

PERSONAL INFORMATION

Gionata Cimini



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Sex Male | Date of birth 04/09/1988 | Nationality Italian

WORK EXPERIENCE

01/02/2013–31/10/2013

Research Assistant

Università Politecnica delle Marche, Ancona (Italy)

Project: Characterization and Design of Robotic Systems for Ambient Assisted Living.

Research Activities:

- Control Systems;
- Home Automation and Assistive Robotics;
- Switching Power Supplies and Renewable Energy.

EDUCATION AND TRAINING

16/09/2014

Abilitation for Information Engineer

Italian Order of Engineers, Ancona (Italy)

01/11/2013–Present

Ph. D. in Information Engineering

EQF level 8

Università Politecnica delle Marche
P.zza Roma 22, 60121 Ancona (Italy)

Curriculum: Computer Engineering, Management and Automation

Main Activities: Embedded Model Predictive Control, Convex Optimization, Motors and Power Electronics Control

Advisor: Gianluca Ippoliti

Co-Advisors: Sauro Longhi, Alberto Bemporad

18/11/2013–Present

Ph.D. Guest Scholar

EQF level 8

IMT: Institute for Advanced Studies Lucca
Piazza S. Ponziano, 55100 Lucca (Italy)

Main Activities: Embedded Model Predictive Control, Convex Optimization, Motors and Power Electronics Control

Tutor: Alberto Bemporad

05/11/2010–12/12/2012

M. Sc. in Computer and Automation Engineer

EQF level 7

Università Politecnica delle Marche
P.zza Roma 22, 60121 Ancona (Italy)

Thesis: Design and Development of Control Systems for a Switching PFC Preregulator. *Supervisors:* Gianluca Ippoliti, Giuseppe Orlando

Final Degree Mark: 110/110 (cum laude)

28/08/2007–23/10/2010

B. Sc. in Computer and Automation Engineer

EQF level 6

Università Politecnica delle Marche
P.zza Roma 22, 60121 Ancona (Italy)

Thesis: Experimental Verification of Radiofrequency Systems for Geometric Localization.

Supervisors: Sauro Longhi, Adriano Mancini

Final Degree Mark: 105/110

2002–2007 Scientific High School

EQF level 4

Istituto di Istruzione Superiore Costanza Varano, Camerino (Italy)

Final Degree Mark: 100/100

PERSONAL SKILLS

Mother tongue(s) Italian

Other language(s)

	UNDERSTANDING		SPEAKING		WRITING
	Listening	Reading	Spoken interaction	Spoken production	
English	B2	C1	B2	B2	C1
First Certificate in English (FCE) B2 level Preliminary English Test (PET) B1 level					

Levels: A1 and A2: Basic user - B1 and B2: Independent user - C1 and C2: Proficient user
Common European Framework of Reference for Languages

Digital competence

Operating Systems: Microsoft Windows, Linux;
Office: Microsoft Office Suite, LibreOffice, Latex;
Advanced Technical Environments: Matlab/Simulink, Labview, PSIM, ROS;
CAD: Eagle, AutoCAD, VirtualLab;
Web Design: Drupal;
Programming Languages: C, C++, Java, Matlab;

Driving licence B

ADDITIONAL INFORMATION

Publications The complete list of publications in international journals, books and conferences is attached.

[Related document\(s\): publications.pdf](#)

Additional certifications

- *Attendance* Control for Cyber-Physical Systems PhD School (2015)
- *Attendance* 15th Edition of the European Ph.D. School: Power Electronics, Electrical Machines, Energy Control & Power Systems (2014)
- *Attendance* Workshop on Embedded Optimization EMOPT (2014)
- *Attendance* 5th HYCON2 and EFFINET PhD School (2013)
- *Attendance* Switching Power Supplies Seminar - Linear Technology/WurthElektronik (2013)
- *Attendance* Ultra Low-Power MSP430 Fram Workshop - Texas Instruments (2013)
- *Attendance* ARM Cortex M4 TIVA Workshop -Texas Instruments (2013)

Attendance and oral presentations at international conferences

- Fourth International Conference on Power Engineering, Energy and Electrical Drives (POWERENG 2013)

- 21st Mediterrean Conference on Control Automation (*MED 2013*)
- 2013 International Conference on Renewable Energy Research and Applications (*ICRERA 2013*)
- 39th Annual Conference of the IEEE Industrial Electronic Society (*IECON 2013*)
- European Embedded Design in Education and Research Conference (*EDERC 2014*)
- 2014 International Conference on Renewable Energy Research and Applications (*ICRERA 2014*)
- 2015 IEEE International Conference on Industrial Technology (ICIT 2015)

Reviewer at international journals
and conferences

Journals:

- Industrial Electronics Magazine - IEEE (x1)
- Transactions on Industrial Electronics - IEEE (x2)
- International Journal of Electrical Power and Energy Systems - Elsevier (x1)
- Electric Power Components and Systems - Taylor & Francis (x8)
- Intelligent Industrial Systems - Springer (x1)

Conferences:

- International Conference on Intelligent Control and Information Processing (x1)
- Italian Forum for AAL (x1)
- IEEE International Conference on Industrial Technology (x1)
- Annual Conference of the IEEE Industrial Electronic Society (x3)
- International Conference on Power Engineering, Energy and Electrical Drives (x2)

ANNEXES

- publications.pdf

List of Publications

Gionata Cimini

Updated to Friday 21st August, 2015

Journal Articles

- [1] G. Cimini, A. Freddi, G. Ippoliti, A. Monteri, and M. Pirro, “A smart lighting system for visual comfort and energy savings in industrial and domestic use”, *Electric Power Components and Systems*, vol. 43, no. 15, pp. 1696–1706, 2015.
- [2] G. Cimini, G. Ippoliti, G. Orlando, and M. Pirro, “Sensorless pfc for mixed conduction mode boost converter using passivity-based control”, *IET Power Electronics*, vol. 7, 2988–2995(7), 12 2014.
- [3] G. Cimini, M. L. Corradini, G. Ippoliti, G. Orlando, and M. Pirro, “A rapid prototyping scenario for power factor control in permanent magnet synchronous motor drives: Control solutions for interleaved boost converters”, *Electric Power Components and Systems*, vol. 42, no. 6, pp. 639–649, 2014.

Book's Chapter

- [4] G. Cimini, F. Ferracuti, A. Freddi, S. Iarlori, and A. Monteri, “An odometry and qr code landmarks-based navigation system for impaired wheelchair users”, in *Ambient Assisted Living: Italian Forum 2013*. G. M. M. A. Longhi S. Siciliano P., Ed., Berlin Heidelberg:Springer-Verlag, 2014.

Conference Proceedings

- [5] G. Cimini, D. Bernardini, A. Bemporad, and S. Levijoki, “Online model predictive torque control for permanent magnet synchronous motors”, in *Industrial Technology (ICIT), 2015 IEEE International Conference on*, 2015, pp. 2308–2313.
- [6] G. Cimini, G. Ippoliti, G. Orlando, S. Longhi, and R. Miceli, “Robust current observer design for dc-dc converters”, in *International Conference on Renewable Energy Research and Application (ICRERA)*, 2014, pp. 958–963.

- [7] G. Cimini, A. Bemporad, G. Ippoliti, and S. Longhi, “Fram evaluation as unified memory for convex optimization algorithms”, in *6th European Embedded Design in Education and Research Conference (EDERC)*, 2014, pp. 187–191.
- [8] G. Cimini, G. Ippoliti, S. Longhi, G. Orlando, and M. Pirro, “Synchronous buck converter control via robust periodic pole assignment”, in *European Control Conference (ECC)*, 2014, pp. 1921–1926.
- [9] L. Ciabattani, G. Cimini, M. Grisostomi, G. Ippoliti, and S. Longhi, “An interoperable framework for home automation design, testing and control”, in *22nd Mediterranean Conference of Control and Automation (MED)*, 2014, pp. 1049–1054.
- [10] G. Calisse, G. Cimini, L. Colombo, A. Freddi, G. Ippoliti, A. Monteriu, and M. Pirro, “Development of a smart led lighting system: Rapid prototyping scenario”, in *11th International Multi-Conference on Systems, Signals Devices (SSD)*, 2014, pp. 1–6.
- [11] G. Cimini, V. Fossi, G. Ippoliti, S. Mencarelli, G. Orlando, and M. Pirro, “Model predictive control solution for permanent magnet synchronous motors”, in *39th Annual Conference of the IEEE Industrial Electronics Society, IECON*, 2013, pp. 5824–5829.
- [12] E. Alidori, G. Cimini, G. Ippoliti, G. Orlando, and M. Pirro, “A passivity-based solution for ccm-dcm boost converter power factor control”, in *39th Annual Conference of the IEEE Industrial Electronics Society, IECON*, 2013, pp. 7752–7757.
- [13] G. Cimini, G. Ippoliti, G. Orlando, and M. Pirro, “Explicit sensorless model predictive control of synchronous buck converter”, in *International Conference on Renewable Energy Research and Applications (ICRERA)*, 2013, pp. 1200–1205.
- [14] —, “Sensorless passivity-based control for mixed conduction mode boost converter with power factor correction”, in *International Conference on Renewable Energy Research and Applications (ICRERA)*, 2013, pp. 1194–1199.
- [15] G. Cimini, M. L. Corradini, G. Ippoliti, G. Orlando, and M. Pirro, “Passivity-based PFC for interleaved boost converter of PMSM drives”, in *11th International Workshop on Adaptation and Learning in Control and Signal Processing*, 2013, pp. 128–133.
- [16] G. Cimini, G. Ippoliti, G. Orlando, and M. Pirro, “Current sensorless solution for pfc boost converter operating both in dcm and ccm”, in *21st Mediterranean Conference on Control Automation (MED)*, 2013, pp. 137–142.
- [17] —, “Current sensorless solutions for pfc of boost converters with passivity-based and sliding mode control”, in *Fourth International Conference on Power Engineering, Energy and Electrical Drives (POWERENG)*, 2013, pp. 1175–1180.

- [18] —, “Pmsm control with power factor correction: rapid prototyping scenario”, in *Fourth International Conference on Power Engineering, Energy and Electrical Drives (POWERENG)*, 2013, pp. 688–693.
- [19] G. Cimini, M. Corradini, G. Ippoliti, N. Malerba, and G. Orlando, “Control of variable speed wind energy conversion systems by a discrete-time sliding mode approach”, in *IEEE International Conference on Mechatronics (ICM)*, 2013, pp. 736–741.
- [20] L. Ciabattoni, G. Cimini, M. Grisostomi, G. Ippoliti, S. Longhi, and E. Mainardi, “Supervisory control of pv-battery systems by online tuned neural networks”, in *IEEE International Conference on Mechatronics (ICM)*, 2013, pp. 99–104.

Forthcoming or Under Review

- [21] L. Ciabattoni, G. Cimini, F. Ferracuti, M. Grisostomi, G. Ippoliti, and M. Pirro, “Indoor thermal comfort control through fuzzy logic pmv optimization”, in *Neural Networks, 2015. IJCNN '15. Proceedings. 2015 IEEE International Joint Conference on*, 2015, **forthcoming**.
- [22] L. Ciabattoni, G. Cimini, F. Ferracuti, A. Freddi, G. Ippoliti, and A. Monteriù, “A novel lda-based approach for motor bearing fault detection”, in *Industrial Informatics, 2015. INDIN 2015. Proceedings. IEEE International Conference on*, 2015, **forthcoming**.
- [23] G. Cimini, M. Corradini, G. Ippoliti, G. Orlando, and M. Pirro, “A sliding mode observer for the load resistance estimation in a boost converter”, in *Industrial Informatics, 2015. INDIN 2015. Proceedings. IEEE International Conference on*, 2015, **forthcoming**.
- [24] L. Ciabattoni, G. Cimini, F. Ferracuti, and G. Ippoliti, “Humidex based multi room thermal comfort regulation via fuzzy logic”, in *Consumer Electronics (ISCE 2015), The 19th IEEE International Symposium on*, 2015, **forthcoming**.
- [25] L. Ciabattoni, G. Cimini, F. Ferracuti, M. Grisostomi, G. Ippoliti, and M. Pirro, “Bayes error based feature selection: an electric motors fault detection case study”, in *41th Annual Conference of the IEEE Industrial Electronics Society, IECON*, 2015, **forthcoming**.