919 (3 pp).
16. **P. Valdastri**, C. Di Natali, "Remote active magnetic actuation for a single-access surgical robotic manipulator", ISCAS 2012, Pisa, Italy, June 2012, International Journal of Computer Assisted Radiology and Surgery, Vol. 7, pp. S169-S171. Presented by Valdastri. **RECIPIENT OF BEST PAPER AWARD.**
17. C. Di Natali, T. Ranzani, M. Simi, A. Menciassi, **P. Valdastri**, "Trans-abdominal Active Magnetic Linkage for Robotic Surgery: Concept Definition and Model Assessment", in Proc. of IEEE International Conference on Robotics and Automation (ICRA) 2012, St Paul, MN, USA, May 2012, pp. 695-700.
18. M. Simi, G. Gerboni, A. Menciassi, **P. Valdastri**, "Magnetic Mechanism for Wireless Capsule Biopsy", ASME Design of Medical Devices Conference, April 10-12, 2012, Minneapolis, Minnesota, ASME Journal of Medical Devices, Vol. 6, p. 017611-1. Presented by Simi. **RECIPIENT OF BEST PAPER AWARD.**
19. M. Vatteroni, C. Cavallotti, **P. Valdastri**, A. Menciassi, P. Dario, P. Merlino, A. Abramo, "Vision system for high frame rate wireless capsule endoscope", in Proc. of IEEE Sensors, 28-31 Oct. 2011, pp. 809-812.
20. G. Tortora, A. Dimitracopoulos, **P. Valdastri**, A. Menciassi, P. Dario, "Design of miniature modular in vivo robots for dedicated tasks in Minimally Invasive Surgery", in Proc. of Advanced Intelligent Mechatronics (AIM), 2011 IEEE/ASME International Conference on, 2011, pp. 327-332.
21. T. Ranzani, C. Di Natali, M. Simi, A. Menciassi, P. Dario, **P. Valdastri**, "A Novel Surgical Robotic Platform Minimizing Access Trauma", in Proc. of 4th Hamlyn Symposium on Medical Robotics, London, UK, June 2011, pp. 15-16. Presented by Valdastri. **RECIPIENT**

OF BEST PAPER AWARD.

22. M. Simi, **P. Valdastri**, N. Di Lorenzo, G. Basili, A. Menciassi, P. Dario, "Preliminary In-vivo Tests with a Magnetic Levitation Camera Robot for Laparoscopic Surgery". in Proc. of 4th Hamlyn Symposium on Medical Robotics, London, UK, June 2011, pp. 25-26.
23. M. Simi, G. Sardi, **P. Valdastri**, A. Menciassi, P. Dario, "Magnetic Levitation Camera Robot for Endoscopic Surgery", in Proc. of IEEE International Conference on Robotics and Automation (ICRA) 2011, Shanghai, China, May 2011, pp. 5279-5284.
24. O. Alonso, J. Canals, L. Freixas, J. Samitier, A. Diéguez, M. Vatteroni, E. Susilo, C. Cavallotti, **P. Valdastri**, "Enabling multiple robotic functions in an endoscopic capsule for the entire gastrointestinal tract exploration", in Proc. ESSCIRC, 2010, pp. 386-389.
25. J. L. Toennies, G. Ciuti, B. F. Smith, A. Menciassi, **P. Valdastri**, Robert J. Webster III, "Toward Tetherless Insufflation of the GI Tract", in Proc. IEEE Engineering in Medicine and Biology Society Conference (EMBC) 2010, Buenos Aires, Argentina, September 2010, pp. 1946-1949.
26. M. Silvestri, M. Simi, C. Cavallotti, M. Vatteroni, **P. Valdastri**, A. Menciassi, P. Dario, "Design of a Magnetically Activated Stereoscopic System for Single Port Laparoscopy", in Proc. of the 3rd Hamlyn Symposium on Medical Robotics, 25 May 2010, London, UK, pp. 63-64.
27. U. Scarfogliero, M. Piccigallo, C. Quaglia, G. Petroni, **P. Valdastri**, A. Menciassi, P. Dario, "Bimanual Robot for Single-Port Laparoscopic Surgery with on-board actuation", in Proc. of the 3rd Hamlyn Symposium on Medical Robotics, 25 May 2010, London, UK, pp. 27-28.
28. G. Tortora, S. Caccavaro, **P. Valdastri**, A. Menciassi, P. Dario, "Design of an autonomous jellyfish miniature robot based on a novel concept of magnetic actuation", in Proc. of IEEE International Conference on Robotics and Automation (ICRA) 2010, Anchorage, AK, USA, May 2010, pp. 1592-1597.
29. A. Menciassi, **P. Valdastri**, C. Quaglia, E. Buselli, P. Dario, "Wireless steering mechanism with magnetic actuation for an endoscopic capsule", in Proc. IEEE Engineering in Medicine and Biology Society Conference (EMBC) 2009, Minneapolis, Minnesota, USA, September 2009, pp. 1204-1207.
30. L. S. Chiang, P. S. Jay, **P. Valdastri**, A. Menciassi, P. Dario, "Tendon Sheath Analysis for Prediction of Distal End Force and Elongation", in Proc. IEEE/ASME Conference on Advanced Intelligent Mechatronics 2009, Singapore, July 2009, pp. 332-337.
31. A. Menciassi, **P. Valdastri**, K. Harada, P. Dario, "Single and multiple robotic capsules for endoluminal diagnosis and surgery," in Proc. IEEE BioRob 2008, Scottsdale, Arizona, USA, 2008, pp. 238-243.
32. A. Arbat, J. Samitier, A. Dieguez, **P. Valdastri**, "Architecture of the integrated electronics for a wireless endoscopic capsule with locomotive and sensing and actuating capabilities", in Proc. IEEE ICECS 2008, Malta, 2008, pp. 510-513.
33. M. Quirini, S. Scapellato, **P. Valdastri**, A. Menciassi, P. Dario, "An Approach to Capsular Endoscopy with Active Motion", in Proc. of 29th Conference of IEEE Engineering in Medicine and Biology Society Conference (EMBC) 2007, Aug 2007, Lyon, France, pp. 2827-2830.

34. O. Tonet, M. Marinelli, G. Megali, A. Sieber, **P. Valdastri**, A. Menciassi, P. Dario, "Control of a teleoperated nanomanipulator with time delay under direct vision feedback", in Proc. of IEEE International Conference on Robotics and Automation (ICRA) 2007, Rome, Italy, April 2007, pp. 3514-3519.
35. A. Eisinberg, I. Izzo, A. Menciassi, K. Houston, **P. Valdastri**, P. Dario, R. Gustafsson, U. Simu and S. Johansson, "Design and shape deposition manufacturing (SDM) fabrication of a PZT-actuated tool for micromanipulation", in Proc. of IEEE International Symposium on Computational Intelligence in Robotics and Automation (CIRA) 2005, Espoo, Finland, June 2005, pp. 111-116.
36. A. Eisinberg, I. Izzo, **P. Valdastri**, A. Menciassi, P. Dario, "A teleoperated SDM-based microinstrument for vessel recognition during MIS", in Proc. of MechRob 2004, Aachen, Germany, September 2004, vol. 3, pp. 1067-1071.
37. A. Eisinberg, I. Izzo, **P. Valdastri**, A. Menciassi, P. Dario, "A portable sensorized micro end-effector for operating in biomedical test-benches", in Proc. of IEEE/RSJ International Conference on Intelligent Robots and System (IROS) 2003, Las Vegas, USA, October 27 - 31, 2003, vol. 3, pp. 2589-2593.

Conference Abstracts

1. F. Campisano, F. Gramuglia, I. Dawson, K. L. Obstein, S. Misra, E. De Momi, **P. Valdastri**, "Water jet actuation for ultra-low cost endoscopy: Characterization of miniature nozzles fabricated by rapid prototyping", in Proc. Of Eurosensors XXX, Budapest Hungary, September 2016, in press.
2. I. Dawson, F. Campisano, F. Gramuglia, K. Obstein, E. Hekman, J. Sikorski, S. Misra, **P. Valdastri**, "Modeling and Validation of a Low-Cost Soft-Tethered Endoscopic Platform", in Proc. of 9th Hamlyn Symposium on Medical Robotics, London, UK, June 2016, pp. 90-91.
3. H. Tunc, A. Taddese, P. Volgyesi, A. Ledeczi, **P. Valdastri**, "Model-based Integrated Design Environment for Rapid Prototyping of Medical Capsule Robots", in Proc. of "Robot Makers: The future of digital rapid design and fabrication of robots" (RoMa) Workshop, 2016 Robotics: Science and Systems Conference, Ann Arbor, MI, June 2016.
4. A. Z. Taddese, P. R. Slawinski, K. B. Musto, **P. Valdastri**, K. L. Obstein, "Evaluation of a Novel Magnetic Actuated Capsule Endoscope for Colorectal Cancer Screening: A Preliminary Feasibility Study", in Proc. Digestive Disease Week, May 2016, San Diego, CA, in press.
5. P. R. Slawinski, A. Z. Taddese, K. B. Musto, K. L. Obstein, **P. Valdastri**, "Evaluation of an intelligent magnetic-actuated capsule endoscope for colorectal cancer screening", in Proc. 8th Image-Guided Therapy Workshop in Bethesda, MD, March 15-16, 2016.
6. C. T. Lyne, F. Campisano, A. V. Vartanian, W. P. Jones, K. L. Obstein, D. R. Morgan, **P. Valdastri**, "Ultra-low-cost Endoscopy for Upper Gastrointestinal Malignancy Screening in Low-Income Countries", NIH-IEEE 2015 Strategic Conference on Healthcare Innovations and Point-of-Care Technologies for Precision Medicine, NIAID Conference Center,

Bethesda, MD, November 9-10, 2015.

7. C. J. Laborde, C. S. Bell, C. Slaughter, **P. Valdastri**, K. L. Obstein, "Evaluation of a novel tablet application for improvement in colonoscopy training and polyp identification", in Proc. Digestive Disease Week, May 2015, Washington, DC, Gastrointestinal Endoscopy, Vol. 81, No. 5S, AB166.
8. A. Taddese, M. Beccani, E. Susilo, P. Völgyesi, Á. Lédeczi, **P. Valdastri**, "A Modular Architecture for Miniature Capsule Robots Based on TinyOS", Sensys 2014, Memphis, TN. **RECIPIENT OF BEST POSTER AWARD**.
9. R. Caprara, C. Di Natali, M. Beccani, G. Scozzarro, D. Morgan, K. Obstein, **P. Valdastri**, "Ultra low-cost endoscopy for gastric cancer screening in low resource settings", 2014, in the proceedings of the 26th International Conference of the Society for Medical Innovation and Technology (SMIT) in Shanghai, China.
10. N. Garbin, C. Di Natali, J. Buzzi, E. De Momi, **P. Valdastri**, "Laparoscopic Retractor Based on Local Magnetic Actuation", 2014 ASME Student Mechanism & Robot Design Competition, August 17-20, 2014, Buffalo, NY. **Second Place, Graduate Mechanisms Category, 2014 ASME Student Mechanism & Robot Design Competition**.
11. K. L. Obstein, T. Pasricha, V. R. Mitchell, B. F. Smith, **P. Valdastri**, "In Vivo Colonic Insufflation via a Disposable CO2 Insufflation System", in Proc. Digestive Disease Week, May 2014, Chicago, IL, Gastroenterology, Vol. 146, No. 5, p. S-142.
12. C. S. Bell, K. L. Obstein, **P. Valdastri**, "Wireless tablet application for remote collaboration and training in colonoscopy", in Proc. Digestive Disease Week, May 2014, Chicago, IL, Gastrointestinal Endoscopy, Vol. 79, No. 5, AB324–AB325.
13. K. L. Obstein, R. J. Caprara, C. Di Natali, M. Beccani, G. Scozzarro, D. R. Morgan, **P. Valdastri**, "Ultra low-cost endoscopy for gastric cancer screening in low resource settings", in Proc. Digestive Disease Week, May 2014, Chicago, IL, Gastrointestinal Endoscopy, Vol. 79, No. 5, AB293.
14. C. Mitchell, M. Beccani, C. Di Natali, A. Benson, S. D. Herrell, **P. Valdastri**, "Laparoscopic wireless palpation probe: Feasibility of simulated tumor detection in a human prostate", in Proc. of the 29th Annual Meeting of the Engineering and Urology Section of the Endourological Society, May 2014, p. 74. **2014 Top 10 Abstract**.
15. A. Benson, M. Beccani, C. Di Natali, R. Pickens, **P. Valdastri**, S. D. Herrell, "Laparoscopic Wireless Palpation Device: Preliminary Assessment of Simulated Tumor Detection in an Elastic Modulus", 31st World Congress of Endourology, October 2013, New Orleans, LA. – **Recipient of the Olympus Best Laparoscopy/Robotic Paper AWARD**
16. R. Pickens, M. Simi, **P. Valdastri**, S. D. Herrell, "Fine tilt tuning of a laparoscopic camera by local magnetic actuation: Two-Port Laparoscopic Nephrectomy Experience on Human Cadavers ", 31st World Congress of Endourology, October 2013, New Orleans, LA.
17. B. Steele, C. S. Bell, K. L. Obstein, **P. Valdastri**, "Tablet Technology to Improve Colonoscopy", Student Research Symposium organized at Vanderbilt University by the Vanderbilt Center for Science Outreach, Nashville, TN – **Recipient of BEST POSTER AWARD**
18. A. Benson, M. Beccani, C. Di Natali, R. Pickens, **P. Valdastri**, S. D. Herrell, "Wireless

Tissue Palpation to Localize Renal Masses: Preliminary Assessment on Laparoscopic Trainer Model", accepted for Poster Presentation at the EUS 2013 meeting, May 2013, San Diego, CA.

19. R. Pickens, M. Simi, A. Menciassi, S. D. Herrell, **P. Valdastri**, "Fine tilt tuning of a laparoscopic camera by local magnetic actuation: Two-Port Laparoscopic Nephrectomy Experience on Human Cadavers", accepted for Poster Presentation at the EUS 2013 meeting, May 2013, San Diego, CA. **2013 TOP 10 ABSTRACT**.
20. R. Pickens, M. Simi, **P. Valdastri**, S. D. Herrell, "Fine tilt tuning of a laparoscopic camera by local magnetic actuation: Two-Port Laparoscopic Nephrectomy Experience on Human Cadavers", American Urological Association Education and Research annual meeting, Journal of Urology, Vol. 189, No. 4, Supplement, Page e339.
21. M. Beccani, C. Di Natali, **P. Valdastri**, K. L. Obstein, "Restoring tactile perception in Natural Orifice Transluminal Endoscopic Surgery (NOTES) through wireless tissue palpation", accepted for oral presentation, in Proc. Digestive Disease Week, May 19-21, 2013, Orlando, FL, Gastrointestinal Endoscopy, Vol. 77, No. 5, Supplement, pp. AB163-AB164.
22. C. Di Natali, M. Beccani, K. L. Obstein, **P. Valdastri**, "Wireless real-time pose detection for magnetic manipulated endoscopic capsules", accepted for poster presentation, in Proc. Digestive Disease Week, May 19-21, 2013, Orlando, FL, Gastrointestinal Endoscopy, Vol. 77, No. 5, Supplement, pp. AB270-AB271.
23. K. L. Obstein, B. Smith, B. Fang, T. Pasricha, J. S. Gerding, **P. Valdastri**, "In vivo colonic insufflation via a wireless capsule system", accepted for poster presentation, in Proc. Digestive Disease Week, May 19-21, 2013, Orlando, FL, Gastrointestinal Endoscopy, Vol. 77, No. 5, Supplement, p. AB467.
24. C. S. Bell, **P. Valdastri**, K. Obstein, "Pose estimation for robot controlled magnetic endoscope teleoperation", accepted for poster presentation, in Proc. Digestive Disease Week, May 19-21, 2013, Orlando, FL, Gastroenterology, Vol. 144, No. 5, Supplement 1, pp. S-715-S-716.
25. **P. Valdastri**, "Miniaturized Wireless Mechatronic Systems: A Graduate Class on Medical CPS", First Workshop on Cyber-Physical Systems Education (CPS-Ed) at CPSWeek 2013, Philadelphia, PA; April 4th 2013.
26. M. Beccani, C. Di Natali, M. Rentschler, **P. Valdastri**, "Proof of Concept of Wireless Tissue Palpation in Abdominal Surgery", poster presentation, in Proc. of the 6th National Image Guided Therapy Workshop, p. 42, March 21-23, 2013, Arlington, VA.
27. T. S. Pasricha, B. F. Smith, V. R. Mitchell, B. Fang, J. S. Gerding, M. K. Washington, **P. Valdastri**, K. L. Obstein, "Novel approach for colonic insufflation via an untethered capsule", Vanderbilt Office of Graduate Medical Education Research Forum, April 2013, Nashville, TN.
28. C. Di Natali, T. Ranzani, M. Simi, **P. Valdastri**, "A novel surgical robotic platform based on trans-abdominal active magnetic links", in Proc. of Medicine Meets Virtual Reality, February 9 - 11, 2012, Newport Beach, CA.
29. **P. Valdastri**, G. Ciuti, A. Verbeni, A. Menciassi, P. Dario, A. Arezzo, M. Morino,

"Magnetic air capsule robotic system: a novel approach for painless colonoscopy", ECTA 2011, Tech Coloproctol, 2011, Vol. 15, p. 234.

30. G. Ciuti, M. Salerno, G. Lucarini, M. Verra, M. E. Allaix, **P. Valdastri**, A. Arezzo, A. Menciassi, M. Morino, P. Dario, "Control user interfaces for a robotic-aid platform fo rendo and laparoscopic applications: which is the best?", ECTA 2011, Tech Coloproctol, 2011, Vol. 15, p. 233.
31. A. Arezzo, A. Menciassi, **P. Valdastri**, G. Ciuti, G. Lucarini, M. Salerno, C. Di Natali, M. Verra, P. Dario, M. Morino, "Experimental assessment of a novel robotically driven endoscopic capsule for colonoscopy: a comparative study", ECTA 2011, Tech Coloproctol, 2011, Vol. 15, p. 233.
32. G. Basili, **P. Valdastri**, D. Pietrasanta, I. Mosca, M. Simi, A. Menciassi, P. Dario, O. Goletti, "A new magnetic camera-robot enabling a multi-instrument procedure in single incision laparoscopic surgery: preliminary experience", SAGES 2011, April 1, 2011.
33. C. Cavallotti, P. Merlino, E. Susilo, M. Vatteroni, **P. Valdastri**, A. Abramo, A. Menciassi, P. Dario, "An FPGA-based flexible demo-board for endoscopic capsule design optimization", Eurosensors 2010, Linz, Austria, in Procedia Engineering, 2010, Vol. 5, pp. 70–73.
34. M. Simi, M. Silvestri, C. Cavallotti, M. Vatteroni, **P. Valdastri**, A. Menciassi, P. Dario, "Development of a Magnetic-activated Stereoscopic Camera for Single Port Laparoscopy", in Proc. Of the 22nd International Conference of Society for Medical Innovation and Technology (SMIT), Minimally Invasive Therapy & Allied Technologies (MITAT), Vol.19, Supl.1, September 2010, p. 25.
35. M. Simi, **P. Valdastri**, A. Menciassi, P. Dario, "Development of a capsule with hybrid locomotion for gastrointestinal tract exploration", in Proc. of the 2nd National Congress of the Italian Group of Bioengineering, 2010, p. 709.
36. G. Ciuti, M. Salerno, G. Lucarini, **P. Valdastri**, A. Arezzo, A. Menciassi, M. Morino, P. Dario, "Preliminary comparative evaluation of control interfaces for a robotic-aided endoscopic platform", in Proc. of the 2nd National Congress of the Italian Group of Bioengineering, 2010, p. 625.
37. S. Caccavaro, G. Tortora, **P. Valdastri**, A. Menciassi, P. Dario, "Design of a magnetic actuation system for an autonomous swimming robot", in Proc. of the 2nd National Congress of the Italian Group of Bioengineering, 2010, p. 603.
38. A. Menciassi, M. Simi, E. Buselli, C. Quaglia, C. Cavallotti, M. Vatteroni, **P. Valdastri**, A. Arezzo, N. Di Lorenzo, P. Dario, "An innovative device for precise and automated camera steering in laparoscopic surgery", in Proc. of the 21st International Conference of Society for Medical Innovation and Technology (SMIT), Sinaia, Romania, October 2009, p. 55.
39. A. Menciassi, G. Ciuti, **P. Valdastri**, A. Arezzo, M. Morino, P. Dario, "A novel robotic-aided platform for magnetic capsule endoscopy", in Proc. of the 21st International Conference of Society for Medical Innovation and Technology (SMIT), Sinaia, Romania, October 2009, p. 77.
40. D. Covi, C. Cavallotti, M. Vatteroni, **P. Valdastri**, A. Menciassi, P. Dario, A. Sartori, "Miniaturized digital camera system for endoluminal surgery", Eurosensors 2009, Lausanne, Switzerland, in Procedia Chemistry, Vol. 1, Is. 1, August 2009, pp. 1223-1226.

41. M. Vatteroni, D. Covi, C. Cavallotti, **P. Valdastri**, A. Menciassi, P. Dario, A. Sartori, "Smart optical CMOS sensor for endoluminal applications", Eurosensors 2009, Lausanne, Switzerland, in Procedia Chemistry, Vol. 1, Is. 1, August 2009, pp. 1271-1274.
42. **P. Valdastri**, E. Susilo, A. Menciassi, P. Dario, T. Förster, C. Strohhöfer, "Wireless implantable electronic platform for blood glucose level monitoring", Eurosensors 2009, Lausanne, Switzerland, in Procedia Chemistry, Vol. 1, Is. 1, August 2009, pp. 1255-1258.
43. S. Tognarelli, C. Quaglia, **P. Valdastri**, E. Susilo, A. Menciassi, P. Dario, "Innovative Stopping Mechanism for Esophageal Wireless Capsular Endoscopy", Eurosensors 2009, Lausanne, Switzerland, in Procedia Chemistry, Vol. 1, Is. 1, August 2009, pp. 485-488.
44. E. Buselli, V. Pensabene, P. Castrataro, **P. Valdastri**, A. Menciassi, P. Dario, "Micro Hairs for Friction Enhancement in Active Capsular Endoscopy", in Proc. ECOTRIB 2009, Pisa, Italy, June 2009.
45. S. Tognarelli, C. Quaglia, **P. Valdastri**, A. Menciassi, P. Dario, "Design of a Novel Stopping Mechanism for Esophageal Endoscopic Capsular Robot," in Proc. of the 1st National Congress of the Italian Group of Bioengineering, 2008, p. 747.
46. G. Ciuti, **P. Valdastri**, A. Menciassi, P. Dario, "Robotic Steering and Locomotion for Active Capsular Endoscopy," in Proc. of the 1st National Congress of the Italian Group of Bioengineering, 2008, p. 711.
47. G. Tortora, E. Susilo, **P. Valdastri**, A. Menciassi, P. Dario, "Propeller-Based Fluid Propulsion for Active Capsular Endoscopy," in Proc. of the 1st National Congress of the Italian Group of Bioengineering, 2008, p. 725.
48. M. Domenichini, E. Buselli, C. Quaglia, E. Susilo, **P. Valdastri**, A. Menciassi, P. Dario, "A Bimodular Approach to Active Capsular Endoscopy with Legged Locomotion," in Proc. of the 1st National Congress of the Italian Group of Bioengineering, 2008, p. 807.
49. E. Buselli, **P. Valdastri**, A. Menciassi, and P. Dario, "Leg design optimization for an endoscopic capsule with active locomotion," in Proc. of the 1st National Congress of the Italian Group of Bioengineering, 2008, p. 743.
50. A. Bravi, **P. Valdastri**, A. Menciassi, V. Lionetti, F. A. Recchia, P. Dario , "A Chronic Biotelemetric ZigBee Ready Device for in vivo Monitoring of Cardiac Pressure and Body Temperature", in Proc. of 22nd Eurosensors 2008, Dresden, Germany, September 2008.
51. C. Cavallotti, M. Piccigallo, F. Focacci, E. Susilo, **P. Valdastri**, A. Menciassi, P. Dario, "An Integrated Vision System with Autofocus for Wireless Capsular Endoscopy", in Proc. of 22nd Eurosensors 2008, Dresden, Germany, September 2008.
52. E. Susilo, **P. Valdastri**, A. Menciassi, P. Dario, "A Miniaturized Wireless Control Platform for Robotic Capsular Endoscopy using Pseudokernel Approach", in Proc. of 22nd Eurosensors 2008, Dresden, Germany, September 2008. Presented by Valdastri. **RECIPIENT OF BEST PAPER AWARD.**
53. R. Carta, B. Lenaerts, J. Thoné, R. Puers, G. Tortora, **P. Valdastri**, A. Menciassi, P. Dario, "Wireless Power Supply as Enabling Technology Towards Active Locomotion in Capsular Endoscopy", in Proc. of 22nd Eurosensors 2008, Dresden, Germany, September 2008.
54. S. Tognarelli, **P. Valdastri**, A. Menciassi, P. Dario, "A Novel and Scalable Platform for Biomechanical Studies of Tissue Cutting Forces", in Proc. of 22nd Eurosensors 2008,

Dresden, Germany, September 2008.

55. A. Sieber, K. Houston, B. Murzi, **P. Valdastri**, A. Menciassi, P. Dario, "Novel Fetoscopic Procedure in the Case of Pulmonary Atresia", in Proc. of 5th Croatian Congress of Pediatric Surgery, Dubrovnik, Croatia, April 2007.
56. A. Sieber, B. Murzi, K. Houston, **P. Valdastri**, A. Menciassi, P. Dario, "Smart Micro Catheter for Fetal Surgery", in Proc. of 36th International Symposium of Pediatric Surgery 2007 - Obergurgl, Tyrol, Austria, April 2007, European Surgery, Vol. 39, no. 214, p. 6.
57. S. Rossi, **P. Valdastri**, A. Menciassi, F. Bernini, V. Lionetti, F. A. Recchia, P. Dario, "An Implantable ZigBee Ready Telemetric Platform For In Vivo Monitoring Of Physiological Parameters", in Proc. of 20th Eurosensors 2006, Gothenburg, Sweden, September 17-20, 2006.
58. A. Sieber, **P. Valdastri**, K. Houston, C. Eder, O. Tonet, A. Menciassi, P. Dario, "Triaxial Force Sensing MEMS Device for Tactile Haptic Force Feedback Applications in the Nanoscale", in Proc. of 20th Eurosensors 2006, Gothenburg, Sweden, September 2006.
59. A. Sieber, **P. Valdastri**, K. Houston, A. Menciassi, P. Dario, "Flip Chip Microassembly of a MEMS Based Silicon Sensor on Flexible Substrates", in Proc. of 20th Eurosensors 2006, Gothenburg, Sweden, September 2006.
60. L. Beccai, S. Roccella, L. Ascari, **P. Valdastri**, A. Sieber, M. C. Carrozza, P. Dario, "Experimental Analysis of a Soft Compliant Tactile Microsensor to be Integrated in an Antropomorphic Artificial Hand", in Proc. of the 8th Biennial ASME Conference on Engineering Systems Design and Analysis, Torino, Italy, July 2006.
61. **P. Valdastri**, A. Sieber, K. Houston, A. Menciassi, M. Yanagihara, M. Fujie, P. Dario, "Miniaturised Cutting Tool with Triaxial Force Sensing Capabilities for Minimally Invasive Surgery", in Proc. of the 8th Biennial ASME Conference on Engineering Systems Design and Analysis, Torino, Italy, July 2006.
62. **P. Valdastri**, P. Corradi, A. Menciassi, J. Seyfried, P. Dario, "Micromanipulation and Communication Issues in a Swarm Microrobotic Platform", in Proc. of "Network Robot Systems: Toward intelligent robotic systems integrated with environments", a IEEE International Conference on Robotics and Automation (ICRA) 2005 Workshop, Barcelona, Spain, April 2005.
63. **P. Valdastri**, S. Roccella, L. Beccai, F. Valvo, A. Menciassi, M.C. Carrozza, P. Dario, "Characterization of a Hybrid Silicon Three-Axial Force Sensor", in Proc. of 18th Eurosensors 2004, Rome, Italy, September 2004, pp. 462-463.
64. F. Valvo, **P. Valdastri**, S. Roccella, L. Beccai, A. Menciassi, M.C. Carrozza, P. Dario, "Development and characterization of a silicon-based three axial force sensor", AISEM 2004, Ferrara, Italy, February 2004.
65. D. Accoto, V. Mattoli, **P. Valdastri**, A. Menciassi, P. Dario, "A Miniaturized Drug-Delivery System for Intra-Corporeal Use", AISEM 2003, Trento, Italy, February 2003.

Patents and Patent Applications

1. M. Beccani, E. Susilo, **P. Valdastri**, "Toolkit of Cyber-Physical Modules for Design of Capsule Robot and Education in Small-scale Robotics", U.S. Provisional Application No. 62/067,233 filed on October 22nd, 2014.
2. R. Caprara, M. Beccani, C. Di Natali, G. Scozzarro, K. Obstein, **P. Valdastri**, "Hydro-Jet Endoscopic Capsule and methods for gastric cancer screening in low resource settings", U.S. Provisional Application No. 62/048,105 filed on September 9th, 2014, extended to PCT in September 2015.
3. B. Smith, K. Obstein, **P. Valdastri**, "Insufflation and CO_2 Delivery for Minimally Invasive Procedures", U.S. Patent Application No. 14/457,676, priority August 12, 2013.
4. M. Beccani, C. Di Natali, K. Obstein, **P. Valdastri**, "Real-time pose and magnetic force detection for a wireless magnetic capsule", U.S. Provisional Application No. 61/753,755 filed on January 17, 2013, converted to PCT/US2014/012086 on Jan 17, 2014.
5. J. Gerding, B. F. Smith, K. L. Obstein, **P. Valdastri**, "Tetherless Insufflation to Enable Wireless Capsule Endoscopy", U.S. Patent Application No. 14/029,687, priority date September 17, 2012.
6. M. Beccani, C. Di Natali, **P. Valdastri**, "System and Method for Detecting Tissue Surface Properties", U.S. Patent Application No. 14/027,561 priority date September 14, 2012.
7. C. Di Natali, A. J. Herline, **P. Valdastri**, "Local Magnetic Actuation", US Patent Application 13/893,611, priority date May 14, 2012.
8. **P. Valdastri**, M. Simi, K. Obstein, C. Di Natali, M. Beccani, B. F. Smith, "A Robotic Platform for an Increasing Compliance with Colorectal Cancer Screening", U.S. Provisional Application No. 10/548,399, Nov 11, 2011, – Now Abandoned.
9. **P. Valdastri**, G. Ciuti, A. Menciassi, P. Dario, B. F. Smith, J. Toennis, R. J. Webster III, "Insufflation capsule", PCT Patent Application WO2012028557, US Patent Application 13/818,969, priority date Aug 30, 2010.
10. C. Quaglia, E. Sinibaldi, V. Pensabene, **P. Valdastri**, A. Menciassi, P. Dario, "Applicazione cerotto endoluminale", Italian Patent Application ITFI2011A000162, filed on Aug 3, 2011.
11. M. Simi, **P. Valdastri**, A. Menciassi, P. Dario, "Capsula per biopsia", Italian Patent ITFI20110141, filed on Jul 15, 2011.
12. **P. Valdastri**, G. Antonelli, L. Barsotti, A. Mazzeo, "Anello di Vibrazione", Italian Patent Application ITPI20110072, filed on Jun 22, 2011.
13. **P. Valdastri**, T. Ranzani, C. Di Natali, M. Simi, A. Menciassi, P. Dario, "Robotic platform for mini-invasive surgery", PCT Patent Application WO2012164517, priority date May 31, 2011.
14. G. Ciuti, **P. Valdastri**, A. Menciassi, P. Dario, "Magnetically guided robotic device for endoscopic procedures", PCT Patent Application WO2012080947, priority date Dec 13, 2010.
15. F. De Negri, **P. Valdastri**, "A wearable device for early diagnosis of cardiopathy and/or cardiovascular diseases which can be determinaed by hemodynamic variables", PCT Patent Application WO2011IB02386, priority date Oct 11, 2010.
16. M. Simi, **P. Valdastri**, A. Menciassi, P. Dario, "Magnetic levitation endoscopic device", PCT Patent Application WO2012035157, priority date Sept 16, 2010.

17. U. Scarfogliero, M. Piccigallo, C. Quaglia, S. Tognarelli, **P. Valdastri**, A. Menciassi, P. Dario, "Robotic apparatus for minimally invasive surgery", PCT Patent Application WO2011135503, priority date Apr 26, 2010.
18. **P. Valdastri**, S. Caccavaro, G. Tortora, A. Menciassi, P. Dario, "A miniaturized microrobotic device for locomotion in a liquid environment", PCT Patent Application WO2011058505, priority date Nov 16, 2009.
19. P. Dario, A. Menciassi, **P. Valdastri**, C. Stefanini, C. Quaglia, E. Buselli, "Capsula MIM", Italian Patent Application FI20090150, filed on Jul 8, 2009.
20. P. Dario, A. Cuschieri, A. Menciassi, **P. Valdastri**, K. Harada, "Endoluminal Robotic System", PCT Patent Application WO2010046823, priority date Oct 20, 2008.
21. A. Menciassi, P. Dario, **P. Valdastri**, C. Quaglia, E. Buselli, M. Simi, "Hybrid active locomotion teleoperated endoscopic capsule", PCT Patent Application WO2009IB54491, priority date Oct 13, 2008.
22. **P. Valdastri**, C. Quaglia, A. Menciassi, P. Dario, C. N. Ho, G. Anhoeck, S. Schostek, F. Rieber, M. O. Scurr, "Surgical clip delivering wireless capsule", European Patent EP2163206, priority date Sept 16, 2008.
23. **P. Valdastri**, V. Pensabene, S. Scapellato, A. Mazzeo, A. Misuri, M. Vatteroni, "Support device for sensors and/or actuators that can be part of a wireless network of sensors/actuators", PCT Patent Application WO2009127954, priority date Apr 18, 2008.
24. A. Sieber, A. Menciassi, P. Dario, K. Houston, **P. Valdastri**, "Apparecchiatura endoscopica per il riconoscimento di tessuti biologici", Italian Patent ITFI20070080, filed on Mar 30, 2007.

Invited Seminars

1. September 28th, 2016, "Lifesaving Capsule Robots", Heriot-Watt University, Edinburgh, UK
2. September 16th, 2016, "Lifesaving Capsule Robots", National Institute of Technology, Delhi, India.
3. September 16th, 2016, "Lifesaving Capsule Robots", Indian Institute of Technology, Delhi, India.
4. September 15th, 2016, "Lifesaving Capsule Robots", Kumara Guru College of Technology, Coimbatore, India.
5. September 15th, 2016, "Lifesaving Capsule Robots", PSG Technology Institute, Coimbatore, India.
6. September 14th, 2016, "Lifesaving Capsule Robots", Maharashtra Institute of Technology, Pune, India.
7. September 14th, 2016, "Lifesaving Capsule Robots", Symbiosis Institute of Technology, Pune, India.
8. September 12th, 2016, "Lifesaving Capsule Robots", Satyabhama University, Chennai, India.
9. September 12th, 2016, "Lifesaving Capsule Robots", Hindustan University, Chennai, India.
10. June 19th, 2016, "Rapid Prototyping of Medical Capsule Robots", Robot Makers 2 Workshop, Robotic Science and Systems 2016, Ann Arbor, MI.
11. June 8th, 2016, "Lifesaving Capsule Robots", The BioRobotics Institute, Scuola Superiore Sant'Anna, Pontedera, Italy.

12. April 11th, 2016, “Lifesaving Capsule Robots”, Medical Cyber Physical Systems Workshop 2016, CPS Week 2016, Vienna, Austria.
13. October 30th, 2015, “A Magnetic Capsule Endoscope for Robotic Colonoscopy”, 2015 Vanderbilt Translational Research Forum, Nashville, TN.
14. September 28th, 2015, “Systematic Design of Medical Capsule Robots” at the IEEE IROS 2015 Workshop on “Robotic endoscopic capsules for gastrointestinal screening, diagnosis and therapy: achievements and future challenges”, Hamburg, Germany.
15. May 14th, 2015, “Robotic Image Guided Endoscopy”, Frontiers of Biomedical Imaging Science V, Nashville, TN.
16. April 28th, 2015, “Magnetic capsule robots for gastrointestinal endoscopy and abdominal surgery”, Polytechnic of Milan, Milan, Italy.
17. April 10th, 2015, “Magnetic capsule robots for gastrointestinal endoscopy and abdominal surgery”, Surgical Robotics Seminar Series, Stanford, Palo Alto, CA.
18. March 27th, 2015, “Magnetic capsule robots for gastrointestinal endoscopy and abdominal surgery”, PRECISE Center's CPS Seminar series, Computer and Information Science Department, University of Pennsylvania, Philadelphia, PA.
19. November 6th, 2014, “CPS: Synergy: Integrated Modeling, Analysis, and Synthesis of Miniature Medical Devices”, NSF Cyber-Physical Systems Principal Investigator Meeting, Arlington, VA.
20. October 27th, 2014, “Innovative Technologies for Flexible Endoscopy”, within the workshop “Biotechnologies and Techniques Applied to Minimally Invasive Surgery and Digestive Endoscopy”, Rome, Italy.
21. September 29th, 2014, “Sci-Fi and Robotics: Where are we now?” a seminar given within ENGL 243 at Vanderbilt University.
22. May 1st, 2014, “Magnetic capsule robots for gastrointestinal endoscopy and abdominal surgery”, Mechanical Engineering Seminar, University of Melbourne, Melbourne, Australia.
23. December 12th, 2013, invited to present the NSF-CPS project “Integrated Modeling, Analysis and Synthesis of Miniature Medical Devices” at the White House SmartAmerica Challenge.
24. October 29th, 2013, “Magnetic capsule robots for gastrointestinal endoscopy and abdominal surgery”, Pierson Graduate Seminar, Mechanical & Material Engineering, University of Nebraska – Lincoln, NE.
25. October 25th, 2013, “Magnetic capsule robots for gastrointestinal endoscopy and abdominal surgery”, Colloquium Speaker Series, University of Texas – Arlington, TX.
26. October 4th, 2013, “Future technologies for colorectal cancer screening”, 8th International Congress of GISCoR, Rome, Italy.
27. September 4th, 2013, “Magnetic capsule robots for gastrointestinal endoscopy and abdominal surgery”, Invited Seminar at GeorgiaTech, Atlanta, GA.
28. July 2nd, 2013, “Magnetic capsule robots for gastrointestinal endoscopy and abdominal surgery”, Invited Seminar within the PhD Course on Modular Surgical Robotics organized by the NEAR Lab in the Department of Electronics, Information and Bioengineering (DEIB), Politecnico di Milano, Italy.
29. June 19th, 2013, “Wireless Tissue Palpation to Guide Tumor Resection in Minimally Invasive Surgery”, Invited Talk in the Medical Microsystems session at TRANSDUCERS 2013 conference in Barcelona, Spain.
30. April 10th, 2013, “Intraoperative Wireless Tissue Palpation”, Invited Talk in the Surgical

Robotics session at ASME Design of Medical Devices 2013 conference in Minneapolis, MN.

31. February 7th, 2013, "Enabling technologies for wireless capsule colonoscopy: Is this the end of colonoscopy as we know it?", Vanderbilt Initiative in Surgery and Engineering seminar series, Vanderbilt University, Nashville, TN
32. November 30th, 2012, "A new generation of surgical robots: less invasive, more effective", Symposium on "Biotechnology and Techniques applied to Minimally Invasive Surgery and Digestive Endoscopy", Fondazione Europea Dragan, Rome, Italy.
33. November 10th, 2012, "Technology Advancing Medicine", 2012 South-Eastern Medical Scientist Symposium, Vanderbilt University, Nashville, TN.
34. October 1st, 2012, "Capsule robots for endoscopy and surgery", Tennessee State University, Nashville, TN.
35. September 25th, 2012, "Capsule robots for endoscopy and surgery", NSF-ERC-Center for Compact and Efficient Fluid Power (CCEFP) Annual Meeting, University of Illinois, Urbana-Champaign, IL.
36. June 12th, 2012, "US e-Health Perspective", International Conference On Smart homes and health Telematics (ICOST) 2012, Artimino, Italy.
37. April 25th, 2012, Mechanical Engineering External Advisory Committee Meeting, "Capsule Robots for Endoscopy and Surgery", Vanderbilt University, Nashville, TN.
38. March 1st, 2012, Mechanical Engineering Seminar Series, "Capsule robots for endoscopy and surgery: A paradigm for Bio-Mechatronic design towards the next generation of Surgical Robots", University of Colorado at Boulder, CO.
39. October 25-27, 2011, "Magnetic Air Capsule demo", Innovation Technology Showcase at TEDMED 2011, San Diego, CA.
40. October 11th, 2011, Biomedical Engineering Seminar Series, "Capsule Robots for Endoscopy and Surgery", Vanderbilt University, Nashville, TN.
41. August 19th, 2011, Vanderbilt Initiative for Surgical Engineering Seminar Series, "Next Generation Surgical Technologies and Robots: Capsule Robots for Endoscopy and Surgery", Vanderbilt University, Nashville, TN.
42. June 10th, 2011, "Microrobotics in Oncology", 34th SICO National Congress, Catanzaro, Italy.
43. May 22nd, 2011, "A new platform for robotic surgery based on a trans-abdominal magnetic link", Elba Seminars of Internal Medicine, Isola d'Elba, Italy.
44. May 11th, 2011, "Capsule robots for endoscopy and surgery - A paradigm for Bio-Mechatronic design towards the next generation of Surgical Robots", Symposium on multidisciplinary research for surgical robotics, University of Tianjin, Tianjin, China.
45. May 9th, 2011, "Magnetic Mechanisms for Endoscopic Interventions", Mechanisms for Surgical Robotics workshop of the IEEE International Conference on Robotics and Automation (ICRA) 2011, Shanghai, China.
46. March 25th, 2011, "Capsule robots for endoscopy and surgery - A paradigm for Bio-Mechatronic design towards the next generation of Surgical Robots", EPFL, Lausanne, Switzerland.
47. March 8th, 2011, "Capsule robots for endoscopy and surgery: A paradigm for Bio-

Mechatronic design towards the next generation of Surgical Robots" at Mechanical Engineering Department, Vanderbilt University, Nashville, Tennessee, USA.

48. January 27th, 2011, "Capsule robots for endoscopy and surgery: A paradigm for Bio-Mechatronic design towards the next generation of Surgical Robots", Università Campus Biomedico, Rome, Italy.
49. November 26th, 2010, "Capsule robots for endoscopy and surgery: A paradigm for Bio-Mechatronic design towards the next generation of Surgical Robots", Mechanical Engineering Department, Imperial College of London, London, UK.
50. June 21st, 2010, "Frontiers in Endoluminal Surgery: From Endoscopic Capsules to Robotic Surgery", 23rd National Congress of SPIGC, Forli, Italy.
51. May 23rd, 2010, "Microrobotics in Medicine: A Fantastic Voyage into the Human Body", Elba Seminars of Internal Medicine, Isola d'Elba, Italy.
52. May 18th, 2010, "New Frontiers in Capsule Endoscopy and Robotic Surgery", Polymer Institute of the Slovak Academy of Sciences, Bratislava, Slovakia.
53. May 7th, 2010, "Versatile Endoscopic Capsule for gastrointestinal TumOr Recognition and therapy – The VECTOR Project", Advanced surgical service robotics in the European Union 6th and 7th Framework Programs workshop of the IEEE International Conference on Robotics and Automation (ICRA) 2010, Anchorage, AK.
54. May 7th, 2010, "Array of Robots Augmenting the KiNematics of Endoluminal Surgery – The ARAKNES Project", Advanced surgical service robotics in the European Union 6th and 7th Framework Programs workshop of the IEEE International Conference on Robotics and Automation (ICRA) 2010, Anchorage, AK.
55. February 28th, 2010, "Frontiers in Endoluminal Robotics: A Fantastic Voyage into the Human Body", Telecamere Salute, a TV show on the Italian television channel RAI 3.
56. February 19th, 2010, "A novel platform for Scar-Less Robotic Surgery: The ARAKNES Project", European Conference on Wireless Sensor Networks, University of Coimbra, Portugal.
57. June 4th, 2009, Sant'Anna Science Cafè Seminar Series, "Frontiers in Endoluminal Robotics: A Fantastic Voyage into the Human Body", Scuola Spueriore Sant'Anna, Pisa, Italy.
58. June 2nd, 2009, "New Frontiers in Capsule Endoscopy: Active Locomotion and Wireless Therapeutic Intervention", Réunion "Microtechniques pour le médical", GT1 Robotique médicale, GT3 Manipulation multi-échelle, Institut FEMTO-ST, Besancon, France.
59. May 6th, 2009, "The Robots among us", Formato Famiglia, a TV show on the Italian satellite television channel SAT2000.
60. October 27th, 2008, Mechanical Engineering Seminar Series, "New Frontiers in Capsule Endoscopy: Active Locomotion and Wireless Therapeutic Intervention", Vanderbilt University, Nashville, TN.
61. January 31st, 2006, "Technological Solutions for Wireless Physiological Parameters Monitoring" in the frame of the "European Procurement and Transplantation Programs Management" University Second Level Master, Scuola Superiore Sant'Anna, Pisa, Italy.
62. September 29th, 2005, "A Three Components Force Sensor for Minimal Invasive Surgery and Endoluminal Interventions", 17th International Conference of Society for Medical Innovation and Technology (SMIT), SMIT Task Force-Rob, Napoli, Italy.

RESEARCH ACTIVITY

Sponsored Research Activity: Current

1. *EPSRC GCRF pump priming - Ultra-low-cost endoscopy to enable gastric cancer screening in the Central America 4 Region*; My Role: PI; Center Number: RG.ELEC.109602.007; Sponsor: EPSRC and the University of Leeds; Contract Period: 01/08/2016—31/03/2017; Total Budget: £62,921.
2. *CAREER: Lifesaving Capsule robots*; My Role: PI; Center Number: 4-22-451-3461; Sponsor: National Science Foundation, Division of Information and Intelligent Systems #1453129; Contract Period: 2/1/2015—01/31/2020; Total Budget: $400,000.
3. *R01 A magnetic capsule endoscope for colonoscopy in patients with IBD;* My Role: PI; Center Numbers: 422-451-1271 and 422-451-1281; Sponsor: National Institute of Health, National Institute of Biomedical Imaging and Bioengineering #1R01EB018992-01; Contract Period: 09/18/2014—05/31/2018; Total Budget: $1,504,398.
4. *CPS: Synergy: Integrated Modeling, Analysis and Synthesis of Miniature Medical Devices*; My Role: PI (Co-PIs: A. Ledeczi, P. Volgyesi, R. J. Webster III); Center Number: 4-22-451-3271; Sponsor: National Science Foundation, Division of Computer and Network Systems #1239355; Contract Period: 12/01/2012–11/30/2016; Total Budget: $1,000,000.
5. *REU Supplement: CAREER: Lifesaving Capsule robots*; My Role: PI; Sponsor: National Science Foundation, Division of Computer and Network Systems, supplement to #1453129; Contract Period: 06/01/2016–05/31/2017; Total Budget: $16,000.
6. *RET Supplement: CAREER: Lifesaving Capsule robots*; My Role: PI; Sponsor: National Science Foundation, Division of Computer and Network Systems, supplement to #1453129; Center Number: 4-22-451-3491; Contract Period: 06/01/2016–05/31/2017; Total Budget: $10,000.
7. *RET Supplement: CPS: Synergy: Integrated Modeling, Analysis, & Synthesis of Miniature Medical Devices*; My Role: PI; Sponsor: National Science Foundation, Division of Computer and Network Systems, supplement to #1239355; Center Number: 4-22-451-3391; Contract Period: 06/01/2016–05/31/2017; Total Budget: $10,000.
8. *REU Supplement: CPS: Synergy: Integrated Modeling, Analysis, & Synthesis of Miniature Medical Devices*; My Role: PI; Sponsor: National Science Foundation, Division of Computer and Network Systems, supplement to #1239355; Contract Period: 06/01/2016–05/31/2017; Total Budget: $16,000.

Sponsored Research Activity: Completed at Vanderbilt University

1. *RET Supplement: CPS: Synergy: Integrated Modeling, Analysis, & Synthesis of Miniature Medical Devices*; My Role: PI; Sponsor: National Science Foundation, Division of Computer and Network Systems, supplement to #1239355; Center Number: 4-22-451-3391; Contract Period: 06/01/2015–05/31/2016; Total Budget: $10,000.
2. *RET Supplement: CAREER: Lifesaving Capsule robots*; My Role: PI; Sponsor: National Science Foundation, Division of Computer and Network Systems, supplement to #1453129; Center Number: 4-22-451-3491; Contract Period: 06/01/2015–05/31/2016; Total Budget: $10,000.

3. *REU Supplement: CPS: Synergy: Integrated Modeling, Analysis, & Synthesis of Miniature Medical Devices*; My Role: PI; Sponsor: National Science Foundation, Division of Computer and Network Systems, supplement to #1239355; Contract Period: 06/01/2015–05/31/2016; Total Budget: $16,000.
4. *REU Supplement: CAREER: Lifesaving Capsule robots*; My Role: PI; Sponsor: National Science Foundation, Division of Computer and Network Systems, supplement to #1453129; Contract Period: 06/01/2015–05/31/2016; Total Budget: $16,000.
5. *I-Corps: A modular toolkit for rapid prototyping of capsule robots*; My Role: PI; Center Number: 4-22-451-3451; Sponsor: National Science Foundation, Division of Industrial Innovation and Partnerships #1506285; Contract Period: 12/15/2014—12/31/2015; Total Budget: $50,000.
6. *Defeating colorectal cancer by a novel robotic approach for screening*; My Role: PI (Co-I: K. Obstein); Center Number: 4-22-999-0097; Sponsor: Vanderbilt University Discovery Grant; Contract Period 05/11/12-06/30/15; Total Budget: $99,988.
7. *ViSE Fellowship;* My Role: PI; Center Number: 4-33-999-4000; Sponsor: Vanderbilt Initiative in Surgery and Engineering; Contract Period: 09/01/2014—05/31/2015. Total Budget: $25,000.
8. *Reducing the invasiveness of surgery by robotized magnetic surgical tools*; My Role: PI (Co-I: D. Oetomo); Center Number: 4-22-999-0225; Sponsor: Vanderbilt University VIO Grant; Contract Period 01/01/14-12/31/14; Total Budget: $8,500.
9. *Development and pre-clinical validation of a soft-tethered endoscopic robot to replace colonoscopy*; My Role: PI; Center Number: 4-22-450-6202 and 4-22-450-6212; Sponsor: The Eli and Edythe Broad Foundation; Contract Period: 10/01/2013—09/30/2014, extended to 12/31/2014. Total Budget: $110,000.
10. *I-Corps: CO_2 Insufflator for Minimally Invasive Procedures;* My Role: PI; Center Number: 4-22-451-3331; Sponsor: National Science Foundation, Division of Industrial Innovation and Partnerships #1356639; Contract Period: 10/01/2013—03/31/2014; Total Budget: $50,000.
11. *GRDS Supplemental to Engineering Research Center for Compact and Efficient Fluid Power*; My Role: PI. Center Number: 4-22-451-3244; Sponsor: University of Minnesota (Primary) – National Science Foundation #T5306692601; Contract period 08/16/12-08/15/13; Total Budget: $56,600.
12. *Measurement of Friction in the Intestine*; My Role: PI (Co-I: K. Obstein); Center Number: 4-22-450-7465; Sponsor: Given Imaging, Ltd.; Contract Period: 02/26/2013–11/25/2013; Total Budget: $10,382.
13. *A Novel Robotic Platform For Colorectal Cancer Screening*; My Role: PI (Co-I: K. Obstein); Center Number: 1-04-242-0120; Sponsor: Vanderbilt Initiative in Surgery and Engineering (ViSE), Vanderbilt University; Contract Period: 04/23/12-04/22/13; Total budget: $30,000.

Sponsored Research Activity: Completed at Scuola Superiore Sant'Anna

1. *PRIMO Check Up – Integrated Healthcare Monitoring in Regional Hospitals;* My Role: PI (no Co-Is); Sponsor: Region of Tuscany; Contract Period: 07/15/09-07/14/11; Total budget €990,000. Supported research and development for the startup that I co-founded in 2009, WINMEDICAL s.r.l.
2. *MINOSSE – Development of an integrated monitoring system for continuous patient care*; My Role: PI (no Co-Is); Sponsor: Region of Tuscany; Contract Period: 02/01/10-01/31/13; Total budget €450,000. Supported three senior researchers at the startup that I co-founded in 2009, WINMEDICAL s.r.l.

3. *SensorART – A remote controlled Sensorized Artificial heart enabling patients empowerment and new therapy approaches*; My Role: Co-I (PI: M. G. Trivella and many Co-Is; Scuola Superiore Sant'Anna PI: P. Dario); Sponsor: European Commission #EU/IST-2010-248763; Contract Period: 04/01/10-03/31/13; Total budget for Scuola Superiore Sant'Anna €460,000. Supported Ph.D. and Master students I co-advised with A. Menciassi and P. Dario at Scuola Superiore Sant'Anna.
4. *ARAKNES – Array of Robots Augmenting the KiNematics of Endoluminal Surgery;* My Role: Co-I (PI: P. Dario and many Co-Is); Sponsor: European Commission #EU/IST-2007-224565; Contract Period: 05/01/08-04/31/12; Total budget for Scuola Superiore Sant'Anna €1,600,000. Supported Ph.D. and Master students I co-advised with A. Menciassi and P. Dario at Scuola Superiore Sant'Anna.
5. *VECTOR – Versatile Endoscopic Capsule for gastrointestinal Tumor Recognition and Therapy*; My Role: Co-I (PI: M. O. Schurr and many Co-Is; Scuola Superiore Sant'Anna PI: P. Dario); Sponsor: European Commission #EU/IST-2006-033970; Contract Period: 05/01/06-04/31/11; Total budget for Scuola Superiore Sant'Anna €1,700,000. Supported Ph.D. and Master students I co-advised with A. Menciassi and P. Dario at Scuola Superiore Sant'Anna.
6. *P-CEZANNE - Integration of Nano-Biology and ICT to Provide a Continuous Care and Implantable monitoring System for Diabetic patients*; My Role: Co-I (PI: L. Shenkman and many Co-Is); Sponsor: European Commission #EU/IST-2006-031867; Contract Period: 07/01/06-01/31/11; Total budget for Scuola Superiore Sant'Anna €350,000. Supported part of my salary, fabrication equipment, materials, and travels.

TEACHING AND ADVISING

Undergraduate Courses Taught

- ME2171 Instrumentation Laboratory; Spring 2016; Enrollment: 89
- ME171 Instrumentation Laboratory; Spring 2015; Enrollment: 88
- ME171 Instrumentation Laboratory; Spring 2014; Enrollment: 91
- ME171 Instrumentation Laboratory; Spring 2013; Enrollment: 75
- ES 140 Introduction to Engineering, ME Module; Fall 2012; Enrollment: 77
    - ES140A – Final enrollment 23 students
    - ES140B – Final enrollment 26 students
    - ES140C – Final enrollment 28 students
- ES 140 Introduction to Engineering, ME Module; Fall 2011; Enrollment: 67
    - ES140A – Final enrollment 21 students
    - ES140B – Final enrollment 16 students
    - ES140C – Final enrollment 30 students

Graduate Courses Taught

- ME 391-04 Special Topic – Wireless Mechatronics; Fall 2014; Enrollment: 11
- ME 392-02 Special Topic – Wireless Mechatronics; Fall 2013; Enrollment: 7

- ME 392-03 Special Topic - Miniaturized Wireless Mechatronic Systems; Spring 2012; Enrollment: 5
- Medical Robotics, Graduate Program in Biomedical Engineering, University of Pisa; Spring 2011; Enrollment: 40
- Medical Robotics, Graduate Program in Biomedical Engineering, University of Pisa; Spring 2010; Enrollment: 34
- Medical Robotics, Graduate Program in Biomedical Engineering, University of Pisa; Spring 2009; Enrollment: 34

Supervised Research for Credit

- EECE 379 Elect. Eng. Undergraduate Research; Fall 2014; Enrollment 1
- ME 209A-B-C Mech. Eng. Undergraduate Research; Fall 2014; Enrollment 5
- ME 209C Mech. Eng. Undergraduate Research; Spring 2014; Enrollment 1
- ME 209C Mech. Eng. Undergraduate Research; Fall 2013; Enrollment 2
- ME 209C Mech. Eng. Undergraduate Research; Spring 2013; Enrollment 4
- ME 209B Mech. Eng. Undergraduate Research; Fall 2012; Enrollment 1
- ME 209B Mech. Eng. Undergraduate Research; Spring 2012; Enrollment 1
- ME 393 Independent Study; Fall 2011; Enrollment 2

Undergraduate Advising

- Faculty sponsor for a ME/BME Senior Design Project, Fall 2012/Spring 2013
- Undergraduate Student Researchers advised at Vanderbilt (through 209B and 209C, REU and VUSRP):

    1. Arthur Binstein (Summer 2016 – Supported by NSF REU supplement)
    2. Douglas Manogue (Summer 2016 – Supported by NSF REU supplement)
    3. Collin Garcia (Summer 2016 – Supported by NSF REU supplement)
    4. Benjamin Tattersfield (Summer 2016 – Supported by NSF REU supplement)
    5. Patrick Doyle (Summer 2016 – Supported by NSF REU supplement)
    6. Cameron Hightower (Summer 2016 – Supported by NSF REU supplement)
    7. Eric Noonan (Spring 2016)
    8. Douglas Manogue (Spring 2016)
    9. Elizabeth Lee (Spring 2016)
    10. Dennis Sohn (Spring 2016)
    11. Paul Moore (Spring 2016 – Supported by NSF REU supplement)
    12. Kyle Musto (Fall 2015, Spring 2016, Summer 2016 – Supported by NSF REU supplement)
    13. Ashley Peck (Summer 2015, Fall 2015, Summer 2016 – Supported by NSF REU supplement)
    14. Alex Vartanian (Summer 2015 – Supported by NSF REU supplement, Spring 2016)
    15. Nikolaos Gkotsis (Summer 2015 – Supported by ViSE REU fellowship; Fall 2015, Spring 2016, Summer 2016 – Supported by NSF REU supplement)
    16. Chris Lyne (Summer 2015 – Supported by NSF REU supplement; Fall 2015 – Independent Study)

17. Zeke Tan (Spring 2015 – Supported by NSF REU supplement)
18. Christina Karraz (Fall 2014, Spring 2015)
19. Sarah Elizabeth Thorson (Spring 2015)
20. Gabriel Scozzarro (Summer 2012, 2013, 2014, Università Tor Vergata, Roma, Italy)
21. Jianing Liu (Fall 2014, Spring 2015 – Supported by NSF REU supplement, Summer 2015 – recipient of a VUSRP award)
22. Evan Blum (Summer 2014, Fall 2014, Supported by NSF REU supplement),
23. Jevaugn Shabazz (Summer 2014, Fall 2014, Supported by NSF REU supplement),
24. Arian Nasab (Summer 2014, University of Tennessee – Memphis)
25. Melanie Perdriolle (Summer 2014, University of Marseille),
26. Vanessa N. Valentine (Summer 2014 – Supported by NSF REU supplement),
27. Claire Benjamin (Spring 2014, Fall 2014, Spring 2015 – Supported by NSF REU supplement) – Recipient of the **Vanderbilt ME Dynamics & Control Award 2015**.
28. Mohd Fateh Mohd Lani (Spring 2014, Summer 2014, Fall 2014 – recipient of a VUSRP award),
29. Nathan E. Hall (Spring 2013, Fall 2013),
30. Brian Fang (Spring 2013),
31. Victoria R. Mitchell (Spring 2013, Fall 2013),
32. David J. Cunningham (Spring 2012, Fall 2012, Spring 2013),
33. Ines Ouali (Summer 2013, University of Marseille).

- Undergraduate Student Researchers advised at Scuola Superiore Sant'Anna:

  C. Gianetti (Mar 2006 to May 2007). C. M. Oddo (Oct 2004 to Jul 2005).

Graduate Advising

- Ph.D. Program Research Advisor

1. Federico Campisano, Vanderbilt University Mechanical Engineering Ph.D. expected 2019
2. Nicolò Garbin, Vanderbilt University Mechanical Engineering Ph.D. expected 2018
3. Piotr Slawinski, Vanderbilt University Mechanical Engineering Ph.D. expected 2018
4. Addisu Taddese, Co-Advised with A. Ledeczi, Vanderbilt University Electrical Engineering Ph.D. expected 2017
5. M. Beccani, Vanderbilt University Mechanical Engineering Ph.D. July 2015
6. C. Di Natali, Vanderbilt University Mechanical Engineering Ph.D. July 2015
7. M. Simi, Scuola Superiore Sant'Anna Biomedical Engineering Ph.D. (co-advised with A. Menciassi) 2012
8. G. Ciuti, Scuola Superiore Sant'Anna Biomedical Engineering Ph.D. (co-advised with A. Menciassi) 2012
9. G. Tortora, Scuola Superiore Sant'Anna Biomedical Engineering Ph.D. (co-advised with A. Menciassi) 2012

10. C. Cavallotti, Scuola Superiore Sant'Anna Biomedical Engineering Ph.D. (co-advised with A. Menciassi) 2012
11. S. Tognarelli, Scuola Superiore Sant'Anna Biomedical Engineering Ph.D. (co-advised with A. Menciassi and P. Dario) 2011
12. E. Buselli, University of Pisa Healthcare Technologies Ph.D. (co-advised with L. Beccai, A. Menciassi and P. Dario)

- M.S. Program Research Advisor

1. Francesco Gramuglia, Polytechnic University of Milan Biomedical Engineering M.S. 2016 (advised at Vanderbilt)
2. Gregorio Aiello, Polytechnic University of Milan Biomedical Engineering M.S. 2015 (advised at Vanderbilt)
3. Federico Campisano, Polytechnic University of Milan Biomedical Engineering M.S. 2015 (advised at Vanderbilt)
4. Robert J. Caprara, Mechanical Engineering, Vanderbilt University, 2015.
5. Charreau S. Bell, Mechanical Engineering, Vanderbilt University, 2014.
6. Nicolò Garbin, Polytechnic University of Milan Biomedical Engineering M.S. 2014 (advised at Vanderbilt)
7. Jacopo Buzzi, Polytechnic University of Milan Biomedical Engineering M.S. 2014 (advised at Vanderbilt)
8. B. Smith, Vanderbilt University Mechanical Engineering M.S. (primary advisor R. J. Webster III) 2012
9. G. Bassani, University of Pisa Biomedical Engineering M.S. 2012 (advised at Vanderbilt)
10. L. Angelini, University of Pisa Biomedical Engineering M.S. 2012 (advised at Vanderbilt)
11. S. Battaglia, University of Pisa Biomedical Engineering M.S. 2012 (advised at Vanderbilt)
12. D. D. Kurteva, University of Pisa Biomedical Engineering M.S. 2012
13. M. Nardi, University of Pisa Biomedical Engineering M.S. 2011
14. G. Gerboni, University of Pisa Biomedical Engineering M.S. 2011
15. A. Verbeni, University of Pisa Biomedical Engineering M.S. 2011
16. L. Caivano, University of Pisa Biomedical Engineering M.S. 2011
17. C. Ciaponi, University of Pisa Biomedical Engineering M.S. 2010
18. C. Di Natali, University of Pisa Biomedical Engineering M.S. 2010
19. M. Nannizzi, University of Pisa Biomedical Engineering M.S. 2010
20. G. Sardi, University of Pisa Biomedical Engineering M.S. 2010
21. V. Castelli, University of Pisa Biomedical Engineering M.S. 2010
22. M. Silvestri, University of Pisa Biomedical Engineering M.S. 2010
23. M. Filippi, University of Pisa Biomedical Engineering M.S. 2010
24. G. Lucarini, University of Pisa Biomedical Engineering M.S. 2009
25. G. Petroni, University of Pisa Biomedical Engineering M.S. 2009
26. M. Simi, University of Pisa Biomedical Engineering M.S. 2009
27. I. Del Chicca, University of Pisa Electrical Engineering M.S. 2008
28. G. Ciuti, University of Pisa Biomedical Engineering M.S. 2008
29. G. Tortora, University of Pisa Biomedical Engineering M.S. 2008

30. M. Domenichini, University of Pisa Biomedical Engineering M.S. 2008
31. S. Tognarelli, University of Pisa Biomedical Engineering M.S. 2007
32. S. Rossi, University of Pisa Electrical Engineering M.S. 2005
33. C. Caccamo, University of Pisa Electrical Engineering M.S. 2003

- Postdoctoral Scholars Advised

1. Ekawayhu Susilo, Dec 2013 – Present
2. Erdem Erdemir, Postdoctoral Scholar, Dec 2012 – Jun 2013 – Currently faculty at Tennessee State University, Nashville, TN

SERVICE

PROFESSIONAL SERVICE

Professional Memberships

- Institute of Electrical and Electronics Engineers (IEEE), Senior Member
- IEEE Robotics and Automation Society (RAS), Senior Member
- IEEE Engineering in Medicine & Biology Society (EMBS), Senior Member
- IEEE EMBC BioRobotics Technical Committee Member
- American Society of Mechanical Engineers (ASME)
- American Society for Engineering Education (ASEE)
- International Society for Medical Innovation and Technology (iSMIT), Member of the Steering Committee
- European Association for Endoscopic Surgery (EAES), Member of the EAES Technology Committee

Workshops and Conference Sessions Chaired

- Frontiers of Endoluminal Robotic Surgery, Workshop organized at the 2016 IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS 2016), Daejeon, Korea, October 9-14, 2016.
- Chaired Session “Medical Robotics: Flexible Endoscopes” at the IEEE International Conference on Robotics and Automation, 2014.
- Chaired Session “Technology Advancing Medicine” at the South-Eastern Medical Scientist Symposium, 2012.
- Chaired Session “Minimally Invasive Interventions I” at the IEEE International Conference on Robotics and Automation, 2012.

Editorial Board Membership

- Editor for the Journal of Medical Robotics Research, published by World Scientific Publishers – 2015, 2016.

- Associate Editor for IEEE International Conference on Robotics and Automation (ICRA) 2013, 2014, 2015.
- Editor for IEEE International Conference on Robotics and Automation (ICRA) 2016, 2017, 2018.
- Contributing Associate Editor-in-Chief of World Journal of Gastroenterology, Baishideng Publishing Group Co., Limited, 2011-present
- Program Committee member for Medical CPS 2016: the 7th International Workshop on Medical Cyber-Physical Systems, 2016

Proposal Reviews

- Samsung Research Program – International Expert
- National Institute of Health – NIH Research Project Grant (Parent R01), reviewed 2 grant applications – September 2016
- Italian Research and University Evaluation Agency (ANVUR) – Expert reviewer
- National Science Foundation – National Robotics Initiative – Panelist on a Infrastructure panel (reviewed 1 proposals) – June 2016
- National Institute of Health – Quantum Review Panel, Technological Innovation to Solve a Major Medical or Public Health Challenge (U01), reviewed 5 grant applications. – June 7, 2016
- U.S.-Israel Binational Science Foundation, reviewing 1 proposal – April 2016
- National Institute of Health – ZRG1 SBIB-D (12) Panel, Small Business: Cardiovascular and Surgical Devices, reviewing 5 SBIR/STTR grant applications. – June 23, 2014
- National Institute of Health – ZRG1 SBIB-V (12) Panel, Small Business: Cardiovascular and Surgical Devices, reviewing 6 SBIR/STTR grant applications. – February 28, 2014
- University of Nebraska, Nebraska Research Initiative Proposal Review – 2013, 2016
- Accepted for participation in the Early Career Reviewer (ECR) program at the Center for Scientific Review (CSR), National Institutes of Health (www.csr.nih.gov/ECR).
- National Science Foundation – Division of Information & Intelligent Systems – Panelist on a Robust Intelligence Small Proposals panel (reviewed 8 proposals) – 2015
- National Science Foundation – Division of Information & Intelligent Systems – Panelist on a Smart & Connected Health Exploratory Proposals panel (reviewed 7 proposals) – 2013
- National Science Foundation – Division of Information & Intelligent Systems – Panelist on a Robust Intelligence Medium Proposals panel (reviewed 6 proposals) – 2011
- Broad Medical Research Program, Inflammatory Bowel Disease Grants, The Eli and Edythe L. Broad Foundation (reviewed 1 proposal)
- Romanian National Council for R&D (reviewed 3 proposals) – 2012
- Romanian National Council for R&D (reviewed 1 proposals) – 2013
- Romanian National Council for R&D (reviewed 4 proposals) – 2016