

CURRICULUM VITAE

LUCA CORRADINI

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EDUCATION

- 2008: Ph.D. – Industrial Electronics, University of Padova, Italy
- 2004: M.S. – Electronic Engineering, University of Padova, Italy

POSITION

- *March 2017–present*: Associate Professor at the Department of Information Engineering of the University of Padova, Italy.
- *March 2011–February 2017*: Assistant Professor at the Department of Information Engineering of the University of Padova, Italy.
- *July 2008–February 2011*: Professional Research Associate at the Colorado Power Electronics Center, University of Colorado at Boulder, USA.
- *June–December 2004*: Research Collaborator, government-funded project on the topic “RF and ESD susceptibility of CMOS and BCD integrated circuits”, Department of Information Engineering, University of Padova, Italy.

AWARDS

- IEEE IAS Industrial Power Converters Committee 2008 Second Prize Paper Award for: L. Corradini, W. Stefanutti, P. Mattavelli, “Analysis of Multi-sampled current control for active filters,” in *Proc. 42nd IEEE Industry Applications Society Annual Meeting*, New Orleans, LA, 2007, pp. 1608-1615.

VITA

Luca Corradini received the M.S. degree (Laurea) in Electronic Engineering in 2004 from the University of Padova, Italy, with a thesis addressing reliability aspects of Gallium Nitride (GaN) high-electron mobility transistors intended for RF applications. In December 2004 Dr. Corradini obtained a Ph.D. scholarship sponsored by Infineon Technologies AG on the topic “Analysis and Implementation of Digital Control Architectures for DC-DC Switching Converters”. Enrolled in 2005 in the Ph.D School of Information Engineering of the University of Padova, he received the Ph.D. in Industrial Electronics in March 2008. His doctoral thesis focused on the study

and development of digital control techniques for low-voltage, high-current DC-DC switching converters employed in Point-of-Load applications, addressing *i*) the investigation and experimental verification of non-conventional, high-sampling frequency digital controllers for improved converter dynamic performances, and *ii*) the development and experimental validation of a digital auto-tuning technique specifically designed for accurate and repeatable tuning results. As part of his Ph.D. education, in 2006 Dr. Corradini was hosted as visiting research scholar at the Colorado Power Electronics Center (CoPEC), University of Colorado at Boulder (USA), an industry-sponsored university research center for power electronics, under the supervision of Prof. Dragan Maksimović and Prof. Regan Zane.

From July 2008 to February 2011 dr. Corradini worked at CoPEC as a professional Research Associate. His scientific activity further pursued the field of digital power management and control approaches for DC/DC converters, including the development of robust nonlinear controllers for fast transient response in point-of-load applications, digital auto-tuning techniques for automatic calibration of controller parameters, sigma-delta modulators for low-complexity, high resolution control, THD reduction approaches for filterless Class-D audio amplifiers based on digital predistortion, and integrated digital power management for efficiency improvement of RF power amplifiers employed in wireless handsets. Analysis, modeling and experimental verification of switched-mode power converters are integrating part of his background expertise. At CoPEC, Dr. Corradini was also actively involved in preparing research project proposals for potential future industrial partnerships, in the interaction with CoPEC industrial sponsors and in the coordination of M.S. and Ph.D. students. Dr. Corradini was co-organizer of the twelfth edition of the IEEE Workshop on Control and Modeling for Power Electronics (COMPEL 2010), hosted at the University of Colorado at Boulder on June 28-30 2010.

From March 2011 to February 2017 dr. Corradini was Assistant Professor at the Department of Information Engineering of the University of Padova, Italy, while since March 2017 he has been Associate Professor at the same University. Along with continuing research on digital control, his research interests also encompass advanced power management solutions for small-scale energy harvesting systems.

Dr. Corradini is co-author of more than seventy articles published in journals and conference proceedings of international scope, and of a book on digital control of high-frequency switched-mode power converters published by Wiley-IEEE Press. He regularly serves as a reviewer for several IEEE journals and conferences in the power electronics area. Since August 2015 he has been Associate Editor of the IEEE Transactions on Power Electronics.

TEACHING

- *Power Electronics*, M.S. degree in Electronic Engineering
Role: instructor
Period: Spring 2017-present
- *Power Electronics 2*, M.S. degree in Electronic Engineering
Role: instructor
Period: Spring 2012–Spring 2016
- *PSpice Laboratory* for the course *Fundamentals of Electronics*, B.S. degree in Information Engineering
Role: instructor
Period: May-June 2007
- *Electronic CAD OrCAD-PSpice*, post-graduate professional certification master
Role: instructor
Period: January-February 2007

STUDENTS SUPERVISION

- Supervision of Ph.D. theses
 - Eslam Abdelhamid, 2015-present
Topic: Adaptive efficiency optimization of resonant and quasi-resonant topologies for automotive applications
 - Francesco Bez, 2015-present
Topic: Control and efficiency optimization of bidirectional converters for automotive battery charging applications
 - Luca Scandola, 2013-2015
Thesis title: “Implementation and modeling of online efficiency optimization techniques for high-frequency dc-dc converters in automotive applications”
- Supervision of M.S. theses
 - Davide Bottamedi, 2017-present
Topic: Modeling of a digital V2 controller for dc-dc converters
 - Andrea Borsati, 2016
Topic: Study and implementation of energy harvesting solutions for magnetic wireless switches
 - Bernard Blaise Tchodjie Tchamabe, 2013
Topic: Implementation of a dc-dc switched-capacitor converter for low-power photovoltaic energy harvesting
 - Marco Piovesan, 2013
Topic: Study and implementation of a cold-start oscillator for ultra low-voltage energy harvesting from thermoelectric sources
 - Daniele Viel, 2013
Topic: Analysis and control of a non-inverting buck-boost converter for high-brightness LED driving applications
- Supervision of B.S. theses
 - Alessandro Blascovich, 2012 (as co-supervisor)
Topic: Modeling of renewable energy generation for energy harvesting devices

INVITED TALKS

- “Research Activities in Power Electronics at the University of Padova”, University of Toronto, Canada, August 17, 2015
- “Digital Control for Inductor Based DC-DC Converters”, 41st European Solid-State Circuits Conference (ESSCIRC) – Workshop on Advanced DC-DC Converter Techniques, Graz, Austria, September 18, 2015
- “Research Lines in Digital Control of High-Frequency Power Converters”, Infineon Technologies Design Center, Villach, Austria, May 11, 2016
- “Small-Signal Modeling and Controller Design of Digitally-Controlled Switched-Mode Power Converters”, Universitat Rovira i Virgili, Tarragona, Spain, October 6, 2016

IEEE MEMBERSHIPS AND SERVICES

- IEEE Senior Member (S'06, M'09, SM'14)
- IEEE Power Electronics Society Member (2006–present)
- Associate Editor of the IEEE Transactions on Power Electronics (August 2015–present)
- Conferences Organization:
 - IEEE Workshop on Control and Modeling for Power Electronics (COMPEL):
 - * 2016: Technical Committee Vice-Chair
 - * 2015: Technical Committee Member
 - * 2014: Technical Program Chair for the “Control of Power Converters” session
 - * 2010: Member of the organizing committee
 - IEEE Energy Conversion Conference and Exposition (ECCE):
 - * 2013: member of the *Computer/Telecommunication Applications and Power Converter Topologies Committee* and Track Chair for the *Control of Power Electronics Converters* technical session.
 - * 2012: member of the *Power Converters Topologies Committee*.
 - * 2011: member of the *DC-DC Converters Committee*.
 - IEEE Conference of the Industrial Electronics Society (IECON):
 - * 2016: Track Co-chair for the “High Efficiency DC-DC Power Converters” session
 - International Workshop on Power Supply on Chip (PwrSoC)
 - * 2016: Track Co-chair for the “Topologies & Control II” session
- Journals / Transactions Reviewer:
 - IEEE Transactions on Power Electronics
 - IEEE Journal on Emerging and Selected Topics in Power Electronics
 - IEEE Transactions on Industry Applications
 - IEEE Transactions on Industrial Electronics
- Conferences Reviewer:
 - IEEE Applied Power Electronics Conference and Exposition (APEC)
 - IEEE Energy Conversion Conference and Exposition (ECCE)
 - IEEE Workshop on Control and Modeling for Power Electronics (COMPEL)

PUBLICATION RECORD

BOOKS

- [1] L. Corradini, D. Maksimović, P. Mattavelli and R. Zane, *Digital Control of High-Frequency Switched-Mode Power Converters*, First ed. Wiley-IEEE Press, Jul. 2015, ISBN: 978-1-118-93510-1.

BOOK CHAPTERS

- [2] L. Corradini, “Chapter 4 – Digital PWM Control of High-Frequency dc-dc Switched-Mode Power Converters,” in *Control Circuits in Power Electronics: Practical Issues and Implementation*, First ed., IET, 2016, pp. 75–97, ISBN: 978-1-84919-822-6.

JOURNAL PAPERS – ACCEPTED FOR PUBLICATION / IN PRESS

- [3] W. W. Chen, R. Zane and L. Corradini, “Isolated Bidirectional Grid-Tied Three-Phase AC-DC Power Conversion using Series Resonant Converter Modules and a Three-Phase Unfolder,” *IEEE Trans. Power Electron.*, 2017.

JOURNAL PAPERS – PUBLISHED

- [4] A. Petucco, S. Saggini, L. Corradini and P. Mattavelli, “Analysis of Power Processing Architectures for Thermoelectric Energy Harvesting,” *IEEE Journal of Emerging and Selected Topics in Power Electronics*, vol. 4, no. 3, pp. 1036–1049, Sep. 2016.
- [5] L. Scandola, L. Corradini and G. Spiazzi, “Small-signal Modeling of Uniformly Sampled Phase-Shift Modulators,” *IEEE Trans. Power Electron.*, vol. 30, no. 10, pp. 5870–5880, Oct. 2015.
- [6] S. Saggini, F. Ongaro, L. Corradini and A. Affanni, “Low-Power Energy Harvesting Solutions for Wiegand Transducers,” *IEEE Journal of Emerging and Selected Topics in Power Electronics*, vol. 3, no. 3, pp. 766–779, Sep. 2015.
- [7] L. Corradini, D. Seltzer, D. Bloomquist, R. Zane, D. Maksimović and B. Jacobson, “Zero Voltage Switching Technique for Bidirectional DC/DC Converters,” *IEEE Trans. Power Electron.*, vol. 29, no. 4, pp. 1585–1594, Apr. 2014.
- [8] L. Corradini and G. Spiazzi, “A High-Frequency Digitally Controlled LED Driver for Automotive Applications with Fast Dimming Capabilities,” *IEEE Trans. Power Electron.*, vol. 29, no. 12, pp. 6648–6659, Dec. 2014.
- [9] M. Rodriguez, G. Stahl, L. Corradini, D. Maksimović, “Smart DC Power Management System Based on Software-Configurable Power Modules,” *IEEE Trans. Power Electron.*, vol. 28, no. 4, pp. 1571–1586, Apr. 2013.
- [10] N. Michelusi, L. Badia, R. Carli, L. Corradini and M. Zorzi, “Energy Management Policies for Harvesting-based Wireless Sensor Devices with Battery Degradation,” *IEEE Trans. Commun.*, vol. 61, no. 12, pp. 4934–4947, Dec. 2013.
- [11] L. Corradini, D. Seltzer, D. Bloomquist, R. Zane, D. Maksimović and B. Jacobson, “Minimum Current Operation of Bidirectional Dual-Bridge Series Resonant DC/DC Converters,” *IEEE Trans. Power Electron.*, vol. 27, no. 7, pp. 3266–3276, Jul. 2012.
- [12] L. Corradini, A. Bjeletić, R. Zane and D. Maksimović, “Fully digital hysteretic modulator for dc-dc switching converters,” *IEEE Trans. Power Electron.*, vol. 26, no. 10, pp. 2969–2979, Oct. 2011.

- [13] S. Moon, L. Corradini and D. Maksimović, “Autotuning of Digitally Controlled Boost Power Factor Correction Rectifiers,” *IEEE Trans. Power Electron.*, vol. 26, no. 10, pp. 3006–3018, Oct. 2011.
- [14] D. Maksimovic, R. Zane and L. Corradini, “Advances in digital control for high-frequency switched-mode power converters,” *Power Electronics monthly*, vol. 44, no. 12, pp. 2–19, Dec. 2010, serial no. 217, sponsored by Xi’an Power Electronics Research Institute, China.
- [15] L. Corradini, A. Babazadeh, A. Bjeletić and D. Maksimović, “Current-limited time-optimal response in digitally controlled dc-dc converters,” *IEEE Trans. Power Electron.*, vol. 25, no. 11, pp. 2869–2880, Nov. 2010.
- [16] L. Corradini, P. Mattavelli, M. Corradin and F. Polo, “Analysis of Parallel Operation of Uninterruptible Power Supplies Loaded through Long Wiring Cables,” *IEEE Trans. Power Electron.*, vol. 25, no. 4, pp. 1046–1054, Apr. 2010.
- [17] R. Paul, L. Sankey, L. Corradini, Z. Popovic and D. Maksimović, “Power Management of Wideband Code Division Multiple Access RF Power Amplifiers with Antenna Mismatch,” *IEEE Trans. Power Electron.*, vol. 25, no. 4, pp. 981–991, Apr. 2010.
- [18] J. Morroni, L. Corradini, R. Zane and D. Maksimović, “Adaptive Tuning of Switched-Mode Power Supplies Operating in Discontinuous and Continuous Conduction Modes,” *IEEE Trans. Power Electron.*, vol. 24, no. 11, pp. 2603–2611, Nov. 2009.
- [19] L. Corradini, A. Costabeber, P. Mattavelli and S. Saggini, “Parameter-Independent Time-Optimal Digital Control for Point-of-Load Converters,” *IEEE Trans. Power Electron.*, vol. 24, no. 10, pp. 2235–2248, Oct. 2009.
- [20] L. Corradini, E. Orietti, P. Mattavelli and S. Saggini, “Digital Hysteretic Voltage-Mode Control for DC-DC Converters Based on Asynchronous Sampling,” *IEEE Trans. Power Electron.*, vol. 24, no. 1, pp. 201–211, Jan. 2009.
- [21] L. Corradini, P. Mattavelli and S. Saggini, “Elimination of Sampling-Induced Dead Bands in Multiple-Sampled Pulse-Width Modulators for DC-DC Converters,” *IEEE Trans. Power Electron.*, vol. 24, no. 11, pp. 2661–2665, Nov. 2009.
- [22] L. Corradini, P. Mattavelli, E. Tedeschi and D. Trevisan, “High-Bandwidth Multisampled Digitally Controlled DC-DC Converters Using Ripple Compensation,” *IEEE Trans. Ind. Electron.*, vol. 55, no. 4, pp. 1501–1508, Apr. 2008.
- [23] L. Corradini, P. Mattavelli, W. Stefanutti and S. Saggini, “Simplified Model Reference-based Autotuning for Digitally Controlled SMPS,” *IEEE Trans. Power Electron.*, vol. 23, no. 4, pp. 1956–1963, Jul. 2008.
- [24] L. Corradini, W. Stefanutti and P. Mattavelli, “Analysis of Multisampled Current Control for Active Filters,” *IEEE Trans. Ind. Appl.*, vol. 44, no. 6, pp. 1785–1794, Nov./Dec. 2008.
- [25] L. Corradini and P. Mattavelli, “Modeling of Multisampled Pulse Width Modulators for Digitally Controlled DC-DC Converters,” *IEEE Trans. Power Electron.*, vol. 23, no. 4, pp. 1839–1847, Jul. 2008.

CONFERENCE PROCEEDINGS – PUBLISHED

- [26] F. Bez, L. Scandola, L. Corradini, S. Saggini and G. Spiazzi, “Two-Dimensional Online Efficiency Optimization Technique for Dual Active Bridge Converters,” in *Proc. 17th IEEE Workshop on Control and Modeling for Power Electronics (COMPEL)*, Jun. 2016, pp. 1–8.
- [27] W. Han, R. Ma, Q. Liu and L. Corradini, “A Conduction Losses Optimization Strategy for DAB Converters in Wide Voltage Range,” in *Proc. 42nd Conference of the IEEE Industrial Electronics Society (IECON)*, Oct. 2016, pp. 2445–2451.

- [28] L. Corradini, “Digital Control for Inductor Based DC-DC Converters,” in *Proc. 41st European Solid-State Circuits Conference (ESSCIRC) – Workshop on Advanced DC-DC Converter Techniques*, invited talk, Sep. 2015, pp. 99–144.
- [29] L. Scandola, L. Corradini and G. Spiazzi, “Multi-Harmonic Small-Signal Modeling of Digitally Controlled dc-dc Series Resonant Converters,” in *Proc. 16th IEEE Workshop on Control and Modeling for Power Electronics (COMPEL)*, Jul. 2015, pp. 1–8.
- [30] L. Scandola, L. Corradini and G. Spiazzi, “Small-signal modeling of combined phase shift and pulse width uniformly sampled modulators,” in *Proc. 16th IEEE Workshop on Control and Modeling for Power Electronics (COMPEL)*, Jul. 2015, pp. 1–7.
- [31] P. Mattavelli and L. Corradini, “Digital Control in Power Electronics,” in *Proc. 13th IEEE Brazilian Power Electronics Conference (COBEP) and 1st Southern Power Electronics Conference (SPEC)*, invited tutorial, Nov. 2015.
- [32] G. Spiazzi, S. Buso and L. Corradini, “Dynamic Effects of Mismatched Time Constants in DC-DC Converters with Inductor DCR Current Sensing,” in *Proc. 6th IEEE Energy Conversion Conference and Exposition (ECCE)*, Sep. 2014, pp. 257–264.
- [33] L. Scandola, L. Corradini, G. Spiazzi, C. Garbossa, P. Piersimoni and A. Vecchiato, “Online Efficiency Optimization Technique for Digitally Controlled Resonant DC/DC Converters,” in *Proc. 29th IEEE Applied Power Electronics Conference and Exposition (APEC)*, Mar. 2014, pp. 27–34.
- [34] L. Scandola, L. Corradini and G. Spiazzi, “Small-signal modeling of uniformly sampled phase shift modulators,” in *Proc. 15th IEEE Workshop on Control and Modeling for Power Electronics (COMPEL)*, Jun. 2014, pp. 1–8.
- [35] S. Saggini, O. Zambetti, M. Loghi, A. Zafarana and L. Corradini, “Autotuning Technique for Digital Constant On-Time Controllers,” in *Proc. 29th IEEE Applied Power Electronics Conference and Exposition (APEC)*, Mar. 2014, pp. 1059–1065.
- [36] W. Chen, R. Zane, D. Seltzer and L. Corradini, “Isolated Bidirectional DC/AC and AC/DC Three-Phase Power Conversion using Series Resonant Converter Modules and a Three-Phase Unfolder,” in *Proc. 15th IEEE Workshop on Control and Modeling for Power Electronics (COMPEL)*, Jun. 2014, pp. 1–6.
- [37] F. Ongaro, S. Saggini and L. Corradini, “Low-Power Energy Harvester for Wiegand Transducers,” in *Proc. 28th IEEE Applied Power Electronics Conference and Exposition (APEC)*, Mar. 2013, pp. 453–459.
- [38] G. Giorgi, A. Veronese and L. Corradini, “A Method for Estimating State of Charge in Energy-Aware Wireless Sensor Nodes,” in *Proc. 19th IMEKO TC-4 Symposium on Measurements of Electrical Quantities*, Jul. 2013, pp. 108–113.
- [39] L. Corradini and G. Spiazzi, “A High-Frequency Digitally Controlled LED Driver for Automotive Applications with Fast Dimming Capabilities,” in *Proc. 5th IEEE Energy Conversion Conference and Exposition (ECCE)*, Sep. 2013, pp. 3110–3117.
- [40] N. Michelusi, L. Badia, R. Carli, L. Corradini and M. Zorzi, “Impact of Battery Degradation on Optimal Management Policies of Harvesting-Based Wireless Sensor Devices,” in *Proc. 32nd IEEE International Conference on Computer Communications (INFOCOM)*, Apr. 2013, pp. 590–594.
- [41] S. Saggini, F. Ongaro, L. Corradini and A. Affanni, “Low-Power Energy Harvesting Circuits for Wiegand Sensors,” in *Proc. 45th Meeting of the GE Association, Udine, Italy*, Jun. 2013.

- [42] S. Saggini, F. Ongaro, L. Corradini and A. Affanni, “Low-Power Energy Harvesting Solutions for Wiegand Transducers,” in *Proc. 10th International Workshop on Piezoelectric Materials and Applications and 8th Energy Harvesting Workshop (IWPMA & EHW)*, Jul. 2013, pp. 156–158.
- [43] S. Saggini, O. Zambetti, M. Loghi, A. Zafarana and L. Corradini, “Model reference Tuning Algorithm Applied to Constant On Time Controller,” in *Proc. 45th Meeting of the GE Association, Udine, Italy*, Jun. 2013.
- [44] F. Sichirollo, G. Spiazzi, S. Buso and L. Corradini, “Small-Signal Modeling of the Interleaved Boost with Voltage Multiplier,” in *Proc. 4th IEEE Energy Conversion Conference and Exposition (ECCE)*, Sep. 2012, pp. 431–437.
- [45] M. Rodriguez, L. Corradini, C. Olalla, D. Maksimović, “Average Current-Mode Control of Boost Converters with Bidirectional Power Transfer Capabilities,” in *Proc. 13th IEEE Workshop on Control and Modeling for Power Electronics (COMPEL)*, Jun. 2012.
- [46] A. Bjelečić, L. Corradini, R. Zane, D. Maksimović, “Specifications-Driven Design Space Boundaries for Point-of-Load Converters,” in *Proc. 26th IEEE Applied Power Electronics Conference and Exposition (APEC)*, 2011, pp. 1166–1173.
- [47] D. Seltzer, L. Corradini, R. Zane and D. Maksimović, “Small Signal Phasor Modeling of Dual Active Bridge Series Resonant DC/DC Converters with Multi-Angle Phase Shift Modulation,” in *Proc. 3rd IEEE Energy Conversion Conference and Exposition (ECCE)*, Sep. 2011, pp. 2757–2764.
- [48] L. Corradini, D. Seltzer, D. Bloomquist, R. Zane, D. Maksimović and B. Jacobson, “Zero Voltage Switching Technique for Bi-Directional DC/DC Converters,” in *Proc. 3rd IEEE Energy Conversion Conference and Exposition (ECCE)*, Sep. 2011, pp. 2215–2222.
- [49] S. Jensen, L. Corradini, D. Maksimović, “Modeling and Digital Control of LCLC Resonant Inverter with Varying Load,” in *Proc. 3rd IEEE Energy Conversion Conference and Exposition (ECCE)*, Sep. 2011, pp. 3823–3829.
- [50] L. Corradini and D. Maksimović, “A Digital Pulse-Width Modulator for Phase-Shift Operation of Full-Bridge Isolated DC-DC Converters,” in *Proc. 25th IEEE Applied Power Electronics Conference and Exposition (APEC)*, 2010, pp. 277–283.
- [51] R. Paul, L. Corradini, D. Maksimović, “Adaptive Non-Inverting Buck-Boost IC with On-Chip Sigma-Delta ADC for Portable Applications,” in *Proc. 12th IEEE Workshop on Control and Modeling for Power Electronics (COMPEL)*, Jun. 2010.
- [52] S. Moon, L. Corradini, D. Maksimović, “Accurate mode boundary detection in digitally controlled boost power factor correction rectifiers,” in *Proc. 2nd IEEE Energy Conversion Conference and Exposition (ECCE)*, Sep. 2010, pp. 1212–1217.
- [53] S. Moon, L. Corradini, D. Maksimović, “Auto-tuning of digitally controlled boost Power Factor Correction rectifiers operating in continuous conduction mode,” in *Proc. 12th IEEE Workshop on Control and Modeling for Power Electronics (COMPEL)*, Jun. 2010.
- [54] A. Babazadeh, L. Corradini and D. Maksimović, “Near Time-Optimal Transient Response in DC-DC Buck Converters Taking into Account the Inductor Current Limit,” in *Proc. 1st IEEE Energy Conversion Conference and Exposition (ECCE)*, Sep. 2009, pp. 3328–3335.
- [55] J. Morroni, L. Corradini, R. Zane, D. Maksimović, “Robust Adaptive Tuning of Digitally Controlled Switched-Mode Power Supplies,” in *Proc. 24th IEEE Annual Applied Power Electronics Conference and Exposition (APEC)*, Feb. 2009, pp. 240–246.
- [56] L. Corradini, A. Bjeletic, R. Zane, D. Maksimović, “Fully Digital Hysteretic Modulator for DC-DC Switching Converters,” in *Proc. 1st IEEE Energy Conversion Conference and Exposition (ECCE)*, Sep. 2009, pp. 3312–3319.

- [57] L. Corradini, P. Mattavelli, M. Corradin and F. Polo, "Analysis of Parallel Operation of Uninterruptible Power Supplies Loaded Through Long Wiring Cables," in *Proc. 24th IEEE Annual Applied Power Electronics Conference and Exposition (APEC)*, Feb. 2009, pp. 1276–1282.
- [58] R. Paul, L. Corradini, D. Maksimović, "S-D Modulated Digitally Controlled Non-Inverting Buck-Boost Converter for WCDMA RF Power Amplifiers," in *Proc. 24th IEEE Annual Applied Power Electronics Conference and Exposition (APEC)*, Feb. 2009, pp. 533–539.
- [59] X. Zhang, L. Corradini, D. Maksimović, "Digitally Controlled Distributed Multiphase DC-DC Converters," in *Proc. 1st IEEE Energy Conversion Conference and Exposition (ECCE)*, Sep. 2009, pp. 36–42.
- [60] X. Zhang, L. Corradini, D. Maksimović, "Sensorless Current Sharing in Digitally Controlled Two-Phase Buck DC-DC Converters," in *Proc. 24th IEEE Annual Applied Power Electronics Conference and Exposition (APEC)*, Feb. 2009, pp. 70–76.
- [61] A. Costabeber, L. Corradini, S. Saggini, P. Mattavelli, "Time-Optimal, Parameters-Insensitive Digital Controller for DC-DC Buck Converters," in *Proc. 39th IEEE Power Electronics Specialists Conference (PESC)*, 2008, pp. 1243–1249.
- [62] L. Corradini, A. Costabeber, P. Mattavelli and S. Saggini, "Time Optimal, Parameters-Insensitive Digital Controller for VRM Applications with Adaptive Voltage Positioning," in *Proc. 11th IEEE Workshop on Control and Modeling for Power Electronics (COMPEL)*, Aug. 2008, pp. 1–8.
- [63] L. Corradini, S. Saggini and P. Mattavelli, "High-Bandwidth Event-Based Digital Controller for DC-DC Converters," in *Proc. 39th IEEE Power Electronics Specialists Conference (PESC)*, Jun. 2008, pp. 4578–4584.
- [64] L. Corradini and P. Mattavelli, "z-Domain Modeling of Digitally Controlled DC-DC Converters," in *Proc. ECPE Seminar on Digital Power Conversion (ECPE)*, 2008.
- [65] D. Trevisan, S. Saggini, P. Mattavelli, L. Corradini and P. Tenti, "Analysis of a Mixed-Signal Voltage-Mode Control for DC-DC Converters Based on Hysteretic Modulation," in *Proc. 7th IEEE International Conference on Power Electronics and Drive Systems (PEDS)*, Nov. 2007, pp. 391–397.
- [66] L. Corradini, E. Tedeschi and P. Mattavelli, "Advantages of the Symmetric-On Time Modulator in Multiple-Sampled Digitally Controlled DC-DC Converters," in *Proc. 38th IEEE Power Electronics Specialists Conference (PESC)*, Jun. 2007, pp. 1974–1980.
- [67] L. Corradini, P. Mattavelli and D. Maksimović, "Robust Relay-Feedback Based Autotuning for DC-DC Converters," in *Proc. 38th IEEE Power Electronics Specialists Conference (PESC)*, Jun. 2007, pp. 2196–2202.
- [68] L. Corradini, P. Mattavelli and S. Saggini, "Elimination of Sampling-Induced Dead Bands in Multiple-Sampled Pulse-Width Modulators for DC-DC Converters," in *Proc. 33rd Annual Conference of the IEEE Industrial Electronics Society (IECON)*, Nov. 2007, pp. 1495–1500.
- [69] L. Corradini, W. Stefanutti and P. Mattavelli, "Analysis of Multi-Sampled Current Control for Active Filters," in *Proc. 42nd IEEE Industry Applications Society Annual Meeting (IAS)*, Sep. 2007, pp. 1608–1615.
- [70] M. Shirazi, R. Zane, D. Maksimović, L. Corradini and P. Mattavelli, "Autotuning Techniques for Digitally-Controlled Point-of-Load Converters with Wide Range of Capacitive Loads," in *Proc. 22nd IEEE Applied Power Electronics Conference and Exposition (APEC)*, 2007, pp. 14–20.

- [71] W. Stefanutti, S. Saggini, L. Corradini, E. Tedeschi, P. Mattavelli and D. Trevisan, “Closed-Loop Model-Reference Tuning of PID Regulators For Digitally Controlled DC-DC Converters Based On Duty-Cycle Perturbation,” in *Proc. 33th IEEE Conference of the Industrial Electronics Society (IECON)*, Nov. 2007, pp. 1553–1558.
- [72] E. Tedeschi, P. Mattavelli, D. Trevisan and L. Corradini, “Repetitive Ripple Estimation in Multi-sampling Digitally Controlled DC-DC Converters,” in *Proc. 32nd Annual Conference of the IEEE Industrial Electronics Society (IECON)*, Nov. 2006, pp. 1685–1690.
- [73] L. Corradini, P. Mattavelli, “Analysis Of Multiple Sampling Technique For Digitally-Controlled DC-DC Switching Converters,” in *Proc. 37th IEEE Power Electronics Specialists Conference (PESC)*, Jun. 2006, pp. 2410–2415.

Padova, March 3, 2017

Luca Corradini