

Saverio Bolognani

<http://www.dei.unipd.it/~sbologna>

+39 328 2650719

✉ saverio.bolognani@dei.unipd.it

Curriculum vitae

Personal information

Firstname Saverio
Surname Bolognani
Nationality Italian
Date of birth July 30th, 1984
Gender Male

Position

2011– **Postdoctoral research fellow**, *Department of Information Engineering, University of Padova*, Italy.

Education

2008–2010 **Ph.D. in Information Engineering**, *University of Padova*, Italy, Under the supervision of prof. Sandro Zampieri.
2005–2007 **Master of Science in Automation Engineering**, *University of Padova*, Italy, Summa cum laude.
2002–2005 **Bachelor of Science in Information Engineering**, *University of Padova*, Italy, Summa cum laude.
1997–2002 **Scientific High School Diploma**, *Liceo Scientifico "E. Curiel" in Padova*, Italy, Summa cum laude.

Research interests

Current interests Networked control systems, distributed control of smart power distribution networks, consensus and coordinated control and estimation, distributed parametric estimation in wireless sensor networks.
Minor and past interests Quantum control, model predictive control, adaptive control of distributed parameter systems.

Theses

- Ph.D. Thesis *Methods and applications in networked control and Feedback control design for quantum systems*
Supervisor prof. Sandro Zampieri
- Master Thesis *Output Feedback Adaptive Control of Distributed Parameter Systems*
Supervisors prof. Alessandro Beghi and prof. Miroslav Krstić (Univ. of California, San Diego)
- Bachelor Thesis *Teoria del Controllo Predittivo (Predictive Control Theory)*
Supervisor prof. Sandro Zampieri

Honors and awards

- 2011 **“Ottavio Bonazzi 2011” Award**, *AICT (ICT section of the AEIT)*, Milano, Italy.
Awarded paper: S. Bolognani, S. Bolognani, L. Peretti, and M. Zigliotto “Design and implementation of model predictive control for electrical motor drives”.
- 2009 **Best Student Paper Award**, *NecSys 09*, Venezia, Italy.
Awarded paper: S. Bolognani, R. Carli, and S. Zampieri “A PI consensus controller with gossip communication for clock synchronization in wireless sensors networks”.
- 2007 **Provost’s Honor**, *Thurgood Marshall College, University of California, San Diego*.
Provost’s Honor in Fall 2006 and Winter 2007.
- 2006 **Innovation Prize**, *IEEE First Region 8 Robotic Contest*, Twente, Netherlands.
Best Design Award with the team of the IEEE Student Branch of Padova, Italy.

Relevant experiences

- 2011 **Research grant**, *DEI, University of Padova*, Italy.
2-month research grant on the topic “Distributed optimization algorithms for Smart micro-grid control” at the Department of Information Engineering of University of Padova.
- 2009 **Visiting period**, *Massachusetts Institute of Technology, Cambridge (MA)*, USA.
Three-month research period under the supervision of Prof. Sanjoy Mitter at the Laboratory for Information and Decision Systems.
- 2007 **Research grant**, *DTG, University of Padova*, Italy.
3-month research grant on the topic “Design and implementation of a predictive control algorithm for permanent magnet synchronous motors” at the Department of Technique and Management of Industrial Systems of University of Padova.
- 2006–2007 **Education Abroad Program**, *University of California, San Diego (CA)*, USA.
One-year experience during the Master Degree in an exchange program with UCSD, attending full-time classes and working on my Master Thesis.
- 2001 **Internship at INFN**, *Italian National Institute of Nuclear Physics*, Legnaro, Italy.
Summer internship at the INFN laboratories of Legnaro, working on the publication of the laboratory website and following their research activities.
- 2008–present **Institutional positions**.
Ph.D. student representative in the University Senate, Department Council and Ph.D. School Board. Volunteer in the Ph.D. Italian Association (ADI).
- 2004–present **IEEE Volunteering**, *Institute of Electrical and Electronic Engineers (IEEE)*.
Volunteer in the IEEE Student Branch of the University of Padova.

- 2002 **Exchange program**, *Liceo Scientifico "E. Curiel"*.
Exchange program with students from Canarian Island (Spain) for the study of Spanish culture and language.

Work experiences

- 2006 **Project-oriented contract**, *STALAM s.p.a.*, Nove (VI), Italy.
Simulation of high-power HF circuits for Stalam s.p.a., world leader in radio frequency and microwave equipment for a variety of industrial heating and drying applications.

Personal skills and competences

Professional licenses

- P.E. Professional Engineer since 2008.

Language skills

- | | | |
|---------|----------------------|---|
| Italian | Mother tongue | |
| English | Advanced | <i>European level: Understanding C2, Speaking C1, Writing C2
Cambridge CAE (Certificate of Advanced English) in 2002
TOEFL in 2005, scoring 102/120</i> |
| Spanish | Intermediate | <i>European level: Understanding B2, Speaking B1, Writing A2
Intermediate course at UCSD</i> |

Computer skills

- ECDL European Computer Driving License
- Programming Advanced knowledge of Linux, Matlab, good knowledge of HTML, CSS, PHP, MYSQL, Java, C (including microcontrollers) and Assembly.

Certifications

- GRE Graduate Record Examinations (GRE) General Test on September 17th, 2007, scoring: Verbal section 560 / 800, Quantitative section 800 / 800, Analytical Writing 4.0 / 6.0.

Publications

Saverio Bolognani, Andrey Smyshlyaev, and Miroslav Krstić. Adaptive output feedback control for complex-valued reaction-advection-diffusion systems. In *Proc. American Control Conference (ACC'08)*, pages 961–966, Seattle, WA, 2008.

Saverio Bolognani, Silverio Bolognani, Luca Peretti, and Mauro Zigliotto. Combined speed and current model predictive control with inherent field-weakening features for PMSM drives. In *Proc. IEEE MELECON'08*, pages 472–478, Ajaccio, France, 2008.

Saverio Bolognani, Simone Del Favero, Luca Schenato, and Damiano Varagnolo. Distributed sensor calibration and least-square parameter identification in WSNs using consensus algorithms. In *Proc. 46th Annual Allerton Conference on Communication, Control, and Computing*, Monticello, IL, 2008.

Saverio Bolognani, Silverio Bolognani, Luca Peretti, and Mauro Zigliotto. Design and implementation of model predictive control for electrical motor drives. *IEEE Transactions on Industrial Electronics*, 56(6):1925–1936, June 2009.

Saverio Bolognani, Ruggero Carli, and Sandro Zampieri. A PI consensus controller with gossip communication for clock synchronization in wireless sensors networks. In *Proc. NECSYS'09*, Venice, Italy, 2009.

Saverio Bolognani, Simone Del Favero, Luca Schenato, and Damiano Varagnolo. Consensus-based distributed sensor calibration and least-square parameter estimation in WSNs. *International Journal of Robust and Nonlinear Control*, 20(2):176–193, January 2010.

Saverio Bolognani and Francesco Ticozzi. Pure state stabilization with discrete-time quantum feedback. In *Proc. 4th International Symposium on Communications, Control and Signal Processing (ISCCSP'10)*, Limassol, Cyprus, March 2010.

Francesco Ticozzi and Saverio Bolognani. On a canonical QR decomposition and feedback control of discrete-time quantum dynamics. In *Proc. 19th International Symposium on Mathematical Theory of Networks and Systems (MTNS 2010)*, Budapest, Hungary, July 2010.

Saverio Bolognani and Sandro Zampieri. Distributed quasi-Newton method and its application to the optimal reactive power flow problem. In *Proc. NECSYS'10*, Annecy, France, September 2010.

Saverio Bolognani and Francesco Ticozzi. Engineering stable discrete-time quantum dynamics via a canonical QR decomposition. *IEEE Transactions on Automatic Control*, 55(12):2721–2734, December 2010.

Saverio Bolognani and Sandro Zampieri. A gossip-like distributed optimization algorithm for reactive power flow control. In *Proc. IFAC World Congress 2011*, Milano, Italy, August 2011.

Saverio Bolognani, Guido Cavraro, Federico Cerruti, and Alessandro Costabeber. A linear dynamic model for microgrid voltages in presence of distributed generation. In *First International Workshop on Smart Grid Modeling and Simulation (at SmartGridComm 2011)*, Brussels, Belgium, October 2011.

Saverio Bolognani and Sandro Zampieri. Distributed control for optimal reactive power compensation in smart microgrids. In *Proc. 50th Control and Decision Conference and European Control Conference (CDC-ECC'11)*, Orlando, FL, December 2011.