

Paolo Ferrari

Curriculum Vitae



2019- oggi

Professore Ordinario nel settore Misure Elettriche e Elettroniche ING-INF/07 presso Università di Brescia

2015-2019i

Professore Associato nel settore Misure Elettriche e Elettroniche ING-INF/07 presso Università di Brescia

2004-2015

Ricercatore confermato nel settore Misure Elettriche e Elettroniche ING-INF/07 presso Università di Brescia

2003-2000

Dottorato di Ricerca in Strumentazione Elettronica presso Università di Brescia. Ciclo XV. Titolo della tesi di Dottorato “Sviluppo di strumentazione elettronica per telerilevamento distribuito”, tutor Prof. Daniel Marioli.

1999

Laurea in Ingegneria Elettronica presso l'Università di Brescia. Titolo della tesi di laurea: “Sviluppo e implementazione di un frequenzimetro ad elevate prestazioni per sensori risonanti tra 1MHz e 10MHz”, relatore Prof. D. Marioli, correlatore Dott.ssa A. Flammini.

Curriculum

La competenza professionale include i sistemi real-time basati su microprocessori, DSP e FPGA per: l'elaborazione numerica dei segnali provenienti da sensori; la misura e l'ottimizzazione delle performance di reti di comunicazione industriale; la sincronizzazione temporale su reti distribuite. L'attività di ricerca comprende lo sviluppo di metodi e strumenti di misura, il sensor networking, i sensori intelligenti, le smart grids, i sistemi a bus di campo, le reti Real Time Ethernet, le reti wireless per sensori e controllo, e le software defined radio. Gli aspetti maggiormente studiati sono stati quelli relativi alla sincronizzazione temporale tramite reti Ethernet e wireless per applicazioni nell'automazione industriale, elettrica e civile, che hanno portato al conseguimento, nel 2012, del TECHNICAL AWARD della IEEE Instrumentation and Measurement Society, con la motivazione “For his contribution to the analysis and experimental evaluation of clock synchronization in real-time applications for industry”. Importante è il contributo allo sviluppo di strumentazione per valutazione delle performance dei sistemi di trasmissione delle informazioni di misura in ambito industriale.

E' stato responsabile per il Dipartimento di Ingegneria dell'Informazione del Progetto “SCUOLA – Smart Campus as Urban Open LABs”, finanziato da Regione Lombardia attraverso il bando Smart Cities and Communities.

E' stato responsabile dell'unita di ricerca di Brescia per il PRIN 2009: Reti ibride di nuova generazione per applicazioni di misura ed automazione industriale - Caratterizzazione e misure di prestazioni wired/wireless.

E' responsabile di diversi contratti di ricerca applicata tra il Dipartimento e aziende o consorzi (es. ABB, EnergyLaser, Exera) nel settore delle reti di sensori per l'industria.

Dal 2004 partecipa alle attività di trasferimento tecnologico attraverso la società CSMT Gestione Scarl compartecipata dall'Università di Brescia. In particolare, all'interno di CSMT Gestione Scarl gestisce operativamente il "Centro di Competenza PROFIBUS e PROFINET" accreditato presso l'associazione mondiale PROFIBUS International.

Durante il periodo dal 2004 al 2017 ricopre diversi incarichi all'interno di comitati tecnici normativi nazionali ed internazionali, tra cui CEI (Comitato Elettrotecnico Italiano) e IEC (International Electrotechnical Commission) nel settore dei sistemi per le comunicazioni industriali (65C).

Partecipa a diversi Program Committee di conferenze internazionali, tra cui ETFA, WFCS, ISPCS, SAS e I2MTC tutti organizzati dalla IEEE.

E' revisore abituale di numerose riviste internazionali, tra le quali IEEE Transactions on Instrumentation and Measurement, IEEE Sensor Journal, IEEE Transactions on Industrial Informatics, IEEE Transactions on Automation Science and Engineering, IEEE Communications Letters, Elsevier Sensors & Actuators: A. Physical, Elsevier Mechatronics Journal.

E' docente supplente ed esercitatore di vari corsi a partire dal 2002.

Ad oggi è docente del corso di "Sensori Intelligenti e bus di campo" (ING-INF/07) nel corso di Laurea Magistrale in Ingegneria Elettronica e del corso "Sistemi distribuiti e PLC" (ING-INF/07) del corso di Laurea in Ingegneria dell'Automazione

Dal 2002 ad oggi è stato relatore o correlatore di più di 50 tesi di laurea.

E' autore di più di 150 pubblicazioni internazionali (riviste, congressi, capitoli di libro).

Link esterni

- [Google Scholar direct link](#)
- [Scopus direct link](#)
- [ORCID direct link](#)

Publicazioni

RIVISTE INTERNAZIONALI

- [I1] 1 A. Flammini, P. Ferrari, E. Sisinni, D. Marioli, A. Taroni, "Sensor interfaces: from field-bus to Ethernet and Internet", *Sensors and Actuators A: Physical*, September, 2002, Vol. 101, N. 1-2, pp. 194-202, DOI 10.1016/S0924-4247(02)00201-7.
- [I2] A. Flammini, P. Ferrari, E. Sisinni, D. Marioli, A. Taroni, "Sensor integration in industrial environment: from fieldbus to web sensors", *Computer Standards & Interfaces*, May, 2003, Vol. 25, N. 2, pp. 183-194, DOI 10.1016/S0920-5489(02)00071-5.
- [I3] P. Ferrari, A. Flammini, D. Marioli, A. Taroni, "High-resolution multichannel instrument for resonant sensor array", *IEEE Trans. Instrumentation and Measurement*, June, 2003, Vol. 52, N. 3, pp. 932-937, DOI 10.1109/TIM.2003.814681.
- [I4] A. Depari, P. Ferrari, A. Flammini, D. Marioli, A. Taroni, "Programmable logic device-based interface for resonant sensor arrays", *IEE Electronics Letters*, November, 2004, Vol. 40, N. 23, pp. 1481-1483, DOI 10.1049/el:20046481.
- [I5] P. Ferrari, A. Flammini, D. Marioli, E. Sisinni, A. Taroni, "A Bluetooth-based sensor network with Web interface", *IEEE Trans. Instrumentation and Measurement*, December, 2005, Vol. 54, N. 6, pp. 2359-2363, DOI 10.1109/TIM.2005.858564.
- [I6] A. Depari, P. Ferrari, V. Ferrari, A. Ghisla, A. Flammini, D. Marioli, A. Taroni, "Digital signal processing for biaxial position measurement with a pyroelectric sensor array", *IEEE Trans. Instrumentation and Measurement*, April, 2006, Vol. 55, N. 2, pp. 501-506, DOI 10.1109/TIM.2006.864252.
- [I7] P. Ferrari, A. Flammini, D. Marioli, A. Taroni, "IEEE802.11 sensor networking", *IEEE Trans. Instrumentation and Measurement*, April, 2006, Vol. 55, N. 2, pp. 615-619, DOI 10.1109/TIM.2006.870105.
- [I8] P. Ferrari, A. Flammini, S. Vitturi, "Performance analysis of PROFINET networks", *Computer Standard & Interfaces*, April, 2006, Vol. 28, N. 4, pp. 369-385, DOI 10.1016/j.csi.2005.03.008.
- [I9] P. Ferrari, A. Flammini, D. Marioli, A. Taroni, "An experimental approach to estimate real-time characteristic of PROFINET IO versus PROFIBUS DP V2", *WSEAS Transactions on Circuits and Systems*, April, 2006, Vol. 5, N. 4, pp. 485-492.
- [I10] A. Depari, P. Ferrari, A. Flammini, D. Marioli, A. Taroni, "A VHDL Model of a IEEE1451.2 Smart Sensor: Characterization and Applications", *IEEE Sensors Journal*, May, 2007, Vol. 7, N. 5, pp. 619-626, DOI 10.1109/JSEN.2007.894900.
- [I11] A. Depari, P. Ferrari, A. Flammini, D. Marioli, A. Taroni, "A New Instrument for Real-Time Ethernet Performance Measurement", *IEEE Trans. Instrumentation and Measurement*, January, 2008, Vol. 57, N. 1, pp. 121-127, DOI 10.1109/TIM.2007.908341.
- [I12] P. Ferrari, A. Flammini, D. Marioli, A. Taroni, "IEEE 1588-Based Synchronization System for a Displacement Sensor Network", *IEEE Trans. Instrumentation and Measurement*, February, 2008, Vol. 57, N. 2, pp. 254-260, DOI 10.1109/TIM.2007.909471.
- [I13] P. Ferrari, A. Flammini, D. Marioli, E. Sisinni, A. Taroni, "Coexistence of Wireless Sensor Networks in Factory Automation Scenarios", *Sensors & Transducers Journal*, April, 2008, Vol. 90, N. 4, pp. 48-60.

- [I14] P. Ferrari, A. Flammini, D. Marioli, A. Taroni, "A Distributed Instrument for Performance Analysis of Real-Time Ethernet Networks", *IEEE Trans. Industrial Informatics*, February, 2008, Vol. 4, N. 1, pp. 16-25, DOI 10.1109/TII.2008.919016.
- [I15] P. Ferrari, A. Flammini, D. Marioli, E. Sisinni, A. Taroni, "Wired and wireless sensor networks for industrial applications", *Microelectronics Journal*, September, 2009, Vol. 40, N. 9, pp. 1322-1336, DOI 10.1016/j.mejo.2008.08.012.
- [I16] P. Ferrari, A. Flammini, D. Marioli, E. Sisinni, S. Rinaldi, "On the Implementation and Performance Assessment of a WirelessHART Distributed Packet Analyzer", *IEEE Trans. Instrumentation and Measurement*, May, 2010, Vol. 59, N. 5, pp. 1342-1352, DOI 10.1109/TIM.2010.2040907.
- [I17] P. Ferrari, A. Flammini, S. Rinaldi, E. Sisinni, "On the Seamless Interconnection of IEEE1588-Based Devices Using a PROFINET IO Infrastructure", *IEEE Trans. Industrial Informatics*, August, 2010, Vol. 6, N. 3, pp. 381-392, DOI 10.1109/TII.2010.2051954.
- [I18] P. Ferrari, A. Flammini, E. Sisinni, "New Architecture for a Wireless Smart Sensor Based on Software-Defined Radio", *IEEE Trans. Instrumentation and Measurement*, June, 2011, Vol. 60, N. 6, pp. 2133-2141, DOI 10.1109/TIM.2011.2117090.
- [I19] 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, DOI 10.1109/TIM.2011.2158159.
- [I20] 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, DOI 10.1109/TIM.2011.2180974.
- [I21] 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, DOI 10.1109/TIM.2012.2199195.
- [I22] C. M. De Dominicis, P. Pivato, P. Ferrari, D. Macii, E. Sisinni, A. Flammini, "Timestamping of IEEE 802.15.4a CSS Signals for Wireless Ranging and Time Synchronization", *IEEE Trans. Instrumentation and Measurement*, August, 2013, Vol. 62, N. 8, pp. 2286-2296, DOI 10.1109/TIM.2013.2255988.
- [I23] 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, DOI 10.1109/TIM.2013.2270922.
- [I24] 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, DOI 10.1109/TIM.2013.2259101.
- [I25] P. Ferrari, A. Flammini, M. Rizzi, E. Sisinni, "Improving simulation of wireless networked control systems based on WirelessHART", *Computer Standards & Interfaces*, November, 2013, Vol. 35, N. 6, pp. 605-615, DOI 10.1016/j.csi.2013.04.003.
- [I26] 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, DOI 10.1109/TIM.2013.2270921.

- [I27] 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, DOI 10.1109/TIM.2013.2286871.
- [I28] P. Ferrari, A. Flammini, E. Sisinni, A. Depari, M. Rizzi, R. Exel, T. Sauter, "Timestamping and Ranging Performance for IEEE 802.15.4 CSS Systems", *IEEE Trans. Instrumentation and Measurement*, May, 2014, Vol. 63, N. 5, pp. 1244-1252, DOI 10.1109/TIM.2013.2286958.
- [I29] P. Zand, E. Mathews, P. Havinga, S. Stojanovski, E. Sisinni, P. Ferrari, "Implementation of WirelessHART in the NS-2 Simulator and Validation of Its Correctness", *Sensors*, May, 2014, Vol. 14, N. 5, pp. 8633-8668, DOI 10.3390/s140508633.
- [I30] P. Ferrari, E. Sisinni, A. Flammini, A. Depari, "Adding accurate timestamping capability to wireless networks for smart grids", *Computer Networks*, July, 2014, Vol. 67, pp. 1-13, DOI 10.1016/j.comnet.2014.03.005.
- [I31] 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, DOI 10.1109/TIM.2014.2326272.
- [I32] 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.
- [I33] 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.
- [I34] 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.
- [I35] 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.
- [I36] 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.
- [I37] 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.
- [I38] M. Rizzi, P. Ferrari, E. Sisinni, A. Flammini, "Evaluation of the IoT LoRaWAN Solution for Distributed Measurement Applications", *IEEE Trans. Instrumentation and Measurement*, December, 2017, Vol. 66, N. 12, pp. 3340-3349, ISSN 0018-9456, DOI 10.1109/TIM.2017.2746378.
- [I39] S. Rinaldi, M. Pasetti, E. Sisinni, F. Bonafini, P. Ferrari, M. Rizzi, A. Flammini, "On the Mobile Communication Requirements for the Demand-Side Management of Electric Vehicles", *Energies*, May, 2018, Vol. 11, N. 5, pp. 1220, ISSN 1996-1073, DOI 10.3390/en11051220.
- [I40] G. S. Sestito, A. C. Turcato, A. L. Dias, M. S. Rocha, M. M. Da Silva, P. Ferrari, D. Brandao, "A method for anomalies detection in Real Time Ethernet data traffic applied to PROFINET", *IEEE Trans. Industrial Informatics*, May, 2018, Vol. 14, N. 5, pp. 2171-2180, ISSN 1551-3203, DOI 10.1109/TII.2017.2772082.

- [I41] P. Ferrari, A. Flammini, S. Rinaldi, E. Sisinni, D. Maffei, M. Malara, "Impact of Quality of Service on Cloud Based Industrial IoT Applications with OPC UA", *Electronics*, July, 2018, Vol. 7, N. 7, pp. 109, ISSN 2079-9292, DOI 10.3390/electronics7070109.
- [I42] P. Ferrari, A. Flammini, E. Sisinni, S. Rinaldi, D. Brandao, M. Rocha, "Delay Estimation of Industrial IoT Applications Based on Messaging Protocols", *IEEE Trans. Instrumentation and Measurement*, September, 2018, Vol. 67, N. 9, pp. 2188-2199, ISSN 0018-9456, DOI 10.1109/TIM.2018.2813798.
- [I43] M. Rizzi, M. Lipinski, P. Ferrari, S. Rinaldi, A. Flammini, "White Rabbit clock synchronization: ultimate limits on close-in phase noise and short-term stability due to FPGA implementation", *IEEE Trans. Ultrasonics, Ferroelectrics, and Frequency Control*, September, 2018, Vol. 65, N. 9, pp. 1726-1737, ISSN 0885-3010, DOI 10.1109/TUFFC.2018.2851842.
- [I44] S. Rinaldi, F. Bonafini, P. Ferrari, A. Flammini, E. Sisinni, D. Di Cara, N. Panzavecchia, G. Tine', A. Cataliotti, V. Cosentino, S. Guaiana, "Characterization of IP-Based Communication for Smart Grid Using Software-Defined Networking", *IEEE Trans. Instrumentation and Measurement*, October, 2018, Vol. 67, N. 10, pp. 2410-2419, ISSN 0018-9456, DOI 10.1109/TIM.2018.2831318.
- [I45] M. Silva, E. Vieira, G. Signoretti, I. Silva, D. Silva, P. Ferrari, "A Customer Feedback Platform for Vehicle Manufacturing Compliant with Industry 4.0 Vision", *Sensors*, October, 2018, Vol. 18, N. 10, pp. 3298, ISBN 1424-8220, DOI 10.3390/s18103298.
- [I46] M. Serpelloni, P. Ferrari, "The fourth industrial revolution [Guest Editorial]", *IEEE Instrumentation & Measurement Magazine*, December, 2018, Vol. 21, N. 6, pp. 3, ISSN 1094-6969, DOI 10.1109/MIM.2018.8573585.
- [I47] P. Bellagente, F. Bonafini, C. Crema, A. Depari, P. Ferrari, A. Flammini, G. Lenzi, M. Pasetti, S. Rinaldi, E. Sisinni, "Enhancing access to industrial iot measurements by means of location based services", *IEEE Instrumentation & Measurement Magazine*, December, 2018, Vol. 21, N. 6, pp. 15-21, ISSN 1094-6969, DOI 10.1109/MIM.2018.8573588.
- [I48] S. Rinaldi, P. Ferrari, A. Flammini, E. Sisinni, A. Vezzoli, "Uncertainty Analysis in Time Distribution Mechanisms for OMS Smart Meters: The Last-Mile Time Synchronization Issue", *IEEE Trans. Instrumentation and Measurement*, March, 2019, Vol. 68, N. 3, pp. 693-703, ISSN 0018-9456, DOI 10.1109/TIM.2018.2853839.
- [I49] M. Rizzi, A. Depari, P. Ferrari, A. Flammini, S. Rinaldi, E. Sisinni, "Synchronization Uncertainty Versus Power Efficiency in LoRaWAN Networks", *IEEE Trans. Instrumentation and Measurement*, April, 2019, Vol. 68, N. 4, pp. 1101-1111, ISSN 0018-9456, DOI 10.1109/TIM.2018.2859639.
- [I50] A. Depari, D. Fernandes Carvalho, P. Bellagente, P. Ferrari, E. Sisinni, A. Flammini, A. Padovani, "An IoT Based Architecture for Enhancing the Effectiveness of Prototype Medical Instruments Applied to Neurodegenerative Disease Diagnosis", *Sensors*, April, 2019, Vol. 19, N. 7, pp. 1564, ISSN 1424-8220, DOI 10.3390/s19071564.
- [I51] D. Fernandes Carvalho, P. Ferrari, E. Sisinni, A. Depari, S. Rinaldi, M. Pasetti, D. Silva, "A test methodology for evaluating architectural delays of LoRaWAN implementations", *Pervasive and Mobile Computing*, May, 2019, Vol. 56, pp. 1-17, ISSN 1574-1192, DOI 10.1016/j.pmcj.2019.03.002.
- [I52] M. S. Rocha, G. Serpa Sestito, A. L. Dias, A. C. Turcato, D. Brandao, P. Ferrari, "On the performance of OPC UA and MQTT for data exchange between industrial plants and cloud servers", *ACTA IMEKO*, June, 2019, Vol. 8, N. 2, pp. 80-87, ISSN 2221-870X, DOI 10.21014/acta_imeko.v8i2.648.
- [I53] S. Rinaldi, M. Pasetti, A. Flammini, P. Ferrari, E. Sisinni, F. Simoncini, "A Testing Framework for the Monitoring and Performance Analysis of Distributed Energy Systems", *IEEE Trans. Instrumentation and Measurement*, ISSN 0018-9456, DOI 10.1109/TIM.2019.2911733.

CAPITOLI DI LIBRI INTERNAZIONALI

- [L1] A. Flammini, P. Ferrari, "Clock Synchronization of Distributed, Real-Time, Industrial Data Acquisition Systems", *Data Acquisition*, November, 2010, pp. 41-62, ISBN 978-953-307-193-0, DOI 10.5772/294.
- [L2] M. Felser, P. Ferrari, A. Flammini, "Profinet", *The Industrial Electronics Handbook, Second Edition, Industrial Communication Systems*, February, 2011, pp. 40.1-40.15, ISBN 978-1439802816, DOI 10.1201/b10603-44.
- [L3] R. Exel, T. Sauter, P. Ferrari, S. Rinaldi, "Clock Synchronization in Distributed Systems Using NTP and PTP", *Industrial Communication Technology Handbook, Second Edition*, 2014, pp. 21.1-21.26, ISBN 978-1-4822-0732-3, DOI 10.1201/b17365-25.
- [L4] P. Castello, P. Ferrari, P. A. Pegoraro, S. Rinaldi, "Hardware for PMU and PMU Integration", *Phasor Measurement Units and Wide Area Monitoring Systems: From the Sensors to the System*, June, 2016, pp. 63-86, ISBN 978-012804569-5, DOI 10.1016/B978-0-12-804569-5.00005-7.
- [L5] S. Rinaldi, P. Ferrari, A. Flammini, E. Sisinni, T. Sauter, "Network Synchronization: An introduction", *Wiley Encyclopedia of Electrical and Electronics Engineering*, February, 2017, pp. 1-12, ISBN 978-047134608-1, DOI 10.1002/047134608X.W8341.

ATTI DI CONGRESSI INTERNAZIONALI

- [C1] P. Ferrari, A. Flammini, D. Marioli, A. Taroni, "High-resolution multi-channel instrument for resonant sensor array", *Proceedings of the 18th IEEE Instrumentation and Measurement Technology Conference, 2001. IMTC 2001, Budapest, Hungary, May 21-23, 2001, Vol. 3*, pp. 1648-1653, ISSN 1091-5281, ISBN 0-7803-6646-8, DOI 10.1109/IMTC.2001.929483.
- [C2] P. Ferrari, A. Flammini, D. Marioli, A. Taroni, "A Numeric approach to process signals from resonant sensor array", *Proceedings of First International Workshop on Advanced Environmental Sensing and Monitoring Technologies, Milan, Italy, June 26-28, 2001*, pp. 93-99, ISBN 88-86524-57-9.
- [C3] P. Ferrari, A. Flammini, D. Marioli, A. Taroni, "A low-cost Internet-enabled smart sensor", *Proceedings of IEEE Sensors, 2002, Orlando, FL, USA, June 12-14, 2002, Vol. 2*, pp. 1549-1564, ISBN 0-7803-7454-1, DOI 10.1109/ICSENS.2002.1037353.
- [C4] P. Ferrari, A. Flammini, D. Marioli, A. Taroni, "Web integration of fieldbus networks: a diagnostic tool", *Proceedings of the 2002 IEEE International Symposium on Industrial Electronics, 2002. ISIE 2002, l'Aquila, Italy, July 8-11, 2002, Vol. 1*, pp. 84-88, ISBN 0-7803-7369-3, DOI 10.1109/ISIE.2002.1026045.
- [C5] A. Depari, M. Ferrari, P. Ferrari, V. Ferrari, A. Flammini, D. Marioli, A. Taroni, "Chemical detection system made by gravimetric sensor arrays and DSP-based electronics", *2nd ISA/IEEE Sensors for Industry Conference, 2002, Houston, TX, USA, November 19-21, 2002*, pp. 25-31, ISBN 1-55617-834-4, DOI 10.1109/SFICON.2002.1159800.
- [C6] P. Ferrari, A. Flammini, D. Marioli, E. Sisinni, A. Taroni, "A low-cost smart sensor with Java interface", *2nd ISA/IEEE Sensors for Industry Conference, 2002, Houston, TX, USA, November 19-21, 2002*, pp. 161-167, ISBN 1-55617-834-4, DOI 10.1109/SFICON.2002.1159828.
- [C7] P. Ferrari, A. Flammini, D. Marioli, E. Sisinni, A. Taroni, "A Bluetooth-based sensor network with Web interface", *Proceedings of the 20th IEEE Instrumentation and Measurement Technology Conference, 2003. IMTC '03, Vail, CO, USA, May 20-22, 2003, Vol. 2*, pp. 892-897, ISSN 1091-5281, ISBN 0-7803-7705-2, DOI 10.1109/IMTC.2003.1207882.

- [C8] P. Ferrari, A. Flammini, D. Marioli, A. Taroni, "VHDL implementation of a IEEE1451.2 smart sensor", Proceedings of the 20th IEEE Instrumentation and Measurement Technology Conference, 2003. IMTC '03, Vail, CO, USA, May 20-22, 2003, Vol. 1, pp. 716-720, ISSN 1091-5281, ISBN 0-7803-7705-2, DOI 10.1109/IMTC.2003.1208250.
- [C9] A. Depari, P. Ferrari, A. Flammini, D. Marioli, E. Sisinni, A. Taroni, "IEEE1451 smart sensors supporting USB connectivity", Proceedings of the ISA/IEEE Sensors for Industry Conference, 2004, New Orleans, LA, USA, January 27-29, 2004, pp. 177-182, ISBN 0-7803-8143-2, DOI 10.1109/SFICON.2004.1287156.
- [C10] A. Depari, P. Ferrari, V. Ferrari, A. Flammini, A. Ghisla, D. Marioli, A. Taroni, "Digital signal processing for biaxial position measurement with a pyroelectric sensor array", Proceedings of the 21st IEEE Instrumentation and Measurement Technology Conference, 2004. IMTC 04, Como, Italy, May 18-20, 2004, Vol. 1, pp. 201-205, ISSN 1091-5281, ISBN 0-7803-8248-X, DOI 10.1109/IMTC.2004.1351028.
- [C11] P. Ferrari, A. Flammini, D. Marioli, A. Taroni, "IEEE802.11 sensor networking", Proceedings of the 21st IEEE Instrumentation and Measurement Technology Conference, 2004. IMTC 04, Como, Italy, May 18-20, 2004, Vol. 2, pp. 1312-1316, ISSN 1091-5281, ISBN 0-7803-8248-X, DOI 10.1109/IMTC.2004.1351307.
- [C12] A. Augelli, P. Ferrari, A. Flammini, "PROFINET And Real Time Ethernet For Motion Control Application", Symposium on Power Electronics, Electrical Drives, Automation & Motion. Short Papers Proceedings, Capri, Italy, June 16-18, 2004, Vol. 2, pp. 159-163, ISBN 88-89389-00-1.
- [C13] P. Ferrari, A. Flammini, D. Marioli, E. Sisinni, A. Taroni, "Internet-Enabled Smart Transducers for Control Applications", Proceedings of 2nd International Conference on Computing, Communications and Control Technologies: CCCT'04, Austin, TX, USA, August 14-17, 2004, Vol. 4, pp. 44-48, ISBN 980-6560-17-5.
- [C14] P. Ferrari, A. Flammini, D. Marioli, A. Taroni, "Experimental evaluation of PROFINET performance", 2004 IEEE International Workshop on Factory Communication Systems, 2004. Proceedings, Vienna, Austria, September 22-24, 2004, pp. 331-334, ISBN 0-7803-8734-1, DOI 10.1109/WFCS.2004.1377739.
- [C15] A. Depari, P. Ferrari, A. Flammini, D. Marioli, A. Taroni, "A New Instrument for Real-Time Ethernet Performance Measurement", Proceedings of the IEEE Instrumentation and Measurement Technology Conference, 2005. IMTC 2005, Ottawa, ON, Canada, May 16-19, 2005, Vol. 3, pp. 1803-1807, ISSN 1091-5281, ISBN 0-7803-8879-8, DOI 10.1109/IMTC.2005.1604482.
- [C16] P. Ferrari, A. Flammini, I.S. Vittu, "Response Times Evaluation of PROFINET Networks", Proceedings of the IEEE International Symposium on Industrial Electronics, 2005. ISIE 2005, Dubrovnik, Croatia, June 20-23, 2005, Vol. 4, pp. 1371-1376, ISBN 0-7803-8738-4, DOI 10.1109/ISIE.2005.1529132.
- [C17] A. Depari, P. Ferrari, A. Flammini, D. Marioli, S. Rosa, A. Taroni, "A New Modular Approach for Low-Cost Electronic Noses", Proceedings of the IEEE Instrumentation and Measurement Technology Conference, 2006. IMTC 2006, Sorrento, Italy, April 24-27, 2006, pp. 578-583, ISSN 1091-5281, ISBN 0-7803-9359-7, DOI 10.1109/IMTC.2006.328627.
- [C18] P. Ferrari, A. Flammini, D. Marioli, A. Taroni, "IEEE 1588-based Synchronization System for a Displacement Sensor Network", Proceedings of the IEEE Instrumentation and Measurement Technology Conference, 2006. IMTC 2006, Sorrento, Italy, April 24-27, 2006, pp. 1926-1930, ISSN 1091-5281, ISBN 0-7803-9359-7, DOI 10.1109/IMTC.2006.328313.
- [C19] P. Ferrari, A. Flammini, D. Marioli, A. Taroni, "An experimental approach to estimate real-time characteristic of PROFINET IO versus PROFIBUS DP V2", Proceedings of the 5th WSEAS International Conference on Instrumentation, Measurement, Circuits and Systems, Hangzhou, China, April 16-18, 2006, pp. 104-111, ISBN 960-8457-43-2.

- [C20] A. Depari, P. Ferrari, A. Flammini, D. Marioli, A. Taroni, "Multi-probe measurement instrument for real-time ethernet networks", IEEE International Workshop on Factory Communication Systems, 2006, Turin, Italy, June 27-30, 2006, pp. 313-320, ISBN 1-4244-0379-0, DOI 10.1109/WFCS.2006.1704172.
- [C21] P. Ferrari, A. Flammini, D. Marioli, A. Taroni, F. Venturini, "Experimental analysis to estimate jitter in PROFINET IO Class 1 networks", IEEE Conference on Emerging Technologies and Factory Automation, 2006. ETFA '06, Prague, Czech Republic , September 20-22 , 2006, pp. 429-432, ISBN 0-7803-9758-4, DOI 10.1109/ETFA.2006.355222.
- [C22] P. Ferrari, A. Flammini, D. Marioli, S. Rosa, A. Taroni, C. Cattaneo, C. Manduca, "GDNET: a Specific Approach to Distributed Input/Output Synchronization for Plastic Machinery", IEEE Conference on Emerging Technologies and Factory Automation, 2006. ETFA '06, Prague, Czech Republic , September 20-23, 2006, pp. 1206-1213, ISBN 0-7803-9758-4, DOI 10.1109/ETFA.2006.355201.
- [C23] A. Depari, P. Ferrari, A. Flammini, D. Marioli, A. Taroni, "Evaluation of Timing Characteristics of Industrial Ethernet Networks Synchronized by means of IEEE 1588", IEEE Instrumentation and Measurement Technology Conference Proceedings, 2007. IMTC 2007, Warsaw, Poland, May 1-3, 2007, pp. 1-5, ISSN 1091-5281, ISBN 1-4244-0588-2, DOI 10.1109/IMTC.2007.379163.
- [C24] P. Ferrari, A. Flammini, D. Marioli, E. Sisinni, A. Taroni, "Sensor networks for industrial applications", 2nd International Workshop on Advances in Sensors and Interface, 2007. IWASI 2007, Bari, Italy, June 26-27, 2007, pp. 91-105, ISBN 978-1-4244-1245-7, DOI 10.1109/IWASI.2007.4420015.
- [C25] P. Ferrari, A. Flammini, D. Marioli, A. Taroni, F. Venturini, "New Simulation Models to Evaluate Performance of PROFINET IO Class 1 Systems", 5th IEEE International Conference on Industrial Informatics, 2007, Vienna, Austria, July 23-27, 2007, Vol. 1, pp. 237-242, ISSN 1935-4576, ISBN 978-1-4244-0851-1, DOI 10.1109/INDIN.2007.4384762.
- [C26] P. Ferrari, A. Flammini, D. Marioli, A. Taroni, "A new distributed instrument for real time ethernet networks: experimental tests and characterization", IEEE Conference on Emerging Technologies and Factory Automation, 2007. ETFA, Patras, Greece, September 25-28, 2007, pp. 524-531, ISBN 978-1-4244-0825-2, DOI 10.1109/EFTA.2007.4416814.
- [C27] P. Ferrari, A. Flammini, D. Marioli, A. Taroni, F. Venturini, "Evaluation of timing characteristics of a prototype system based on PROFINET IO RT_Class 3", IEEE Conference on Emerging Technologies and Factory Automation, 2007. ETFA, Patras, Greece, September 25-28, 2007, pp. 1254-1261, ISBN 978-1-4244-0825-2, DOI 10.1109/EFTA.2007.4416925.
- [C28] P. Ferrari, A. Flammini, D. Marioli, S. Rinaldi, A. Taroni, "Synchronization of the Probes of a Distributed Instrument for Real-Time Ethernet Networks", IEEE International Symposium on Precision Clock Synchronization for Measurement, Control and Communication, 2007. ISPCS 2007, Vienna, Austria, October 1-3, 2007, pp. 33-40, ISBN 978-1-4244-1064-4, DOI 10.1109/ISPCS.2007.4383770.
- [C29] P. Ferrari, A. Flammini, D. Marioli, E. Sisinni, A. Taroni, "Coexistence of Different Wireless Sensor Networks exploiting Real-Time Ethernet synchronization", Proceedings of the Second International Conference on Sensing Technology, Palmerston North, New Zealand, November 26-28, 2007, pp. 166-171, ISBN 978-0-473-12432-8.
- [C30] P. Ferrari, A. Flammini, D. Marioli, E. Sisinni, A. Taroni, "Introducing a New Measurement Method for Magnetostrictive Linear Displacement Transducers", IEEE Instrumentation and Measurement Technology Conference Proceedings, 2008. IMTC 2008, Victoria, BC, Canada, May 12-15, 2008, pp. 1766-1770, ISSN 1091-5281, ISBN 978-1-4244-1540-3, DOI 10.1109/IMTC.2008.4547330.
- [C31] P. Ferrari, A. Flammini, D. Marioli, S. Rinaldi, A. Taroni, "Testing coexistence of different RTE protocols in the same network", IEEE International Workshop on Factory Communication Systems, 2008. WFCS 2008, Dresden, Germany, May 21-23, 2008, pp. 179-187, ISBN 978-1-4244-2349-1, DOI 10.1109/WFCS.2008.4638732.

- [C32] P. Ferrari, A. Flammini, D. Marioli, S. Rinaldi, E. Sisinni, A. Taroni, F. Venturini, "Clock synchronization of PTP-based devices through PROFINET IO networks", IEEE International Conference on Emerging Technologies and Factory Automation, 2008. ETFA 2008, Hamburg, Germany, September 15-18, 2008, pp. 496-499, ISBN 978-1-4244-1505-2, DOI 10.1109/ETFA.2008.4638445.
- [C33] P. Ferrari, A. Flammini, D. Marioli, E. Sisinni, A. Taroni, "Synchronized Wireless Sensor Networks for coexistence", IEEE International Conference on Emerging Technologies and Factory Automation, 2008. ETFA 2008, Hamburg, Germany, September 15-18, 2008, pp. 656-663, ISBN 978-1-4244-1505-2, DOI 10.1109/ETFA.2008.4638466.
- [C34] P. Ferrari, A. Flammini, D. Marioli, E. Sisinni, A. Taroni, "Non invasive time synchronization for ZigBee Wireless Sensor Networks", IEEE International Symposium on Precision Clock Synchronization for Measurement, Control and Communication, 2008. ISPCS 2008, Ann Arbor, MI, USA, September 22-26, 2008, pp. 121-126, ISBN 978-1-4244-2274-6, DOI 10.1109/ISPCS.2008.4659225.
- [C35] P. Ferrari, A. Flammini, S. Rinaldi, G. Gaderer, "Evaluation of clock synchronization accuracy of coexistent Real-Time Ethernet protocols", IEEE International Symposium on Precision Clock Synchronization for Measurement, Control and Communication, 2008. ISPCS 2008, Ann Arbor, MI, USA, September 22-26, 2008, pp. 87-91, ISBN 978-1-4244-2274-6, DOI 10.1109/ISPCS.2008.4659219.
- [C36] C. M. De Dominicis, P. Ferrari, A. Flammini, E. Sisinni, M. Bertocco, G. Giorgi, C. Narduzzi, F. Tramarin, "Investigating WirelessHART coexistence issues through a specifically designed simulator", IEEE Instrumentation and Measurement Technology Conference, 2009. I2MTC '09, Singapore, Singapore, May 5-7, 2009, pp. 1085-1090, ISSN 1091-5281, ISBN 978-1-4244-3352-0, DOI 10.1109/IMTC.2009.5168615.
- [C37] P. Ferrari, A. Flammini, D. Marioli, S. Rinaldi, E. Sisinni, A. Taroni, "An innovative distributed instrument for WirelessHART testing", IEEE Instrumentation and Measurement Technology Conference, 2009. I2MTC '09, Singapore, Singapore, May 5-7, 2009, pp. 1091-1096, ISSN 1091-5281, ISBN 978-1-4244-3352-0, DOI 10.1109/IMTC.2009.5168616.
- [C38] P. Ferrari, A. Flammini, E. Sisinni, "Introducing the Wireless Ultra Smart Sensor", IEEE Instrumentation and Measurement Technology Conference, 2009. I2MTC '09, Singapore, Singapore, May 5-7, 2009, pp. 1304-1308, ISSN 1091-5281, ISBN 978-1-4244-3352-0, DOI 10.1109/IMTC.2009.5168657.
- [C39] P. Ferrari, A. Flammini, D. Marioli, E. Sisinni, "On improving reliability of star-topology Wireless Sensor Network", Fieldbuses and Networks in Industrial and Embedded Systems - 8th IFAC International Conference on Fieldbuses and Networks in Industrial and Embedded Systems (2009), Ansan, Republic of Korea, May 20-22, 2009, Vol. 8, N. 1, pp. 20-26, ISBN 978-3-902661-67-8, DOI 10.3182/20090520-3-KR-3006.00004.
- [C40] A. Depari, P. Ferrari, A. Flammini, E. Sisinni, "Introducing a simulation tool for WirelessHART networks", Fieldbuses and Networks in Industrial and Embedded Systems - 8th IFAC International Conference on Fieldbuses and Networks in Industrial and Embedded Systems (2009), Ansan, Republic of Korea, May 20-22, 2009, Vol. 8, N. 1, pp. 234-237, ISBN 978-3-902661-67-8, DOI 10.3182/20090520-3-KR-3006.00035.
- [C41] C. M. De Dominicis, P. Ferrari, A. Flammini, E. Sisinni, "Evaluation of synchronization methods by means of software defined radio architectures", International Symposium on Precision Clock Synchronization for Measurement, Control and Communication, 2009. ISPCS 2009, Brescia, Italy, October 12-16, 2009, pp. 69-74, ISBN 978-1-4244-4392-5, DOI 10.1109/ISPCS.2009.5340219.
- [C42] A. Depari, P. Ferrari, A. Flammini, M. Lancellotti, S. Rinaldi, E. Sisinni, "Design and performance evaluation of a distributed WirelessHART sniffer based on IEEE1588", International Symposium on Precision Clock Synchronization for Measurement, Control and Communication, 2009. ISPCS 2009, Brescia, Italy, October 12-16, 2009, pp. 91-96, ISBN 978-1-4244-4392-5, DOI 10.1109/ISPCS.2009.5340218.

- [C43] P. Daponte, L. De Vito, S. Rapuano, C. M. De Dominicis, P. Ferrari, A. Flammini, "Characterization of the A/D conversion section in Software Defined Radios", 2010 IEEE Instrumentation and Measurement Technology Conference (I2MTC), Austin, TX, USA, May 3-6, 2010, pp. 357-362, ISSN 1091-5281, ISBN 978-1-4244-2832-8, DOI 10.1109/IMTC.2010.5488023.
- [C44] C. M. De Dominicis, P. Ferrari, A. Flammini, S. Rinaldi, M. Quarantelli, "Experimental evaluation of synchronization solutions for substation automation systems", 2010 IEEE Instrumentation and Measurement Technology Conference (I2MTC), Austin, TX, USA, May 3-6, 2010, pp. 1492-1496, ISSN 1091-5281, ISBN 978-1-4244-2832-8, DOI 10.1109/IMTC.2010.5487993.
- [C45] C. M. De Dominicis, P. Ferrari, A. Flammini, S. Rinaldi, E. Sisinni, "On the improvement of WirelessHART Access Points by means of Software Defined Radio", 2010 8th IEEE International Workshop on Factory Communication System (WFCS), Nancy, France, May 18-21, 2010, pp. 71-74, ISBN 978-1-4244-5460-0, DOI 10.1109/WFCS.2010.5548620.
- [C46] C. M. De Dominicis, P. Ferrari, A. Flammini, S. Rinaldi, M. Quarantelli, "Integration of Existing IEC61850-based SAS within new High-Availability Architectures", 2010 First IEEE International Workshop on Applied Measurements for Power Systems, Aachen, Germany, September 22-24, 2010, pp. 12-17, ISBN 978-1-4244-7372-4, DOI 10.1109/AMPS.2010.5609513 .
- [C47] P. Ferrari, A. Flammini, S. Rinaldi, A. Bondavalli, F. Brancati, "Improving robustness of the synchronization quality of IEEE1588 nodes", 2010 International IEEE Symposium on Precision Clock Synchronization for Measurement Control and Communication (ISPCS), Portsmouth (NH), USA, September 27-October 1, 2010, pp. 36-41, ISBN 978-1-4244-5978-0, DOI 10.1109/ISPCS.2010.5609784 .
- [C48] C. M. De Dominicis, P. Ferrari, A. Flammini, E. Sisinni, "Wireless sensors exploiting IEEE802.15.4a for precise timestamping", 2010 International IEEE Symposium on Precision Clock Synchronization for Measurement Control and Communication (ISPCS), Portsmouth (NH), USA, September 27-October 1, 2010, pp. 48-54, ISBN 978-1-4244-5978-0, DOI 10.1109/ISPCS.2010.5609782 .
- [C49] 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, ISSN 1091-5281, ISBN 978-1-4244-7933-7, DOI 10.1109/IMTC.2011.5944319.
- [C50] G. Donato, P. Ferrari, A. Flammini, "Helmet mounted data acquisition system for security and monitoring applications", 2011 IEEE Instrumentation and Measurement Technology Conference (I2MTC), Hangzhou, China, May 10-12, 2011, pp. 1633-1637, ISSN 1091-5281, ISBN 978-1-4244-7933-7, DOI 10.1109/IMTC.2011.5944325 .
- [C51] 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, ISBN 978-1-61284-818-1, DOI 10.1109/SIES.2011.5953683.
- [C52] C. M. De Dominicis, L. De Vito, P. Ferrari, A. Flammini, S. Rapuano, "Testing the transmission path of a Software Defined Radio Platform", Proceedings of IMEKO TC4 IWADC 2011, Orvieto, Italy, June 30 - July 1, 2011, pp. 1-6, ISBN 978-88-906201-0-2.
- [C53] 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, ISSN 1946-0740, ISBN 978-1-4577-0017-0, DOI 10.1109/ETFA.2011.6059153.

- [C54] P. Ferrari, A. Flammini, F. Venturini, A. Augelli, "Large PROFINET IO RT networks for factory automation: a case study", 2011 IEEE 16th Conference on Emerging Technologies and Factory Automation (ETFA), Toulouse, France, September 5-9, 2011, pp. 1-4, ISSN 1946-0740, ISBN 978-1-4577-0017-0, DOI 10.1109/ETFA.2011.6059160.
- [C55] 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, ISSN 1949-0305, ISBN 978-1-61284-893-8, DOI 10.1109/ISPCS.2011.6070149.
- [C56] 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, ISBN 978-1-61284-946-1, DOI 10.1109/AMPS.2011.6090431.
- [C57] 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, ISSN 1091-5281, ISBN 978-1-4577-1773-4, DOI 10.1109/I2MTC.2012.6229177.
- [C58] C. M. De Dominicis, P. Ferrari, E. Sisinni, A. Flammini, P. Privato, D. Macii, "Timestamping performance analysis of IEEE 802.15.4a systems based on SDR platforms", 2012 IEEE International Instrumentation and Measurement Technology Conference (I2MTC), Graz, Austria, May 13-16, 2012, pp. 2034-2039, ISSN 1091-5281, ISBN 978-1-4577-1773-4, DOI 10.1109/I2MTC.2012.6229356.
- [C59] 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, ISBN 978-1-4673-0693-5, DOI 10.1109/WFCS.2012.6242559.
- [C60] H. A. Cozzetti, D. Brevi, R. Scopigno, P. Ferrari, E. Sisinni, A. Flammini, "MS-Aloha: Preliminary analysis of its suitability for wireless automation", 2012 IEEE 17th Conference on Emerging Technologies & Factory Automation (ETFA), Krakow, Poland, September 17-21, 2012, pp. 1-8, ISSN 1946-0740, ISBN 978-1-4673-4735-8, DOI 10.1109/ETFA.2012.6489555.
- [C61] 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, ISBN 978-1-4673-1540-1, DOI 10.1109/AMPS.2012.6344005.
- [C62] 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, ISBN 978-1-4673-1540-1, DOI 10.1109/AMPS.2012.6343994.
- [C63] P. Ferrari, A. Flammini, E. Sisinni, A. Depari, M. Rizzi, R. Exel, T. Sauter, "New test bench for evaluation of IEEE 802.15.4 CSS timestamping capabilities", 2013 IEEE International Instrumentation and Measurement Technology Conference (I2MTC), Minneapolis, MN, USA, May 6-9, 2013, pp. 259-264, ISSN 1091-5281, ISBN 978-1-4673-4621-4, DOI 10.1109/I2MTC.2013.6555420.
- [C64] 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, ISSN 1091-5281, ISBN 978-1-4673-4621-4, DOI 10.1109/I2MTC.2013.6555484.
- [C65] 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, ISSN 1091-5281, ISBN 978-1-4673-4621-4, DOI 10.1109/I2MTC.2013.6555601.

[C66] 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, ISSN 1091-5281, ISBN 978-1-4673-4621-4, DOI 10.1109/I2MTC.2013.6555730.

[C67] 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, ISSN 1946-0740, ISBN 978-1-4799-0862-2, DOI 10.1109/ETFA.2013.6648149.

[C68] 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, ISBN 978-1-4799-0628-4, DOI 10.1109/EESMS.2013.6661706.

[C69] 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, ISSN 1949-0305, ISBN 978-1-4799-0241-5, DOI 10.1109/ISPCS.2013.6644760.

[C70] 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, ISSN 1949-0305, ISBN 978-1-4799-0241-5, DOI 10.1109/ISPCS.2013.6644768.

[C71] 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, ISBN 978-1-4673-5571-1, DOI 10.1109/AMPS.2013.6656235.

[C72] 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, ISBN 978-1-4673-5571-1, DOI 10.1109/AMPS.2013.6656239.

[C73] P. Ferrari, G. Giorgi, C. Narduzzi, S. Rinaldi, M. Rizzi, "Robust synchronization for IEEE 802.15.4 CSS wireless sensor networks", 2013 IEEE International Workshop on Measurements and Networking Proceedings (M&N), Villa Doria d'Angri, Italy, October 7-8, 2013, pp. 1-6, ISBN 978-1-4673-2873-9, DOI 10.1109/IWMN.2013.6663767.

[C74] L. Berghella, A. Depari, P. Ferrari, A. Flammini, S. Rinaldi, E. Sisinni, A. Vezzoli, "Low-power wireless interface for handheld smart metering devices", 2014 IEEE Sensors Applications Symposium (SAS), Queenstown, New Zealand, February 18-20, 2014, pp. 317-322, ISBN 978-1-4799-2180-5, DOI 10.1109/SAS.2014.6798968.

[C75] P. Ferrari, A. Flammini, S. Rinaldi, G. Prytz, R. Hussain, "Multipath redundancy for industrial networks using IEEE 802.1aq Shortest Path Bridging", 2014 10th IEEE International Workshop on Factory Communication Systems (WFCS), Toulouse, France, May 5-7, 2014, pp. 1-10, ISBN 978-1-4799-3235-1, DOI 10.1109/WFCS.2014.6837598.

[C76] P. Castello, P. Ferrari, A. Flammini, C. Muscas, P. A. Pegoraro, S. Rinaldi, "Improving availability of distributed PMU in electrical substations using wireless redundant process bus", 2014 IEEE International Instrumentation and Measurement Technology Conference (I2MTC), Montevideo, Uruguay, May 12-15, 2014, pp. 239-244, ISSN 1091-5281, ISBN 978-1-4673-6385-3, DOI 10.1109/I2MTC.2014.6860744.

- [C77] D. Della Giustina, P. Ferrari, A. Flammini, S. Rinaldi, "Synchronization requirements of a Power Quality measurement system for the distribution grid", 2014 IEEE International Instrumentation and Measurement Technology Conference (I2MTC), Montevideo, Uruguay, May 12-15, 2014, pp. 245-250, ISSN 1091-5281, ISBN 978-1-4673-6385-3, DOI 10.1109/I2MTC.2014.6860745.
- [C78] R. Fernandes, C. Fonseca, D. Brandao, P. Ferrari, A. Flammini, A. Vezzoli, "Flexible Wireless Sensor Network for smart lighting applications", 2014 IEEE International Instrumentation and Measurement Technology Conference (I2MTC), Montevideo, Uruguay, May 12-15, 2014, pp. 434-439, ISSN 1091-5281, ISBN 978-1-4673-6385-3, DOI 10.1109/I2MTC.2014.6860782.
- [C79] R. Exel, T. Bigler, T. Sauter, P. Ferrari, M. Rizzi, A. Flammini, "Timestamping of IEEE 802.15.4 CSS by CORDIC-based Chirp interpolation", 2014 IEEE International Instrumentation and Measurement Technology Conference (I2MTC), Montevideo, Uruguay, May 12-15, 2014, pp. 604-609, ISSN 1091-5281, ISBN 978-1-4673-6385-3, DOI 10.1109/I2MTC.2014.6860815.
- [C80] A. Depari, P. Ferrari, A. Flammini, S. Rinaldi, M. Rizzi, E. Sisinni, "Development and Evaluation of a WSN for Real-Time Structural Health Monitoring and Testing", Procedia Engineering - 28th European Conference on Solid-State Transducers, EUROSENSOR 2014, Brescia, Italy, September 7-10, 2014, ISSN 1877-7058.
- [C81] S. Rinaldi, P. Ferrari, A. Flammini, D. Fontanelli, D. Macii, "Improving Syntonization of Synchronous Ethernet Nodes using Multiple Paths", 2014 International IEEE Symposium on Precision Clock Synchronization for Measurement Control and Communication (ISPCS), Austin, TX, USA, September 21-26, 2014, pp. 1-6, ISSN 1949-0305, ISBN 978-1-4799-2698-5.
- [C82] A. De Angelis, M. Dionigi, A. Moschitta, P. Carbone, E. Sisinni, P. Ferrari, A. Flammini, S. Rinaldi, "Inexpensive Time Dissemination Using Magnetically Coupled Resonators", 2014 International IEEE Symposium on Precision Clock Synchronization for Measurement Control and Communication (ISPCS), Austin, TX, USA, September 21-26, 2014, pp. 36-41, ISSN 1949-0305, ISBN 978-1-4799-2698-5.
- [C83] Dede', D. Della Giustina, S. Rinaldi, P. Ferrari, A. Flammini, "Smart meters as part of a sensor network for monitoring the low voltage grid", 2015 IEEE Sensors Applications Symposium (SAS), Zadar, Croatia, April 13-15, 2015, pp. 276-281, ISBN 978-1-4799-6117-7, DOI 10.1109/SAS.2015.7133616.
- [C84] P. Ferrari, A. Flammini, S. Rinaldi, D. Macii, D. Fontanelli, "On the use of Synchronous Ethernet over multiple paths for syntonization of distributed systems", 2015 IEEE International Instrumentation and Measurement Technology Conference (I2MTC), Pisa, Italy, May 11-14, 2015, pp. 1543-1548, ISBN 978-1-4799-6114-6, DOI 10.1109/I2MTC.2015.7151508.
- [C85] P. Castello, P. Ferrari, A. Flammini, C. Muscas, P. A. Pegoraro, S. Rinaldi, "Assessment of time synchronization quality in a distributed PMU", 2015 IEEE International Instrumentation and Measurement Technology Conference (I2MTC), Pisa, Italy, May 11-14, 2015, pp. 1549-1554, ISBN 978-1-4799-6114-6, DOI 10.1109/I2MTC.2015.7151509.
- [C86] S. Rinaldi, P. Ferrari, A. Flammini, A. Vezzoli, "Introducing the measurement virtual-eGateway for domestic energy management", 2015 IEEE International Instrumentation and Measurement Technology Conference (I2MTC), Pisa, Italy, May 11-14, 2015, pp. 1819-1824, ISBN 978-1-4799-6114-6, DOI 10.1109/I2MTC.2015.7151557.
- [C87] S. Rinaldi, P. Ferrari, D. Brandao, S. Sulis, "Software defined networking applied to the heterogeneous infrastructure of Smart Grid", 2015 IEEE World Conference on Factory Communication Systems (WFCS), Palma de Mallorca, Spain, May 27-29, 2015, pp. 1-4, ISBN 978-1-4799-8244-8, DOI 10.1109/WFCS.2015.7160573.
- [C88] P. Ferrari, A. Flammini, S. Rinaldi, M. Rizzi, E. Sisinni, G. Prytz, "On the use of multiple MAC registration protocol in industrial networks ", 2015 IEEE World Conference on Factory Communication Systems (WFCS), Palma de Mallorca, Spain, May 27-29, 2015, pp. 1-8, ISBN 978-1-4799-8244-8, DOI 10.1109/WFCS.2015.7160546.

- [C89] S. Rinaldi, P. Ferrari, A. Flammini, N. Ali, F. Gringoli, "IEC 61850 for micro grid automation over heterogeneous network: Requirements and real case deployment", 2015 IEEE 13th International Conference on Industrial Informatics (INDIN), Cambridge, UK, July 22-24, 2015, pp. 923-930, ISBN 978-1-4799-6648-6, DOI 10.1109/INDIN.2015.7281859.
- [C90] P. Bellagente, P. Ferrari, A. Flammini, S. Rinaldi, "Adopting IoT framework for Energy Management of Smart Building: A real test-case", 2015 IEEE 1st International Forum on Research and Technologies for Society and Industry (RTSI), Turin, Italy, September 16-18, 2015, pp. 138-143, ISBN 978-1-4673-8166-6, DOI 10.1109/RTSI.2015.7325084.
- [C91] P. Ferrari, A. Flammini, M. Loda, S. Rinaldi, D. Pagnoncelli, E. Ragaini, "First experimental characterization of LTE for automation of smart grid", 2015 IEEE International Workshop on Applied Measurements for Power Systems (AMPS), Aachen, Germany, September 23-25, 2015, pp. 108-113, ISBN 978-1-4799-9998-9, DOI 10.1109/AMPS.2015.7312747.
- [C92] S. Rinaldi, P. Ferrari, A. Flammini, "Analysis of IEEE 1588-based Cyber Physical System for micro grid automation", 2015 IEEE International Symposium on Precision Clock Synchronization for Measurement, Control, and Communication (ISPCS), Beijing, China, October 15-16, 2015, pp. 31-36, ISBN 978-1-4673-7595-5, DOI 10.1109/ISPCS.2015.7324676.
- [C93] P. Bellagente, P. Ferrari, A. Flammini, S. Rinaldi, E. Sisinni, "Enabling PROFINET devices to work in IoT: Characterization and requirements", 2016 IEEE International Instrumentation and Measurement Technology Conference Proceedings, Taipei, Taiwan, May 23-26, 2016, pp. 517-522, ISBN 978-1-4673-9220-4, DOI 10.1109/I2MTC.2016.7520417.
- [C94] S. Rinaldi, P. Ferrari, A. Flammini, M. Loda, M. Rizzi, "Distributed measurement system for the assesment of IEC 61850 transfer time in smart grid", 2016 IEEE International Instrumentation and Measurement Technology Conference Proceedings, Taipei, Taiwan, May 23-26, 2016, pp. 939-944, ISBN 978-1-4673-9220-4, DOI 10.1109/I2MTC.2016.7520493.
- [C95] S. Rinaldi, P. Ferrari, M. Loda, "Synchronizing low-cost probes for IEC61850 transfer time estimation", 2016 IEEE International Symposium on Precision Clock Synchronization for Measurement, Control, and Communication (ISPCS), Stockholm, Sweden, September 7-9, 2016, pp. 1-6, ISBN 978-1-4673-9615-8, DOI 10.1109/ISPCS.2016.7579499.
- [C96] M. Rizzi, M. Lipinski, T. Wlostowski, J. Serrano, G. Daniluk, P. Ferrari, S. Rinaldi, "White rabbit clock characteristics", 2016 IEEE International Symposium on Precision Clock Synchronization for Measurement, Control, and Communication (ISPCS), Stockholm, Sweden, September 7-9, 2016, pp. 83-88, ISBN 978-1-4673-9615-8, DOI 10.1109/ISPCS.2016.7579514.
- [C97] S. Rinaldi, M. Pasetti, P. Ferrari, G. Massa, D. Della Giustina, "Experimental characterization of communication infrastructure for virtual power plant monitoring", 2016 IEEE International Workshop on Applied Measurements for Power Systems (AMPS), Aachen, Germany, September 28-30, 2016, pp. 102-107, ISBN 978-1-5090-2373-8, DOI 10.1109/AMPS.2016.7602860.
- [C98] S. Rinaldi, P. Ferrari, A. Flammini, F. Gringoli, M. Loda, N. Ali, "An application of IEEE 802.11ac to Smart Grid automation based on IEC 61850", IECON 2016 - 42nd Annual Conference of the IEEE Industrial Electronics Society, Florence, Italy, October 24-27, 2016, pp. 4645-4650, ISBN 978-1-5090-3474-1, DOI 10.1109/IECON.2016.7793725.
- [C99] P. Bellagente, C. Crema, A. Depari, P. Ferrari, A. Flammini, S. Rinaldi, E. Sisinni, A. Vezzoli, "The "Smartstone": using smartphones as a telehealth gateway for senior citizens", IFAC-PapersOnLine - Proceedings of the 4th IFAC Symposium on Telematics Applications (TA 2016), Porto Alegre, Brazil, November 6-9, 2016, Vol. 49, N. 30, pp. 221-226, ISSN 2405-8963, DOI 10.1016/j.ifacol.2016.11.171.

- [C100] F. Fernandes, G. S. Sestito, A. L. Dias, D. Brandao, P. Ferrari, "Influence of network parameters on the recovery time of a ring topology PROFINET network", IFAC-PapersOnLine - Proceedings of the 4th IFAC Symposium on Telematics Applications (TA 2016), Porto Alegre, Brazil, November 6-9, 2016, Vol. 49, N. 30, pp. 278-283, ISSN 2405-8963, DOI 10.1016/j.ifacol.2016.11.141.
- [C101] S. Rinaldi, P. Ferrari, A. Flammini, "Analysis of modular bridge platform for heterogeneous software defined networking in smart city applications", 2017 IEEE International Instrumentation and Measurement Technology Conference (I2MTC), Turin, Italy, May 22-25, 2017, pp. 1196-1201, ISBN 978-1-5090-3596-0, DOI 10.1109/I2MTC.2017.7969846.
- [C102] M. Rizzi, P. Ferrari, A. Flammini, E. Sisinni, M. Gidlund, "Using LoRa for industrial wireless networks", 2017 IEEE 13th International Workshop on Factory Communication Systems (WFCS), Trondheim, Norway, May 31 - June 2, 2017, pp. 1-4, ISBN 978-1-5090-5788-7, DOI 10.1109/WFCS.2017.7991972.
- [C103] S. Rinaldi, F. Bonafini, P. Ferrari, A. Flammini, M. Rizzi, "Evaluating low-cost bridges for time sensitive software defined networking in smart cities", 2017 IEEE International Symposium on Precision Clock Synchronization for Measurement, Control, and Communication (ISPCS), Monterey, CA, USA, August 27 - September 1, 2017, pp. 7-12, ISSN 1949-0313, ISBN 978-1-5090-5718-4, DOI 10.1109/ISPCS.2017.8056740.
- [C104] S. Rinaldi, F. Bonafini, P. Ferrari, A. Flammini, D. Di Cara, N. Panzavecchia, G. Tine', "NB PLC and Software Defined Networking for Smart Grid Applications", 2017 IEEE International Workshop on Applied Measurements for Power Systems (AMPS), Liverpool, United Kingdom, September 20-22, 2017, pp. 157-162, ISBN 978-1-5386-0343-7.
- [C105] P. Ferrari, A. Flammini, S. Rinaldi, M. Rizzi, E. Sisinni, "On the Use of LPWAN for EVehicle to Grid Communication", 2017 AIET International Annual Conference, Cagliari, Italy, September 20-22, 2017.
- [C106] P. Ferrari, E. Sisinni, D. Brandao, M. Rocha, "Evaluation of communication latency in Industrial IoT applications", 2017 IEEE International Workshop on Measurements and Networking Proceedings (M&N), Naples, Italy, September 27-29, 2017, pp. 17-22, ISBN 978-1-5090-5679-8.
- [C107] P. Ferrari, A. Flammini, M. Rizzi, E. Sisinni, M. Gidlund, "On the evaluation of LoRaWAN virtual channels orthogonality for dense distributed systems", 2017 IEEE International Workshop on Measurements and Networking Proceedings (M&N), Naples, Italy, September 27-29, 2017, pp. 85-90, ISBN 978-1-5090-5679-8.
- [C108] P. Bellagente, C. Crema, A. Depari, P. Ferrari, A. Flammini, G. Lanfranchi, G. Lenzi, M. Maddiona, S. Rinaldi, E. Sisinni, G. Ziliani, "Remote and non-invasive monitoring of elderly in a smart city context", 2018 IEEE Sensors Applications Symposium (SAS), Seoul, Republic of Korea, March 12-14, 2018, pp. 128-133, ISBN 978-1-5386-2092-2, DOI 10.1109/SAS.2018.8336732.
- [C109] D. Fernandes Carvalho, A. Depari, P. Ferrari, A. Flammini, S. Rinaldi, E. Sisinni, "On the feasibility of mobile sensing and tracking applications based on LPWAN", 2018 IEEE Sensors Applications Symposium (SAS), Seoul, Republic of Korea, March 12-14, 2018, pp. 297-302, ISBN 978-1-5386-2092-2, DOI 10.1109/SAS.2018.8336765.
- [C110] P. Bellagente, F. Bonafini, C. Crema, A. Depari, P. Ferrari, A. Flammini, G. Lenzi, M. Pasetti, S. Rinaldi, E. Sisinni, "Distributed Human Machine Interface with Localization Functionalities: A Real Test Bench", 2018 Workshop on Metrology for Industry 4.0 and IoT, Brescia, Italy, April 16-18, 2018, pp. 46-51, ISBN 978-1-5386-2497-5, DOI 10.1109/METROI4.2018.8439039.
- [C111] P. Ferrari, A. Flammini, S. Rinaldi, E. Sisinni, D. Maffei, M. Malara, "Evaluation of Communication Delay in IOT Applications Based on OPC UA", 2018 Workshop on Metrology for Industry 4.0 and IoT, Brescia, Italy, April 16-18, 2018, pp. 225-230, ISBN 978-1-5386-2497-5, DOI 10.1109/METROI4.2018.8428346.

- [C112] D. Fernandes Carvalho, P. Ferrari, A. Flammini, E. Sisinni, "A Test Bench for Evaluating Communication Delays in LoRaWAN Applications", 2018 Workshop on Metrology for Industry 4.0 and IoT, Brescia, Italy, April 16-18, 2018, pp. 249-254, ISBN 978-1-5386-2497-5, DOI 10.1109/METROI4.2018.8428323.
- [C113] M. Rizzi, P. Ferrari, A. Flammini, S. Rinaldi, E. Sisinni, "Characterization of 1 Gbps fiber optics transceiver for high accuracy synchronization over Ethernet", 2018 IEEE International Instrumentation and Measurement Technology Conference (I2MTC), Houston, TX, USA, May 14-17, 2018, pp. 862-867, ISBN 978-1-5386-2222-3, DOI 10.1109/I2MTC.2018.8409707.
- [C114] P. Bellagente, A. Depari, P. Ferrari, A. Flammini, S. Rinaldi, E. Sisinni, "M3IoT - Message-oriented middleware for M-health Internet of Things: Design and validation", 2018 IEEE International Instrumentation and Measurement Technology Conference (I2MTC), Houston, TX, USA, May 14-17, 2018, pp. 1213-1218, ISBN 978-1-5386-2222-3, DOI 10.1109/I2MTC.2018.8409656.
- [C115] P. Bellagente, C. Crema, A. Depari, P. Ferrari, A. Flammini, G. Lenzi, S. Rinaldi, E. Sisinni, "An easy solution to use external sensors in Android: Experimental characterization", 2018 IEEE International Instrumentation and Measurement Technology Conference (I2MTC), Houston, TX, USA, May 14-17, 2018, pp. 1219-1224, ISBN 978-1-5386-2222-3, DOI 10.1109/I2MTC.2018.8409818.
- [C116] E. Sisinni, D. Fernandes Carvalho, P. Ferrari, A. Flammini, D. R. Cabral Silva, I. Da Silva, "Enhanced flexible LoRaWAN node for industrial IoT", 2018 14th IEEE International Workshop on Factory Communication Systems (WFCS), Imperia, Italy, June 13-15, 2018, pp. 1-4, ISBN 978-1-5386-1066-4, DOI 10.1109/WFCS.2018.8402367.
- [C117] M. Silva, E. De Souza, I. Silva, D. Silva, P. Ferrari, S. Rinaldi, D. Fernandes Carvalho, "A customer feedback platform for vehicle manufacturing in Industry 4.0", 2018 IEEE Symposium on Computers and Communications (ISCC), Natal, Brazil, June 25-28, 2018, pp. 1249-1254, ISSN 1530-1346, ISBN 978-1-5386-6949-5, DOI 10.1109/ISCC.2018.8538554.
- [C118] D. Silva, G. Oliveira, I. Silva, P. Ferrari, E. Sisinni, "Latency evaluation for MQTT and WebSocket Protocols: an Industry 4.0 perspective", 2018 IEEE Symposium on Computers and Communications (ISCC), Natal, Brazil, June 25-28, 2018, pp. 1233-1238, ISSN 1530-1346, ISBN 978-1-5386-6949-5, DOI 10.1109/ISCC.2018.8538692.
- [C119] F. Bonafini, P. Ferrari, A. Flammini, S. Rinaldi, E. Sisinni, "Exploiting Time Synchronization as Side Effect in UWB Real-Time Localization Devices", 2018 IEEE International Symposium on Precision Clock Synchronization for Measurement, Control, and Communication (ISPCS), Geneva, Switzerland, September 30 - October 1, 2018, pp. 25-30, ISSN 1949-0313, ISBN 978-1-5386-4262-7, DOI 10.1109/ISPCS.2018.8543074.
- [C120] G. Serpa Sestito, A. L. Dias, A. C. Turcato, D. Brandao, P. Ferrari, "The panorama and challenges of PROFIBUS technology in brazilian market", 2018 13th IEEE International Conference on Industry Applications (INDUSCON), São Paulo, Brazil, November 11-14, 2018, pp. 692-697, ISBN 978-1-5386-7995-1, DOI 10.1109/INDUSCON.2018.8627204.
- [C121] A. Depari, P. Ferrari, A. Flammini, S. Rinaldi, E. Sisinni, "Lightweight Machine Learning-Based Approach for Supervision of Fitness Workout", 2019 IEEE Sensors Applications Symposium (SAS), Sophia Antipolis, France, March 11-13, 2019, pp. 1-6, ISBN 978-1-5386-7713-1, DOI 10.1109/SAS.2019.8706106.
- [C122] F. Bonafini, S. Rinaldi, A. Depari, A. Flammini, P. Ferrari, E. Sisinni, "Cluster of IoT Sensors for Smart Cities: Impact of the Communication Infrastructure over Computational Performance", 2019 IEEE Sensors Applications Symposium (SAS), Sophia Antipolis, France, March 11-13, 2019, pp. 1-6, ISBN 978-1-5386-7713-1, DOI 10.1109/SAS.2019.8706079.
- [C123] P. Ferrari, A. Flammini, M. Pasetti, S. Rinaldi, F. Simoncini, E. Sisinni, "Testing Facility for the Characterization of the Integration of E-Vehicles into Smart Grid in Presence of Renewable Energy", Lecture Notes in Electrical Engineering - Applications in Electronics Pervading Industry, Environment and Society: Proceedings of ApplePies 2018,

Pisa, Italy, September 26-27, 2018, 550, pp. 19-25, ISSN 1876-1100, ISBN 978-3-030-11972-0, DOI 10.1007/978-3-030-11973-7_3.

[C124] S. Rinaldi, F. Bonafini, P. Ferrari, A. Flammini, E. Sisinni, D. Bianchini, "Impact of Data Model on Performance of Time Series Database for Internet of Things Applications", 2019 IEEE International Instrumentation and Measurement Technology Conference (I2MTC), Auckland, New Zealand, May 20-23, 2019, pp. 1212-1217, ISBN 978-1-5386-3460-8.

[C125] D. Fernandes Carvalho, P. Bellagente, A. Depari, P. Ferrari, A. Flammini, S. Rinaldi, E. Sisinni, "Architecture for the interconnection of prototypical medical instrument via cloud services", 2019 IEEE International Instrumentation and Measurement Technology Conference (I2MTC), Auckland, New Zealand, May 20-23, 2019, pp. 1451-1456, ISBN 978-1-5386-3460-8.

[C126] F. Bonafini, A. Depari, P. Ferrari, A. Flammini, M. Pasetti, S. Rinaldi, E. Sisinni, M. Gidlund, "Exploiting localization systems for LoRaWAN transmission scheduling in industrial applications", 2019 15th IEEE International Workshop on Factory Communication Systems (WFCS), Sundsvall, Sweden, May 27-29, 2019, pp. 1-8, ISBN 978-1-7281-1268-8, DOI 10.1109/WFCS.2019.8757999.

[C127] F. Bonafini, D. Fernandes Carvalho, A. Depari, P. Ferrari, A. Flammini, M. Pasetti, S. Rinaldi, E. Sisinni, "Evaluating indoor and outdoor localization services for LoRaWAN in Smart City applications", 2019 II Workshop on Metrology for Industry 4.0 and IoT (MetroInd4.0&IoT), Naples, Italy, June 4-6, 2019, pp. 283-288, ISBN 978-1-7281-0428-7, DOI 10.1109/METROI4.2019.8792901.

[C128] P. Ferrari, S. Rinaldi, E. Sisinni, F. Colombo, F. Ghelfi, D. Maffei, M. Malara, "Performance evaluation of full-cloud and edge-cloud architectures for Industrial IoT anomaly detection based on deep learning", 2019 II Workshop on Metrology for Industry 4.0 and IoT (MetroInd4.0&IoT), Naples, Italy, June 4-6, 2019, pp. 403-408, ISBN 978-1-7281-0428-7, DOI 10.1109/METROI4.2019.8792860.

[C129] G. Signoretti, M. Silva, A. Dias, I. Silva, D. Silva, P. Ferrari, "Performance Evaluation of an Edge OBD-II Device for Industry 4.0", 2019 II Workshop on Metrology for Industry 4.0 and IoT (MetroInd4.0&IoT), Naples, Italy, June 4-6, 2019, pp. 415-420, ISBN 978-1-7281-0428-7, DOI 10.1109/METROI4.2019.8792885.

[C130] D. Fernandes Carvalho, A. Depari, P. Ferrari, A. Flammini, S. Rinaldi, E. Sisinni, "On the evaluation of application level delays in public LoRaWAN networks", 2019 IEEE International Workshop on Measurements & Networking (M&N), Catania, Italy, July 8-10, 2019, pp. 1-6, ISSN 2639-5061, ISBN 978-1-7281-1273-2, DOI 10.1109/IWMN.2019.8805012.