

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/A2: Basic user - B1/B2: Independent user - C1/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*)

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 Saturday 7th February, 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, L. Ciabattoni, G. Ippoliti, G. Orlando, and S. Longhi, “Robust Observer Design for DC-DC Converters: The Synchronous Case”, in *Control and Automation (MED), 2014 22nd Mediterranean Conference of*, 2015, **submitted**.
- [21] 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*, **submitted**, 2015.
- [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, 2005. IJCNN '15. Proceedings. 2005 IEEE International Joint Conference on*, 2015, **submitted**.