

PERSONAL INFORMATION

Gionata Cimini



 Via Brecce Bianche 12, 60131 Ancona (Italy)

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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:

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

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

Computer skills

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

Attended Conferences as Speaker

- 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 (*IECON 2013*)
- European Embedded Design in Education and Research Conference (*EDERC 2014*)
- 2014 International Conference on Renewable Energy Research and Applications (*ICRERA 2014*)
- 2015 International Conference on Industrial Technology (ICIT 2015)

Reviewer's Activity

Journals:

- Industrial Electronics Magazine - IEEE
- International Journal of Electrical Power and Energy Systems - Elsevier
- Power Electronics - IET
- Electric Power Components and Systems - Taylor & Francis
- Intelligent Industrial Systems - Springer

Conferences:

- International Conference on Intelligent Control and Information Processing
- Italian Forum for AAL
- IEEE International Conference on Industrial Technology

ANNEXES

- publications.pdf

List of Publications

Gionata Cimini

Updated to Sunday 29th March, 2015

Journal Articles

- [1] 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.
- [2] 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

- [3] 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

- [4] G. Cimini, G. Ippoliti, G. Orlando, S. Longhi, and R. Miceli, “Robust current observer design for dc-dc converters”, in *Renewable Energy Research and Application (ICRERA), 2014 International Conference on*, 2014, pp. 958–963.
- [5] G. Cimini, A. Bemporad, G. Ippoliti, and S. Longhi, “FRAM evaluation as unified memory for convex optimization algorithms”, in *Education and Research Conference (EDERC), 2014 6th European Embedded Design in*, 2014, pp. 187–191.
- [6] G. Cimini, G. Ippoliti, S. Longhi, G. Orlando, and M. Pirro, “Synchronous buck converter control via robust periodic pole assignment”, in *Control Conference (ECC), 2014 European*, 2014, pp. 1921–1926.

- [7] L. Ciabattoni, G. Cimini, M. Grisostomi, G. Ippoliti, and S. Longhi, “An interoperable framework for home automation design, testing and control”, in *Control and Automation (MED), 2014 22nd Mediterranean Conference of*, 2014, pp. 1049–1054.
- [8] 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 *Multi-Conference on Systems, Signals Devices (SSD), 2014 11th International*, 2014, pp. 1–6.
- [9] G. Cimini, V. Fossi, G. Ippoliti, S. Mencarelli, G. Orlando, and M. Pirro, “Model predictive control solution for Permanent Magnet Synchronous Motors”, in *Industrial Electronics Society, IECON 2013 - 39th Annual Conference of the IEEE*, 2013, pp. 5824–5829.
- [10] E. Alidori, G. Cimini, G. Ippoliti, G. Orlando, and M. Pirro, “A passivity-based solution for CCM-DCM boost converter Power Factor Control”, in *Industrial Electronics Society, IECON 2013 - 39th Annual Conference of the IEEE*, 2013, pp. 7752–7757.
- [11] G. Cimini, G. Ippoliti, G. Orlando, and M. Pirro, “Explicit sensorless model predictive control of synchronous buck converter”, in *Renewable Energy Research and Applications (ICRERA), 2013 International Conference on*, 2013, pp. 1200–1205.
- [12] —, “Sensorless passivity-based control for Mixed Conduction Mode boost converter with power factor correction”, in *Renewable Energy Research and Applications (ICRERA), 2013 International Conference on*, 2013, pp. 1194–1199.
- [13] 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 - July 2013, Caen, France*, 2013, pp. 128–133.
- [14] G. Cimini, G. Ippoliti, G. Orlando, and M. Pirro, “Current sensorless solution for PFC boost converter operating both in DCM and CCM”, in *Control Automation (MED), 2013 21st Mediterranean Conference on*, 2013, pp. 137–142.
- [15] —, “Current sensorless solutions for PFC of boost converters with passivity-based and sliding mode control”, in *Power Engineering, Energy and Electrical Drives (POWERENG), 2013 Fourth International Conference on*, 2013, pp. 1175–1180.
- [16] —, “PMSM control with power factor correction: Rapid prototyping scenario”, in *Power Engineering, Energy and Electrical Drives (POWERENG), 2013 Fourth International Conference on*, 2013, pp. 688–693.
- [17] 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 *Mechatronics (ICM), 2013 IEEE International Conference on*, 2013, pp. 736–741.

- [18] 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 *Mechatronics (ICM), 2013 IEEE International Conference on*, 2013, pp. 99–104.

Forthcoming or Under Review

- [19] 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, **forthcoming**.
- [20] G. Cimini, A. Freddi, G. Ippoliti, A. Monteriú, and M. Pirro, "A smart lighting system for visual comfort and energy savings in industrial and domestic use", *Electric Power Components and Systems*, **forthcoming**, 2015.
- [21] G. Cimini, L. Ciabattoni, G. Ippoliti, G. Orlando, and S. Longhi, "Robust Observer Design for DC-DC Converters: The Synchronous Case", in *Power Engineering, Energy and Electrical Drives (POWERENG), 2015 Fifth International Conference on*, 2015, **submitted**.
- [22] 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. 2005 IEEE International Joint Conference on*, 2015, **submitted**.
- [23] L. Ciabattoni, G. Cimini, F. Ferracuti, A. Freddi, G. Ippoliti, and A. Monteriú, "A novel lda-based approach for motor bearing fault detection", in *Industrial Informatics, 2015. INDIN 2015. Proceedings. IEEE International Conference on*, 2015, **submitted**.
- [24] 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, **submitted**.
- [25] L. Cavanini, G. Cimini, G. Ippoliti, A. Monteriú, and A. Freddi, "An open source ros tool for rapid prototyping in embedded control system design", in *Consumer Electronics (ISCE 2015), The 19th IEEE International Symposium on*, 2015, **submitted**.
- [26] 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, **submitted**.