



Europass Curriculum Vitae

Personal information

First name(s) / Surname(s) **Stefano Rinaldi**
E-mail stefano.rinaldi@unibs.it
Nationality Italian
Date of birth 17-02-1982
Gender Male

Work experience

Dates July 2014 – Today
Occupation or position held Professor Assistant
Main activities and responsibilities Research activities in the field of ICT systems for supporting the automation of Smart Grid, and the integration of renewable resources, electrical storage systems and e-vehicle charging stations into the distribution grid
Name and address of employer University of Brescia, via Branze 38, Brescia

Dates October 2013 – June 2014
Occupation or position held Research Fellow
Main activities and responsibilities Development of a simulation environment for the analysis of communications infrastructure of the next generation for industrial and smart grid systems
Name and address of employer University of Brescia, via Branze 38, Brescia

Dates October 2010 - September 2013
Occupation or position held Research Fellow
Main activities and responsibilities Development of tools and methods for time synchronization for energy distribution in the era of distributed generation from renewables
Name and address of employer University of Brescia, via Branze 38, Brescia

Dates 2011/2012
Occupation or position held Assistant lecturer
Main activities and responsibilities Exercise of System for real-time control – Distributed Systems and PLC
Name and address of employer University of Brescia, Via Branze 38, Brescia

Dates February 2011 – July 2011
Occupation or position held Consultant
Main activities and responsibilities Consultant for the development of an Ethernet switch IEEE 1588 aware
Name and address of employer Selta S.p.A., via Fabio Filzi 33, Milano

Dates November 2009- April 2010
Occupation or position held Research Fellow
Main activities and responsibilities Study and testing of new architectures for the implementation of tools for diagnosis of wireless networks at the field level for industrial use
Name and address of employer University of Brescia, via Branze 38, Brescia

Dates December 2009 – February 2010
Occupation or position held Consultant

Main activities and responsibilities	Consultant on development of microprocessor and FPGA systems
Name and address of employer	ReSoftware, Azzano S.Paolo, BG , Via Piemonte 8
Type of business or sector	Project and development of electronic control system for typographic printers
Dates	2009
Occupation or position held	Assistant lecturer
Main activities and responsibilities	Exercise of Fundamentals of Digital Electronic
Name and address of employer	University of Brescia, Via Branze 38, Brescia
Type of business or sector	Education
Dates	October 2008
Occupation or position held	Consultant
Main activities and responsibilities	Consultant on FPGA devices and design softwares
Name and address of employer	UTPVision, 9/L, Via Tonale Albano S.Alessandro, Italy
Type of business or sector	Vision System, industrial instruments
Dates	2008
Occupation or position held	Assistant lecturer
Main activities and responsibilities	Exercise of Fundamentals of Digital Electronic
Name and address of employer	University of Brescia, Via Branze 38, Brescia
Type of business or sector	Education
Dates	October - November 2007
Occupation or position held	Temporary teacher
Name and address of employer	Comprehensive State School, Grumello del Monte, BG, Via 4 Martiri d/Lovere, 18
Type of business or sector	Education

Education and training

Dates	November 2006 – November 2009
Title of qualification awarded	Dottorato di Ricerca in strumentazione elettronica
Principal subjects/occupational skills covered	Research activities focused on digital electronic systems (Soft-Processor, embedded system on FPGA) and on development of software and hardware instrument for analysis of real time industrial communication systems. In particular, an instrument for performance and coexistence analysis of RealTime Ethernet (RTE) has been developed. Analysis, simulation (OMNeT++), and evaluation of RTE (PROFINET and Ethernet /IP) and wireless (wirelessHART, ZigBee) industrial communication systems have been carry out.
Name and type of organisation providing education and training	University of Brescia
Level in national or international classification	Ph.D. in electronic instrumentations
Dates	July – September 2009
Title of qualification awarded	Internship
Principal subjects/occupational skills covered	Research activities focused on advanced Wireless Sensor Network (WSN), for environmental monitoring and power savings applications
Name and type of organisation providing education and training	Massachusetts Institute of Technology (MIT), Cambridge, MA USA
Dates	January – June 2008
Title of qualification awarded	Erasmus Exchange project
Principal subjects/occupational skills covered	Research activities focused on synchronization system for RealTime Etherent: analysis of new algorithms and development of simulation models in OMNeT++ environment.
Name and type of organisation providing education and training	Vienna University of Technology TU – Austrian Academy of Science (ÖAW)

Dates	October 2004 - October 2006
Title of qualification awarded	Laurea Specialistica in Ingegneria elettronica per l'automazione (Magna Cum Laude 110/110)
Principal subjects/occupational skills covered	Advanced studies in digital and analogic electronics, signal elaboration and electronic measurement devices
Thesis Title	Development and implementation of an instrument for performance analysis of Real Time Ethernet industrial networks
Name and type of organisation providing education and training	University of Brescia
Level in national or international classification	Master of science in electronic engineering

Dates	October 2001 – July 2004
Title of qualification awarded	Laurea in Ingegneria dell'informazione (Magna Cum Laude 110/110)
Principal subjects/occupational skills covered	Basic studies in digital and analogic electronics, informatics, telecommunication, signal elaboration and electronic measurement devices
Thesis Title	Development and implementation of a DeviceNet Slave
Name and type of organisation providing education and training	University of Brescia
Level in national or international classification	Bachelor of science in electronic engineering

Dates	1996 - 2001
Title of qualification awarded	Diploma di maturità scientifica (100/100)
Principal subjects/occupational skills covered	scientific studies – math, natural science, physics, Italian, English
Name and type of organisation providing education and training	Institute of Higher Education Cristoforo Marzoli, Palazzolo sull'Oglio (BS)
Level in national or international classification	High School

Personal skills and competences

Mother tongue(s)	Italian
Other language(s)	English
Self-assessment	
<i>European level (*)</i>	
English	

() Common European Framework of Reference for Languages*

Social skills and competences	Excellent skills acquired during international conferences, working and research meetings, working group at various levels (both national and international)
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Organizational skills and competences	Excellent organizational skills acquired in the management of research projects, as project manager. Additional organization skill acquired during travels and excursions and in the cultural club, "Circolo Vizioso", Villongo, BG (creation and management of the web site, events organization)
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Technical skills and competences	<p>Excellent knowledge of Microsoft Office Suite (Word, Excel), C, C++, Java and Python programming language, CMS environment for creation web pages (Joomla, Drupal), Linux (Debian, OpenSUSE, CentOS), bash scripting, VHDL programming language for digital electronic devices, Altera (Quartus II, Nios EDS) development environment for FPGA, implementation of systems on-chip soft-processor NIOS II. Excellent knowledge of operating systems for embedded devices (μClinux), and real-time operating systems (Xenomai). Excellent knowledge of synchronization techniques in distributed systems (IEEE 1588, NTP, GPS). Excellent knowledge of industrial protocols Real Time Ethernet (PROFINET, EtherNet / IP) and fieldbus, wired (Profibus) as well as wireless (WirelessHART). Excellent knowledge of platforms and development environments for the realization of WSN (Sunspot, Raspberry PI, Arduino, and many more) for civil and industrial applications (WirelessHART, 6LoWPAN, ZigBee, BLE, Z-Wave, w-MBus, Wi-Fi, LTE). Excellent knowledge of co-simulation environments for discrete event simulation of communication networks (OMNeT++, Matlab, Matlab Simulink). Excellent knowledge of emulation environment for emulation of power grid (OPAL-RT environment). Excellent knowledge of protocol for the automation of electrical substations (IEC 61850, DLMS/COSEM). Excellent knowledge of the communication protocol Open Metering System (OMS) for smart meters, based on wMBus. Excellent knowledge of communication technologies over Power Line (Prime, G3, GLP and BPL). Excellent knowledge of hybrid communication systems for smart grid and industrial automation. Excellent knowledge of protocol and techniques for fault tolerant communication systems, like RSTP, IEC62439 (HSR/PRP), SPB IEEE802.1aq. Excellent knowledge of Software Defined Networking (SDN) system, for next generation communication system in industrial and smart grid environment. Excellent knowledge of high performance platforms for design of routers, LTE modem, software-based switches and bridges (like PC-Engines APU series platform). Excellent knowledge of Home Automation System and of Energy Management System (EMS), for the optimization of production from Renewable resources, electrical storage system and control of power loads (Smart Appliances, Smart Plugs, e-Vehicle charging stations, ..). Excellent system integration skills.</p>
Software skills and competences	<p>C, C++, java, Python, CMS environment (Joomla) for webpage development, OMNeT++ simulation environment, OPAL-RT environment, Matlab, Matlab Simulink, IEEE1588 protocol, NTP</p>
Operating System	<p>Windows(2000, XP, 7), Linux (openSuse, Debian, Ubuntu, CentOS)</p>
Technical Achievements	<p>Prize "Carlo Offelli 2011" for the best PhD thesis in the context of measures assigned by the Italian Electrical and Electronic Measurements Group (GMEE).</p> <p>Fourth Place at the Altera Innovate Italy 2010 – FPGA Design contest for the project "High performance synchronization over Ethernet for distributed system"</p> <p>Best work in progress at ETFA 2008 for his studies about the coexistence of several synchronization techniques on industrial Real Time Ethernet networks</p>
Invited Publications and presentations	<ol style="list-style-type: none"> 1. C. M. De Dominicis, P. Ferrari, A. Flammini, S. Rinaldi, M. Quarantelli, "Valutazione sperimentale di soluzioni per la sincronizzazione di sistemi di automazione di sottostazioni elettriche", in Proc. of XXVII GMEE Conference, Gaeta (LT), Italy, 13-15 Sept., 2010, pp. 405-414. 2. S. Rinaldi, "Strumenti di misura per le comunicazioni industriali a livello di campo", in Proc. of XXVIII GMEE Conference, Genova, Italy, 12-14 Sept., 2011, pp. 433-442. 3. P. Carbone, A. Cazorla, C. M. De Dominicis, P. Ferrari, A. Flammini, D. Macii, A. Moschitta, D. Petri, P. Pivato, S. Rinaldi, E. Sisinni, "Localizzazione spazio temporale in reti di sensori wireless", in Proc. of XXIX GMEE Conference, Monopoli (BA), Italy, 2-5 Sept., 2012, pp. 379-387. 4. "Metrex 20th Anniversary Spring Conference" (The Hague, Holland, 18-20 May 2016), to present the results of the research project SCUOLA – Smart Campus as Urban Open LABs". 5. 3rd UNI-SET Energy Clustering Event, "Universities in the Energy Transition: Focus on Smart Energy Systems and Communities" (University Politehnica of Bucharest, Romania, 21-23 November 2016), to present the preliminary results of the eLUX Laboratories, an example of living lab.
Research Projects	

Title	Virtual-eGateway " Home Gateway for interactive management of energy flows"
Duration	2015-2018
Role	Project Leader
Description	Research activities for the design and the development of a cognitive system for the monitoring of domestic energy consumptions, able to provide real-time updates to customers, feedback and suggestions on consumptions.
Title	Brescia202020
Duration	2016-2018
Role	Project Leader
Description	Research activities for the design and the development of a system (hardware controllers and supervision software) for the optimization of energy flows, for domestic as well as for large scale applications, to improve the self-consumption from renewable resources (PV fields, CHP plants, ..) by the integration of electrical storage system.
Title	eLUX
Duration	2016-2018
Role	Researcher
Description	Research activities for the realization of a multidisciplinary energy laboratory in the campus of the University of Brescia. The Laboratory is equipped with advanced system for the control of power generators and electric loads. The power grid of the campus is integrated with a real-time emulation system, used for testing the control logic of innovative controllers and supervision systems.
Title	Brescia Smart Living
Duration	2015-2018
Role	Researcher
Description	Research activities for the design of a Smart City pilot project in the city of Brescia, Lombardy - Italy. The pilot project involves the integration of the grids (electricity, water, district heating, natural gas) and the services (waste management, public security, tele assistance) of the city with a pervasive ICT infrastructure, able to provide a real-time update of the state of city to municipality and the capability to programming and scheduling activities. The citizens are strictly involved in this process and benefits in term of innovative services.
Title	SCUOLA "Smart Campus as Urban Open LABs"
Duration	2014-2015
Role	Researcher
Description	Research activities for the development of a Smart Campus in the campus of engineering of University of Brescia. The research aims to deploy a pilot system in the campus of University of Brescia. The target of the project is the design and testing control and scheduling logic for the management of power grid, including e-vehicle charging stations, PV fields, electric storage systems and smart appliances.
Title	AIRNetS
Duration	2013-2014
Role	Researcher
Description	Development of advanced simulation environment for the analysis of next generation industrial communication protocols adopted in ABB products
Title	Energy and environment - SGSync
Duration	2010-2013
Role	Researcher
Description	Research activities for the development of technologies, methodologies and materials for the conversion, recovery and energy savings. In particular, the project focused on modern methods of synchronization (IEEE1588 and NTP), needed for monitoring systems and distributed control for the smart grid.

Title	SOPHIE-SOPhisticated Industrial Ethernet
Duration	2012
Role	Researcher
Description	Analysis of the communication protocols in industrial automation systems
Title	Use of Industrial Communication in ABB Products and Systems
Duration	2011
Role	Researcher
Description	Analysis of the communication protocols in substation automation systems based on IEC61850 protocol
Title	MIUR PRIN 2009
Duration	2009
Role	Researcher
Description	Hybrid networks of the next generation for industrial automation and measurement applications - Characterization and performance over wired/wireless network.
Title	MIUR PRIN 2008
Duration	2008
Role	Researcher
Description	Methods and systems for the measurement of time and for time synchronization in wireless sensor networks.

Additional information

Member of the 'Institute of Electrical and Electronics Engineers (IEEE), Instrumentation & Measurement Society (IMS), Member of the Italian Electronics Group (GE), Member of the Italian Electrical and Electronic Measurements Group(GMEE)

Member of IEEE 1588 standardization Working Group

Member of NIST Cyber-Physical Systems Public Working Group (CPS PWG).

Reviewer of several international peer reviewed journals, including: IEEE Transactions on Instrumentation and Measurement, IEEE Instrumentation and Measurement Magazine, IEEE Transactions on Power Delivery, IEEE Transactions on Industrial Informatics, IEEE Transactions on Industrial Electronics, IEEE Transactions on Industry Applications, IEEE Communications Magazine, Elsevier Ad Hoc Networks, Elsevier Engineering Science and Technology: an International Journal, Elsevier Mechatronics, Elsevier International Journal of Electrical Power and Energy Systems, MDPI Energies, MDPI Sustainability, MDPI Sensors.

Reviewer of several international conferences.

Member of Technical Program Committee (TPC) of several conferences, including IEEE International Instrumentation and Measurement Technology Conference (IEEE I2MTC), IEEE International Symposium on Precision Clock Synchronization for Measurement, Control, and Communication (IEEE ISPCS), IEEE International Conference on Smart City Innovations (IEEE SCI).

Lecturer at several international scientific conferences.

Lecturer at the University of Brescia:

1. Real-time control systems - Distributed systems and PLC (ING-INF/07)
2. System and Instruments for automation (ING-INF/07)
3. General Electronics - Digital Electronic (ING-INF/01)
4. Introduction to Digital Electronic (ING-INF/01)

Supervisor of more than 30 master and bachelor thesis.

Activities and Interest	Member of cultural club "Circolo Vizioso"
Hobbies	Hiking, cooking, reading, gardening, travel and learn the culture of other countries
Driving license	Category B vehicle Available at travel inside and / or outside the EU.
Scientific Publications	
National Patent	A. Flammini, S. Rinaldi, C. M. De Dominicis, M. Piccinelli, A. Vezzoli, D. Mazzotti, "Metodo e apparecchiatura per il monitoraggio dei parametri vitali di un utente", UNIV. DEGLI STUDI DI BRESCIA (IT), MI2011A002014. (Submitted) (Title translation: "Method and device for monitoring the vital signs of user")
Peer-reviewed International Journals (last 5 years)	<p>I.1. C. M. De Dominicis, P. Ferrari, A. Flammini, S. Rinaldi, M. Quarantelli, "On the Use of IEEE 1588 in Existing IEC 61850-Based SASs: Current Behavior and Future Challenges", IEEE Trans. Instrumentation and Measurement, September, 2011, Vol. 60, N. 9, pp. 3070-3081.</p> <p>I.2. P. Ferrari, A. Flammini, S. Rinaldi, A. Bondavalli, F. Brancati, "Experimental Characterization of Uncertainty Sources in a Software-Only Synchronization System", IEEE Trans. Instrumentation and Measurement, May, 2012, Vol. 61, N. 5, pp. 1512-1521.</p> <p>I.3. P. Ferrari, A. Flammini, S. Rinaldi, G. Prytz, "Evaluation of Time Gateways for Synchronization of Substation Automation Systems", IEEE Trans. Instrumentation and Measurement, October, 2012, Vol. 61, N. 10, pp. 2612-2621.</p> <p>I.4. A. Bondavalli, F. Brancati, A. Flammini, S. Rinaldi, "Master Failure Detection Protocol in Internal Synchronization Environment", IEEE Trans. Instrumentation and Measurement, Gennaio, 2013, Vol. 62, N. 1, pp. 4-12.</p> <p>I.5. D. Della Giustina, P. Ferrari, A. Flammini, S. Rinaldi, E. Sisinni, "Automation of Distribution Grids With IEC 61850: A First Approach Using Broadband Power Line Communication", IEEE Trans. Instrumentation and Measurement, September, 2013, Vol. 62, N. 9, pp. 2372-2383.</p> <p>I.6. P. Carbone, A. Cazzorla, P. Ferrari, A. Flammini, A. Moschitta, S. Rinaldi, T. Sauter, E. Sisinni, "Low Complexity UWB Radios for Precise Wireless Sensor Network Synchronization", IEEE Trans. Instrumentation and Measurement, September, 2013, Vol. 62, N. 9, pp. 2538-2548.</p> <p>I.7. A. Depari, A. Flammini, S. Rinaldi, A. Vezzoli, "Multi-sensor system with Bluetooth connectivity for non-invasive measurements of human body physical parameters", Sensors and Actuators A: Physical, November, 2013, Vol. 202, pp. 147-154.</p> <p>I.8. P. Castello, P. Ferrari, A. Flammini, C. Muscas, S. Rinaldi, "A New IED With PMU Functionalities For Electrical Substations", IEEE Trans. Instrumentation and Measurement, December, 2013, Vol. 62, N. 12, pp. 3209-3217.</p> <p>I.9. D. Fontanelli, D. Macii, S. Rinaldi, P. Ferrari, A. Flammini, "A Servo-Clock Model for Chains of Transparent Clocks Affected by Synchronization Period Jitter", IEEE Trans. Instrumentation and Measurement, May, 2014, Vol. 63, N. 5, pp. 1085-1095, ISSN 0018-9456, DOI 10.1109/TIM.2013.2286871.</p> <p>I.10. P. Ferrari, G. Giorgi, C. Narduzzi, S. Rinaldi, M. Rizzi, "Timestamp Validation Strategy for Wireless Sensor Networks Based on IEEE 802.15.4 CSS", IEEE Trans. Instrumentation and Measurement, November, 2014, Vol. 63, N. 11, pp. 2512-2521, ISSN 0018-9456, DOI 10.1109/TIM.2014.2326272.</p> <p>I.11. P. Castello, P. Ferrari, A. Flammini, C. Muscas, P. A. Pegoraro, S. Rinaldi, "A Distributed PMU for Electrical Substations with Wireless Redundant Process Bus", IEEE Trans. Instrumentation and Measurement, May, 2015, Vol. 64, N. 5, pp. 1149-1157, ISSN 0018-9456, DOI 10.1109/TIM.2014.2363749.</p> <p>I.12. S. Rinaldi, P. Ferrari, A. Flammini, M. Rizzi, E. Sisinni, A. Vezzoli, "Performance analysis of power line communication in industrial power distribution network", Computer Standards & Interfaces, November, 2015, Vol. 42, pp. 9-16, ISSN 0920-5489, DOI 10.1016/j.csi.2015.03.003.</p>

- I.13. A. De Angelis, M. Dionigi, A. Moschitta, P. Carbone, E. Sisinni, P. Ferrari, A. Flammini, S. Rinaldi, "On the Use of Magnetically Coupled Resonators for Chirp-Based Timestamping", *IEEE Trans. Instrumentation and Measurement*, December, 2015, Vol. 64, N. 12, pp. 3536-3544, ISSN 0018-9456, DOI 10.1109/TIM.2015.2463332.
- I.14. D. Della Giustina, S. Rinaldi, "Hybrid Communication Network for the Smart Grid: Validation of a Field Test Experience", *IEEE Trans. Power Delivery*, December, 2015, Vol. 30, N. 6, pp. 2492-2500, ISSN 0885-8977, DOI 10.1109/TPWRD.2015.2393836.
- I.15. S. Rinaldi, D. Della Giustina, P. Ferrari, A. Flammini, "Distributed monitoring system for voltage dip classification over distribution grid", *Sustainable Energy, Grids and Networks*, June, 2016, Vol. 6, pp. 70-80, ISSN 2352-4677, DOI 10.1016/j.segan.2016.02.004.
- I.16. M. Rizzi, S. Rinaldi, P. Ferrari, A. Flammini, D. Fontanelli, D. Macii, "Enhancing Accuracy and Robustness of Frequency Transfer using Synchronous Ethernet and Multiple Network Paths", *IEEE Trans. Instrumentation and Measurement*, August, 2016, Vol. 65, N. 8, pp. 1926-1936, ISSN 0018-9456, DOI 10.1109/TIM.2016.2559950.
- I.17. S. Rinaldi, D. Della Giustina, P. Ferrari, A. Flammini, E. Sisinni, "Time synchronization over heterogeneous network for smart grid application: Design and characterization of a real case", *Ad Hoc Networks*, November, 2016, Vol. 50, pp. 41-57, ISSN 1570-8705, DOI 10.1016/j.adhoc.2016.04.001.

Proceedings of International
Conferences (last 5 years)

- IC.1. P. Ferrari, A. Flammini, S. Rinaldi, A. Bondavalli, F. Brancati, "Evaluation of Timestamping Uncertainty in a Software-based IEEE1588 Implementation", 2011 IEEE Instrumentation and Measurement Technology Conference (I2MTC), Hangzhou, China, May 10-12, 2011, pp. 604-609.
- IC.2. P. Ferrari, A. Flammini, S. Rinaldi, G. Prytz, P. C. Juel, "Architecture of an embedded time gateway between PTP and SNTP ", 2011 6th IEEE International Symposium on Industrial Embedded Systems (SIES), Västerås, Sweden, June 15-17, 2011, pp. 71-74.
- IC.3. P. Ferrari, A. Flammini, S. Rinaldi, G. Prytz, "Applying PTP-to-SNTP Time-Gateway to IEC61850 systems", 2011 IEEE 16th Conference on Emerging Technologies and Factory Automation (ETFA), Toulouse, France, September 5-9, 2011, pp. 1-4.
- IC.4. C. M. De Dominicis, A. Flammini, S. Rinaldi, E. Sisinni, A. Cazzorla, A. Moschitta, P. Carbone, "High-precision UWB-based timestamping", 2011 International IEEE Symposium on Precision Clock Synchronization for Measurement Control and Communication (ISPCS), Munich, Germany, September 12-16, 2011, pp. 50-55.
- IC.5. P. Ferrari, A. Flammini, S. Rinaldi, E. Sisinni, "Time distribution in IPv6 Wireless Sensor Networks", 2011 International IEEE Symposium on Precision Clock Synchronization for Measurement Control and Communication (ISPCS), Munich, Germany, September 12-16, 2011, pp. 69-74.
- IC.6. P. Ferrari, A. Flammini, S. Rinaldi, G. Prytz, "Time synchronization concerns in substation automation system", 2011 IEEE International Workshop on Applied Measurements for Power Systems (AMPS), Aachen, Germany, September 28-30, 2011, pp. 112-117.
- IC.7. A. Bondavalli, F. Brancati, A. Flammini, S. Rinaldi, "A Reliable and Self-Aware Clock for reference time failure detection in internal synchronization environment", 2011 IEEE International Workshop on Measurements and Networking Proceedings (M&N), Anacapri, Italy, October 10-11, 2011, pp. 94-99.
- IC.8. A. Flammini, S. Rinaldi, A. Vezzoli, "The sense of time in Open Metering System", 2011 IEEE International Conference on Smart Measurements for Future Grids (SMFG), Bologna, Italy, November 14-16, 2011, pp. 22-27.
- IC.9. C. M. De Dominicis, D. Mazzotti, M. Piccinelli, S. Rinaldi, A. Vezzoli, A. Depari, "Evaluation of Bluetooth Hands-Free profile for sensors applications in smartphone platforms", 2012 IEEE Sensors Applications Symposium (SAS), Brescia, Italy, February 7-9, 2012, pp. 120-125.
- IC.10. P. Ferrari, A. Flammini, S. Rinaldi, E. Sisinni, "Performance assessment of a WirelessHART network in a real-world testbed", 2012 IEEE International Instrumentation and Measurement Technology Conference (I2MTC), Graz, Austria, May 13-16, 2012, pp. 953-957.
- IC.11. P. Ferrari, A. Flammini, S. Rinaldi, G. Prytz, "Mixing Real Time Ethernet traffic on the IEC 61850 Process bus", 2012 9th IEEE International Workshop on Factory Communication Systems (WFCS), Lemgo, Germany, May 21-24, 2012, pp. 153-156.

- IC.12. A. Depari, A. Flammini, S. Rinaldi, A. Vezzoli, "A Portable Multi-sensor System for Non-invasive Measurement of Biometrical Data", *Procedia Engineering - 26th European Conference on Solid-State Transducers, EUROSENSOR 2012*, Krakow, Poland, September 9-12, 2012, Vol. 47, pp. 1323-1326.
- IC.13. P. Castello, P. Ferrari, A. Flammini, C. Muscas, S. Rinaldi, "An IEC 61850-Compliant distributed PMU for electrical substations", *2012 IEEE International Workshop on Applied Measurements for Power Systems (AMPS)*, Aachen, Germany, September 26-28, 2012, pp. 42-47.
- IC.14. D. Della Giustina, P. Ferrari, A. Flammini, S. Rinaldi, "Experimental characterization of service latency over Broadband Power Line in Medium Voltage grid", *2012 IEEE International Workshop on Applied Measurements for Power Systems (AMPS)*, Aachen, Germany, September 26-28, 2012, pp. 149-154.
- IC.15. C. M. De Dominicis, A. Depari, A. Flammini, S. Rinaldi, E. Sisinni, "Smartphone based localization solution for construction site management", *2013 IEEE Sensors Applications Symposium (SAS)*, Galveston, TX, USA, February 19-21, 2013, pp. 43-48.
- IC.16. C. M. De Dominicis, A. Flammini, S. Rinaldi, M. Rizzi, A. Vezzoli, "Characterization of multi-standard Power Line Communication on low-voltage grid", *2013 IEEE International Instrumentation and Measurement Technology Conference (I2MTC)*, Minneapolis, MN, USA, May 6-9, 2013, pp. 31-36.
- IC.17. A. Depari, P. Ferrari, A. Flammini, S. Rinaldi, E. Sisinni, A. Vezzoli, "On the use of PRIME PowerLine Communication in industrial applications: Modbus a first testcase", *2013 IEEE International Instrumentation and Measurement Technology Conference (I2MTC)*, Minneapolis, MN, USA, May 6-9, 2013, pp. 587-592.
- IC.18. P. Ferrari, A. Flammini, S. Rinaldi, G. Prytz, "Analysis of synchronization performance in redundant networks for substation automation", *2013 IEEE International Instrumentation and Measurement Technology Conference (I2MTC)*, Minneapolis, MN, USA, May 6-9, 2013, pp. 1188-1193.
- IC.19. D. Fontanelli, D. Macii, S. Rinaldi, P. Ferrari, A. Flammini, "Performance analysis of a clock state estimator for PROFINET IO IRT synchronization", *2013 IEEE International Instrumentation and Measurement Technology Conference (I2MTC)*, Minneapolis, MN, USA, May 6-9, 2013, pp. 1828-1833.
- IC.20. P. Ferrari, A. Flammini, S. Rinaldi, E. Sisinni, G. Prytz, "Co-simulation of network infrastructure for substation automation systems", *2013 IEEE 18th Conference on Emerging Technologies & Factory Automation (ETFA)*, Cagliari, Italy, September 10-13, 2013, pp. 1-4.
- IC.21. P. Ferrari, A. Flammini, S. Rinaldi, E. Sisinni, A. Vezzoli, "Toward Smart Metering Application exploiting IPv6 over wM-bus", *2013 IEEE Workshop on Environmental Energy and Structural Monitoring Systems (EESMS)*, Trento, Italy, September 11-12, 2013, pp. 75-80.
- IC.22. P. Ferrari, A. Flammini, S. Rinaldi, G. Prytz, "High availability IEEE 1588 nodes over IEEE 802.1aq Shortest Path Bridging networks", *2013 International IEEE Symposium on Precision Clock Synchronization for Measurement Control and Communication (ISPCS)*, Lemgo, Germany, September 22-27, 2013, pp. 35-40.
- IC.23. P. Ferrari, A. Flammini, S. Rinaldi, M. Rizzi, E. Sisinni, "Time of arrival estimation in power line communication systems for home smart grids", *2013 International IEEE Symposium on Precision Clock Synchronization for Measurement Control and Communication (ISPCS)*, Lemgo, Germany, September 22-27, 2013, pp. 83-88.
- IC.24. P. Ferrari, A. Flammini, S. Rinaldi, E. Sisinni, G. Prytz, "Advanced networks for distributed measurement in substation automation systems", *2013 IEEE International Workshop on Applied Measurements for Power Systems (AMPS)*, Aachen, Germany, September 25-27, 2013, pp. 108-113.
- IC.25. D. Della Giustina, P. Ferrari, A. Flammini, S. Rinaldi, "Experimental characterization of time synchronization over a heterogeneous network for Smart Grids", *2013 IEEE International Workshop on Applied Measurements for Power Systems (AMPS)*, Aachen, Germany, September 25-27, 2013, pp. 132-137.
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