Curriculum Vitae
Luca Rugini

1. Personal Information

- *Address:* Via G. Duranti 93, 06125 Perugia, Italy
- *Telephone:* +39 075 585 3932
- *Email:* luca.rugini@unipg.it

2. Work Experience

- *From June 2025 to present:* **Associate Professor in Telecommunications** (Professore Associato, IINF-03/A), Department of Engineering, University of Perugia, Perugia, Italy
- *From December 2008 to May 2025:* **Assistant Professor** in Telecommunications (Ricercatore Universitario e Professore Aggregato, ING-INF/03), Department of Engineering, University of Perugia, Perugia, Italy
- *From February 2007 to July 2007:* **Visiting Researcher** in Signal Processing for Wireless Communications, Faculty of Electrical Engineering, Mathematics and Computer Science (EEMCS), Delft University of Technology, Delft, Netherlands
- *From November 2003 to December 2008:* **Postdoctoral Research Fellow** in Signal Processing for Wireless Communications (Assegnista di Ricerca, ING-INF/03), Department of Electronic and Information Engineering, University of Perugia, Perugia, Italy

3. Education

- *November 3rd, 2003:* **PhD in Telecommunications** (Dottorato in Ingegneria dell'Informazione), University of Perugia, Perugia, Italy; Thesis: "Analysis of multiuser communication systems with transmitter- and receiver-induced distortions"; Advisors: Prof. S. Cacopardi and Prof. P. Banelli
- *April 27th, 2000:* **Master Science** Degree in Electronics and Telecommunications (Laurea in Ingegneria Elettronica, orientamento Telecomunicazioni), Faculty of Engineering, University of Perugia, Perugia, Italy; Thesis: "Optimization of multiuser receivers for third-generation DS-CDMA systems"; Advisor: Prof. S. Cacopardi; Final mark: highest with honor (110/110 con lode)
- *July 27th, 1994:* Scientific **High School** Diploma (Diploma di Maturità Scientifica), Scientific High School (Liceo Scientifico) "Galileo Galilei", Perugia, Italy; Final mark: highest (60/60)

4. Teaching Experience

- *From 2024/2025 to present:* Teacher of "**Telecommunication Fundamentals**", BSc in Computer Science and Electronics (Laurea in Ingegneria Informatica ed Elettronica), University of Perugia, Perugia, Italy

- *From 2022/2023 to present:* One of the Teachers of "**Information and Estimation Theory**", MSc in Computer Science and Robotics (Laurea Magistrale in Ingegneria Informatica e Robotica), University of Perugia, Perugia, Italy

- *From 2020/2021 to 2023/2024:* One of the Teachers of "**Internet Basics**", BSc in Computer Science and Electronics (Laurea in Ingegneria Informatica ed Elettronica), University of Perugia, Perugia, Italy

- *In 2019/2020:* Teacher of "**Signal Processing and Optimization for Big Data**", MSc in Computer Science and Robotics (Laurea Magistrale in Ingegneria Informatica e Robotica), University of Perugia, Perugia, Italy

- *From 2018/2019 to 2019/2020:* One of the Teachers of "**Internet Basics with Laboratory**", BSc in Computer Science and Electronics (Laurea in Ingegneria Informatica ed Elettronica), University of Perugia, Perugia, Italy

- *From 2016/2017 to present:* Teacher of "**Digital Transmission Systems**", MSc in Electronics for the Internet of Things (Laurea Magistrale in Ingegneria Elettronica per l'Internet of Things), and MSc in Electronics (Laurea Magistrale in Ingegneria Elettronica), University of Perugia, Perugia, Italy

- *In 2012/2013:* Teacher of "**Transmissions with High Spectral Efficiency**", training course (attività di formazione post-laurea) within the PON 2007-2013 project PEGASO, University of Sannio, Benevento, Italy

- *From 2010/2011 to 2015/2016:* Teacher of "**Telecommunication Systems**", MSc in Electronics and Telecommunications (Laurea Magistrale in Ingegneria Elettronica e delle Telecomunicazioni), and MSc in Computer Science and Automation (Laurea Magistrale in Ingegneria Informatica e dell'Automazione), University of Perugia, Perugia, Italy

- *From 2008/2009 to 2009/2010:* Teacher of "**Telecommunication Systems**", BSc in Computer Science and Telecommunications (Laurea in Ingegneria Informatica e delle Telecomunicazioni), University of Perugia, Orvieto, Italy

- *In 2006/2007:* Teaching Assistant of "**Signal Processing for Communications**", MSc in Electrical Engineering, Mathematics and Computer Science, Delft University of Technology, Delft, Netherlands

- *In 2005/2006:* Teacher of "**Second- and Third-generation Mobile Radio Systems**", first-level Master (Master di primo livello) in Technology, Economics, and Management of Radio Systems, University of Perugia, Perugia, Italy

- *From 2003/2004 to 2005/2006, and in 2007/2008:* Teacher of "**Probability and Stochastic Processes**", BSc in Computer Science and Telecommunications (Laurea in Ingegneria Informatica e delle Telecomunicazioni), University of Perugia, Orvieto, Italy

5. Technical Activities

- *From April 2024 to present:* **Guest Editor** of *Sensors* for the special issue *Performance Analysis of Wireless Communication Systems*

- *From January 2023 to present:* **Area Editor** of *Digital Signal Processing: A Review Journal*

- *From April 2015 to February 2022:* **Associate Editor** of *EURASIP Journal on Advances in Signal Processing*

- *From November 2014 to November 2018:* **Associate Editor** of *IEEE Signal Processing Letters*

- *From August 2012 to December 2022:* **Handling** (Associate) **Editor** of *Digital Signal Processing: A Review Journal*

- *From 2007 to present:* **Technical Program Committee (TPC) Member** for several international conferences, including:
  - *IEEE Int. Conf. Commun. (ICC):* 2008, 2009, from 2014 to present
  - *IEEE Global Telecommun. Conf. (GLOBECOM):* from 2008 to 2016, and from 2021 to present

- *From 2002 to present:* **Reviewer** for several international journals, including:
  - *IEEE Trans. Commun., IEEE Trans. Wireless Commun., IEEE Trans. Signal Process., IEEE Trans. Veh. Technol., IEEE Trans. Broadcast., IEEE Commun. Lett.*

6. Research Projects

- *From 2024 to 2025* "Network Intelligence" (NETWIN)", RESTART, funded by the European Union; Scientific coordinator: Prof. S. Barbarossa (University La Sapienza of Rome)

- *From 2023 to 2024:* "Energy-efficient networking, signal processing and communications (EFESO)", funded by University of Perugia; Scientific coordinator: L. Rugini

- *From 2022 to 2023:* "Challenging environments tolerant smart systems for IoT and AI (CHARM)", funded by the European Union; Coordinator: Dr. H. Kettunen (Valmet Technologies, Finland).

- *From 2022 to 2023:* "Algorithms, protocols, and architectures for information delivery and management in 6G networks", funded by University of Perugia; Scientific coordinator: Prof. M. Femminella (University of Perugia)

- *From 2021 to 2023:* "Systems, algorithms and architectures for information transmission processing in future sensor and telecommunication networks", funded by University of Perugia; Scientific coordinator: Prof. G. Baruffa (University of Perugia)

- *From 2020 to 2023:* "Liquid edge computing based on distributed machine learning and millimeter-wave radio access (LIQUID_EDGE)", PRIN 2017, funded by the Italian Ministry of University and Research; Scientific coordinator: Prof. S. Barbarossa (University La Sapienza of Rome)

- *From 2020 to 2021:* "Advanced signal processing for future communications", funded by University of Perugia; Scientific coordinator: L. Rugini

- *From 2018 to 2020:* "Signal processing and machine learning: Applications to telecommunications, cognitive radio systems and UHD video signals", funded by University of Perugia; Scientific coordinator: Prof. P. Banelli (University of Perugia)

- *In 2017:* Research grant in Telecommunications, FFABR ING-INF/03, funded by the Italian Ministry of University and Research; Grant recipient: L. Rugini

- *In 2016:* "Wireless software and hardware platforms for flexible and unified radio and network control" (WiSHFUL) H2020, funded by the European Union; Scientific coordinator: Prof. I. Moerman (Ghent University, Belgium)

- *From 2015 to 2016:* "New burn-in system for semiconductors and integrated modules", funded by the Italian Ministry of Economic Development; Scientific coordinator: Prof. P. Banelli (University of Perugia)

- *In 2014:* "Study and experimentation of an underwater digital modem", funded by an Italian company; Scientific coordinator: Prof. P. Banelli (University of Perugia)

- *In 2013:* "Study of underwater modems", funded by an Italian company; Scientific coordinator: Prof. P. Banelli (University of Perugia)

- *From 2013 to 2014:* "Agile RF transceivers and front-ends for future smart multi-standard communications applications (ARTEMOS)", FP7-ENIAC, co-funded by the European Union; Coordination: Aalto University (Finland)

- *From 2012 to 2013:* "Antenna system with bidimensional gain for vehicular wideband jamming: Study, proof of concept, and documentation", funded by an Italian company; Scientific coordinator: Prof. M. Dionigi (University of Perugia)

- *From 2011 to 2014:* "Cooperative algorithms for wireless sensor networks", funded by Fondazione Cassa di Risparmio di Perugia; Scientific coordinator: L. Rugini

- *From 2009 to 2010:* "Diagnostic robots: new systems based on autonomous mobile robots for diagnosis and test in production lines and life-cycle laboratories", PON-FESR 2007-2013, co-funded by Regione Marche and an Italian company; Coordination: an Italian company

- *In 2007:* "Signal processing for future wireless communications", funded by NWO-STW; Scientific coordinator: Prof. A.-J. van der Veen (Delft University of Technology, Netherlands)

- *In 2007:* "Channel estimation and equalization for DVB-T/H system in high mobility", funded by an international company; Scientific coordinator: Prof. P. Banelli (University of Perugia)

- *From 2006 to 2009:* "Satellite communications network of excellence - Phase II (SatNEx-II)", FP6, co-funded by the European Union; CNIT scientific coordinator: Prof. F. Davoli (University of Genoa)

- *From 2005 to 2006:* "Study and simulation of a telemetry system for racing competitions", funded by an international company; Scientific coordinator: Prof. P. Banelli (University of Perugia)

- *From 2003 to 2004:* "MC-CDMA: an air interface for the 4th generation of wireless systems", PRIN 2002, funded by the Italian Ministry of University and Research; Scientific coordinator: Prof. S. Pupolin (University of Padua)

- *From 2001 to 2002:* "Channel estimation techniques for multicarrier CDMA systems", funded by the Italian Ministry of University and Research; Scientific coordinator: L. Rugini

- *From 2001 to 2002:* "OFDM systems with applications to WLANs", PRIN 2000, funded by the Italian Ministry of University and Research; Scientific coordinator: Prof. S. Pupolin (University of Padua)

- *From 2000 to 2002:* "Spread spectrum systems and techniques for wireless and wired communications", COST-262, co-funded by the European Union; Scientific coordinator: Prof. F. N. Pavlidou (Aristotle University of Thessaloniki, Greece)

7. Publications

Book Chapters

- P. Banelli, G. Colavolpe, L. Rugini, and A. Ugolini, "Waveform design", Chapter 13 of *Information-Theoretic Perspectives on 5G Systems and Beyond*, eds. I. Maric, S. Shamai (Shitz), and O. Simeone, Cambridge University Press, 2022.

- P. Banelli, G. Baruffa, S. Buzzi, G. Colavolpe, T. Foggi, L. Rugini, and A. Ugolini, "Modulations with low peak-to-average power ratio", Chapter 10 of *Wiley 5G Ref*, eds. R. Tafazolli, P. Chatzimisios, and C.-L. Wang, John Wiley & Sons, 2020.

- P. Banelli, G. Colavolpe, L. Rugini, and A. Ugolini, "Post-OFDM modulations for 5G and beyond", Chapter 9 of *5G Italy White Book: from Research to Market*, eds. M. Ajmone Marsan, N. Blefari Melazzi and S. Buzzi, 2018.

- P. Banelli and L. Rugini, "OFDM and multicarrier signal processing", Chapter 5 of Vol. 2 of *Academic Press Library in Signal Processing*, eds. R. Chellappa and S. Theodoridis, Academic Press, 2014.

- L. Rugini, P. Banelli, and G. Leus, "OFDM communications over time-varying channels", Chapter 7 of *Wireless Communications over Rapidly Time-Varying Channels*, eds. F. Hlawatsch and G. Matz, Academic Press, 2011.

Journals

- N. Papini, L. Rugini, M. Cecconi, A. Scorzoni, A. Tarantino, P. Placidi, "Measurement-based model for water content estimation in sustainable granular materials using an IoT custom device", *IEEE Trans. Instrum. Meas.*, vol. 74, art. 9001209, pp. 1-9, Feb. 2025.

- G. Baruffa, L. Rugini, "Resource assignment algorithms for autonomous mobile robots with task offloading", *Future Internet*, vol. 17, no. 1, art. 39, pp. 1-27, Jan. 2025.

- L. Rugini, K. Sardar, G. Baruffa, "Coherent detection of MIMO LoRa with increased data rate", *IEEE Open J. Commun. Society*, vol. 5, pp. 5652-5666, Sept. 2024.

- G. Baruffa, A. Detti, L. Rugini, F. Crocetti, P. Banelli, G. Costante, P. Valigi, "AI-driven ground robots: mobile edge computing and mmWave communications at work", *IEEE Open J. Commun. Society*, vol. 5, pp. 3104-3119, May 2024.

- L. Rugini, P. Banelli, "Performance analysis of centralized cooperative schemes for compressed sensing", *Sensors*, vol. 24, no. 2, art. 661, pp. 1-27, Jan. 2024.

- G. Baruffa, L. Rugini, "Improved channel estimation and equalization for single-carrier IEEE 802.11ad receivers", *Radioengineering*, vol. 32, no. 3, pp. 438-450, Sept. 2023.

- G. Baruffa, L. Rugini, F. Frescura, P. Banelli, "Low-complexity PAPR reduction by coded data insertion on DVB-T2 reserved carriers", *IEEE Access*, vol. 11, pp.. 73377-73393, July 2023.

- G. Baruffa, L. Rugini, "Performance of LoRa-based schemes and quadrature chirp index modulation", *IEEE Internet of Things J.*, vol. 9, no. 10, pp. 7759-7772, May 15, 2022.

- L. Rugini and G. Baruffa, "Low-complexity BER computation for coherent detection of orthogonal signals", *Electron. Lett.*, vol. 57 no. 12, pp. 496-498, June 2021.

- L. Rugini, "SEP bounds for MPSK with low SNR", *IEEE Commun. Lett.*, vol. 24, no. 11, pp. 2473-2477, Nov. 2020.

- G. Baruffa, L. Rugini, L. Germani, and F. Frescura, "Error probability performance of chirp modulation in uncoded and coded LoRa systems", *Digital Signal Process.*, vol. 106, art. 102828, pp. 1-11, Nov. 2020.

- L. Germani, V. Mecarelli, G. Baruffa, L. Rugini, and F. Frescura, "An IoT architecture for continuous livestock monitoring using LoRa LPWAN", *Electron.*, vol. 8, no. 12, art. 1435, pp. 1-28, Dec. 2019.

- D. Saveri, G. Baruffa, L. Rugini, D. A. Samo, and A. Ladanyi, "BER-optimal selection of peak frequency deviation for RDS2", *Electron. Lett.*, vol. 55, no. 11, pp. 663-665, May 30, 2019.

- F. Alimenti, P. Mezzanotte, L. Roselli, V. Palazzi, S. Bonafoni, R. Vincenti Gatti, L. Rugini, G. Baruffa, F. Frescura, P. Banelli, F. Bernardi, F. Gemma, G. Nannetti, P. Gervasoni, P. Glionna, E. Pagana, G. Gotti, P. Petrini, F. Coromina, F. Pergolesi, M. Fragiacomo, A. Cuttin, E. De Fazio, F. Dogo, and A. Gregorio, "K/Ka-band very high data-rate receivers: A viable solution for future Moon exploration missions", *Electron.*, vol. 8, no. 3, art. 349, pp. 1-23, Mar. 2019.

- L. Rugini, and G. Baruffa, "Performance of nonorthogonal FSK for the Internet of Things", *Digital Signal Process.*, vol. 85, pp. 124-133, Feb. 2019.

- G. Baruffa, L. Rugini, F. Frescura, and P. Banelli, "Real-time generation of standard-compliant DVB-T signals", *Radioeng.*, vol. 27, no. 2, pp. 475-484, June 2018.

- L. Rugini and P. Banelli, "On the equivalence of maximum SNR and MMSE estimation: Applications to additive non-Gaussian channels and quantized observations", *IEEE Trans. Signal Process.*, vol. 64, no. 23, pp. 6190-6199, Dec. 1, 2016.

- L. Rugini, "Symbol error probability of hexagonal QAM", *IEEE Commun. Lett.*, vol. 20, no. 8, pp. 1523-1526, Aug. 2016.

- L. Rugini, "Tight upper bounds on the probability of error of quaternary simplex signals", *IEEE Commun. Lett*, vol. 19, no. 6, pp. 1001-1004, June 2015.

- D. A. Samo, M. Slimani, G. Baruffa, and L. Rugini, "A performance study of DVB-T2 and DVB-T2-Lite for mobile reception", *Digital Signal Process.*, vol. 37, no. 2, pp. 35-42, Feb. 2015.

- G. Baruffa, L. Rugini, and P. Banelli, "Design and validation of a software defined radio testbed for DVB-T transmission". *Radioeng.*, vol. 23, no. 1, pp. 387-398, Apr. 2014.

- L. Rugini, P. Banelli, and G. Leus, "Small sample size performance of the energy detector", *IEEE Commun. Lett.*, vol. 17, no. 9, pp. 1814-1817, Sept. 2013.

- L. Rugini, "Linear equalization for multicode MC-CDMA downlink channels", *IEEE Commun. Lett.*, vol. 16, no. 9, pp. 1353-1356, Sept. 2012.

- M. Poggioni, L. Rugini, and P. Banelli, "QoS analysis of a scheduling policy for heterogeneous users employing AMC jointly with ARQ", *IEEE Trans. Commun.*, vol. 58, no. 9, pp. 2639-2652, Sept. 2010.

- L. Rugini and P. Banelli, "Probability of error of linearly modulated signals with Gaussian cochannel interference in maximally correlated Rayleigh fading channels", *EURASIP J. Wireless Commun. Netw.*, vol. 2010, Article ID 193183, pp. 1-13, July 2010.

- K. Fang, L. Rugini, and G. Leus, "Block transmissions over doubly selective channels: Iterative channel estimation and turbo equalization", *EURASIP J. Adv. Signal Process.*, vol. 2010, Article ID 974652, pp. 1-13, May 2010.

- M. Poggioni, L. Rugini, and P. Banelli, "DVB-T/H and T-DMB: Physical layer performance comparison in fast mobile channels", *IEEE Trans. Broadcast.*, vol. 55, no. 4, pp. 719-730, Dec. 2009.

- K. Fang, L. Rugini, and G. Leus, "Low-complexity block turbo equalization for OFDM systems in time-varying channels", *IEEE Trans. Signal Process.*, vol. 56, no. 11, pp. 5555-5566, Nov. 2008.

- M. Poggioni, L. Rugini, and P. Banelli, "A novel simulation model for coded OFDM in Doppler scenarios", *IEEE Trans. Veh. Technol.*, vol. 57, no. 5, pp. 2969-2980, Sept. 2008.

- L. Rugini, P. Banelli, and G. Leus, "Low-complexity banded equalizers for OFDM systems in Doppler spread channels", *EURASIP J. Appl. Signal Processing*, vol. 2006, Article ID 67404, pp. 1-13, Aug. 2006.

- E. Ricci, L. Rugini, and R. Perfetti, "SVM-based CDMA receiver with incremental active learning", *Neurocomput.*, vol. 69, pp. 1691-1696, Aug. 2006.

- L. Rugini, P. Banelli, and G. B. Giannakis, "Local ML detection for multicarrier DS-CDMA downlink systems with grouped linear precoding", *IEEE Trans. Wireless Commun.*, vol. 5, no. 2, pp. 306-311, Feb. 2006.

- L. Rugini and P. Banelli, "BER of OFDM systems impaired by carrier frequency offset in multipath fading channels", *IEEE Trans. Wireless Commun.*, vol. 4, no. 5, pp. 2279-2288, Sept. 2005.

- L. Rugini, P. Banelli, and G. Leus, "Simple equalization of time-varying channels for OFDM," *IEEE Commun. Lett.*, vol. 9, no. 7, pp. 619-621, July 2005.

- L. Rugini and P. Banelli, "Joint impact of frequency synchronization errors and intermodulation distortion on the performance of multicarrier DS-CDMA systems", *EURASIP J. Appl. Signal Process.*, vol. 2005, no. 5, pp. 730-742, Apr. 2005.

- L. Rugini, P. Banelli, and S. Cacopardi, "A full-rank regularization technique for MMSE detection in multiuser CDMA systems", *IEEE Commun. Lett.*, vol. 9, no.1, pp. 34-36, Jan. 2005.

- L. Rugini, P. Banelli, and S. Cacopardi, "SER performance of linear multiuser detectors for DS-CDMA downlink with transmitter nonlinear distortions", *IEEE Trans. Veh. Technol.*, vol. 53, no. 4, pp. 992-1000, July 2004.

- L. Rugini, P. Banelli, and S. Cacopardi, "Theoretical analysis and performance of the decorrelating detector for DS-CDMA signals in nonlinear channels", *IEEE Trans. Wireless Commun.*, vol. 3, no. 2, pp. 367-372, Mar. 2004.

Conferences

- G. Baruffa, L. Rugini, F. Frescura, and P. Banelli, "Radio and computation resource management in unmanned vehicles with edge computing", *IEEE Int. Conf. Comput. Netw. Commun. (ICNC 2025)*, Honolulu, USA, Feb, 17-20, 2025, pp. 728-732.

- G. Baruffa, L. Rugini, V. Mecarelli, L. Germani, and F. Frescura, "Coded LoRa performance in wireless channels", *IEEE Int. Symp. Pers., Indoor, Mobile Radio Commun. (PIMRC 2019)*, Istanbul, Turkey, Sept. 8-11, 2019.

- P. Banelli, G. Colavolpe, L. Rugini, and A. Ugolini, "Spectral efficiency of multicarrier schemes for 5G", *IEEE Int. Conf. Telecommun. (ICT 2019)*, Hanoi, Vietnam, Apr. 8-10, 2019, pp. 124-129.

- L. Rugini, and G. Baruffa, "BER of nonorthogonal FSK for IEEE 802.15.4", *IEEE Int. Symp. Pers., Indoor, Mobile Radio Commun. (PIMRC 2018)*, Bologna, Italy, Sept. 9-12, 2018, pp. 570-571.

- E. Lagunas and L. Rugini, "Performance of compressive sensing based energy detection", *IEEE Int. Symp. Pers., Indoor, Mobile Radio Commun. (PIMRC 2017)*, Montreal, Canada, Oct. 8-13, 2017.

- L. Rugini, P. Banelli, and G. Leus, "Spectrum sensing using energy detectors with performance computation capabilities", *Europ. Signal Process. Conf. (EUSIPCO 2016)*, Budapest, Hungary, pp. 1608-1612, Aug. 29-Sept. 2, 2016.

- G. Baruffa and L. Rugini, "Soft-output demapper with approximated LLR for DVB-T2 systems", *IEEE Global Commun. Conf. (GLOBECOM 2015)*, San Diego, USA, Dec. 6-10, 2015.

- P. Banelli and L. Rugini, "Impulsive noise mitigation for wireless OFDM", *IEEE Int. Workshop Signal Process. Adv. Wireless Commun. (SPAWC 2015)*, Stockholm, Sweden, pp. 346-350, June 28-July 1, 2015.

- M. Guerrini, L. Rugini, and P. Banelli, "A non-periodic sensing strategy for improved throughput in cognitive radio networks", *IEEE Int. Conf. Acoust., Speech Signal Process. (ICASSP 2014)*, Florence, Italy, May 4-9, 2014.

- M. Guerrini, L. Rugini, and P. Banelli, "Sensing-throughput tradeoff for cognitive radios", *IEEE Int. Workshop Signal Process. Adv. Wireless Commun. (SPAWC 2013)*, Darmstadt, Germany, pp. 115-119, June 16-19, 2013.

- L. Rugini and P. Banelli, "Pilot-aided estimation of carrier frequency offsets and channel impulse responses for OFDM cooperative communications", *IEEE Int. Workshop Signal Process. Adv. Wireless Commun. (SPAWC 2012)*, Cesme, Turkey, pp. 550-554, June 17-20, 2012.

- L. Rugini, P. Banelli, H. A. Suraweera, and C. Yuen, "Performance of Alamouti space-time coded OFDM with carrier frequency offset", *IEEE Global Telecommun. Conf. (GLOBECOM 2011)*, Houston, USA, December 5-9, 2011.

- G. Bafna, P. Banelli, and L. Rugini, "Three-stage centralized spectrum sensing of OFDM signals", *IEEE Int. Workshop Signal Process. Adv. Wireless Commun. (SPAWC 2011)*, San Francisco, USA, pp. 286-290, June 26-29, 2011.

- P. Banelli and L. Rugini, "An H-infinity filtering approach for robust tracking of OFDM doubly-selective channels", *IEEE Int. Workshop Signal Process. Adv. Wireless Commun. (SPAWC 2010)*, Marrakech, Morocco, June 20-23, 2010.

- M. Poggioni, L. Rugini, and P. Banelli, "Multistage decoding-aided channel estimation and equalization for DVB-H in single-frequency networks", *IEEE Int. Workshop Signal Process. Adv. Wireless Commun. (SPAWC 2009)*, Perugia, Italy, pp. 181-185, June 21-24, 2009.

- L. Rugini, P. Banelli, K. Fang, and G. Leus "Enhanced turbo MMSE equalization for MIMO-OFDM over rapidly time-varying frequency-selective channels", *IEEE Int. Workshop Signal Process. Adv. Wireless Commun. (SPAWC 2009)*, Perugia, Italy, pp. 36-40, June 21-24, 2009.

- K. Fang, L. Rugini, and G. Leus, "Low-complexity frequency-domain turbo equalization for single-carrier transmissions over doubly-selective channels", *IEEE Int. Conf. Acoust., Speech Signal Process. (ICASSP 2009)*, Taipei, Taiwan, pp. 2541-2544, Apr. 19-24, 2009.

- L. Rugini and P. Banelli, "Frequency-domain extended models for equalization of doubly-selective channels", *IEEE Int. Workshop Signal Process. Adv. Wireless Commun. (SPAWC 2008)*, Recife, Brazil, pp. 520-524, July 6-9, 2008.

- K. Fang, L. Rugini, and G. Leus, "Iterative channel estimation and turbo equalization for time-varying OFDM systems", *IEEE Int. Conf. Acoust., Speech Signal Process. (ICASSP 2008)*, Las Vegas, USA, pp. 2909-2912, Mar. 30-Apr. 4, 2008.

- L. Rugini and G. Leus, "Basis expansion adaptive filters for time-varying system identification," *IEEE Workshop on Computational Advances in Multi-Sensor Adaptive Processing (CAMSAP 2007)*, St. Thomas, USA, pp. 153-156, Dec. 12-14, 2007.

- M. Poggioni, L. Rugini, and P. Banelli, "Analyzing performance of multi-user scheduling jointly with AMC and ARQ", *IEEE Global Telecommun. Conf. (GLOBECOM 2007)*, Washington, USA, pp. 3483-3488, Nov. 26-30, 2007.

- L. Rugini, P. Banelli, and M. Berioli, "Block equalization for single-carrier satellite communications with high-mobility receivers", *IEEE Global Telecommun. Conf. (GLOBECOM 2007)*, Washington, USA, pp. 5021-5025, Nov. 26-30, 2007.

- M. Poggioni, L. Rugini, and P. Banelli, "A novel simulation model for coded OFDM in Doppler scenarios: DVB-T versus DAB", *IEEE Int. Conf. Commun. (ICC 2007)*, Glasgow, UK, pp. 5689-5694, June 24-28, 2007.

- L. Rugini and P. Banelli, "Performance analysis of banded equalizers for OFDM systems in time-varying channels", *IEEE Int. Workshop Signal Process. Adv. Wireless Commun. (SPAWC 2007)*, Helsinki, Finland, June 17-20, 2007.

- P. Banelli, R. C. Cannizzaro, and L. Rugini, "Data-aided Kalman tracking for channel estimation in Doppler-affected OFDM systems," *IEEE Int. Conf. Acoust., Speech Signal Process. (ICASSP 2007)*, Honolulu, USA, vol. 3, pp. 133-136, Apr. 15-20, 2007.

- K. Fang, G. Leus, and L. Rugini, "Alamouti space-time coded OFDM systems in time- and frequency-selective channels", *IEEE Global Telecommun. Conf. (GLOBECOM 2006)*, San Francisco, USA, Nov. 27-Dec. 1, 2006.

- L. Rugini and P. Banelli, "Banded equalizers for MIMO-OFDM in fast time-varying channels", *Europ. Signal Process. Conf. (EUSIPCO 2006)*, Florence, Italy, Sept. 4-8, 2006.

- L. Rugini, P. Banelli, R. C. Cannizzaro, and G. Leus, "Channel estimation and windowed DFE for OFDM with Doppler spread", *IEEE Int. Conf. Acoust., Speech Signal Process. (ICASSP 2006)*, Toulouse, France, vol. 4, pp. 137-140, May 15-19, 2006.

- L. Rugini and P. Banelli, "Windowing techniques for ICI mitigation in multicarrier systems", *Europ. Signal Process. Conf. (EUSIPCO 2005)*, Antalya, Turkey, Sept. 4-8, 2005.

- L. Rugini, P. Banelli, and G. Leus, "Block DFE and windowing for Doppler-affected OFDM systems", *IEEE Int. Workshop Signal Process. Adv. Wireless Commun. (SPAWC 2005)*, New York City, USA, pp. 470-474, June 5-8, 2005.

- L. Rugini, P. Banelli, and G. Leus, "Reduced-complexity equalization for MC-CDMA systems over time-varying channels", *IEEE Int. Conf. Acoust., Speech Signal Process. (ICASSP 2005)*, Philadelphia, USA, vol. 3, pp. 473-476, Mar. 19-23, 2005.

- L. Rugini, P. Banelli, and G. B. Giannakis, "MMSE-based local ML detection of linearly precoded OFDM signals", *IEEE Int. Conf. Commun. (ICC 2004)*, Paris, France, vol. 6, pp. 3270-3275, June 20-24, 2004.

- L. Rugini, P. Banelli, and S. Cacopardi, "Probability of error of OFDM systems with carrier frequency offset in frequency-selective fading channels", *IEEE Int. Conf. Commun. (ICC 2004)*, Paris, France, vol. 6, pp. 3289-3293, June 20-24, 2004.

- L. Rugini and P. Banelli, "BER of MC-DS-CDMA systems with CFO and nonlinear distortions", *IEEE Int. Conf. Acoust., Speech Signal Process. (ICASSP 2004)*, Montreal, Canada, vol. 4, pp. 773-776, May 17-21, 2004.

- P. Banelli and L. Rugini, "BER performance degradation of MC-DS-CDMA systems jointly affected by transmitter HPA and receiver CFO in frequency selective fading channels", *IEEE Int. Symp. Control, Commun. Signal Process. (ISCCSP 2004)*, Hammamet, Tunisia, pp. 67-70, Mar. 21-24, 2004.

- L. Rugini, P. Banelli, and S. Cacopardi, "Regularized MMSE multiuser detection using covariance matrix tapering", *IEEE Int. Conf. Commun. (ICC 2003)*, Anchorage, USA, vol. 4, pp. 2460-2464, May 11-15, 2003.

- P. Banelli, L. Rugini, and S. Cacopardi, "Optimum output power back-off in non-linear channels for OFDM based WLAN", *IEEE Int. Symp. Signal Process. Inform. Technol. (ISSPIT 2002)*, Marrakech, Morocco, pp. 586-591, Dec. 18-21, 2002.

- L. Rugini, P. Banelli, and S. Cacopardi, "Effects of high-power amplification on linear multiuser detectors performance in DS-CDMA frequency-selective fading channels", *IEEE Global Telecommun. Conf. (GLOBECOM 2002)*, Taipei, Taiwan, vol. 2, pp. 1061-1065, Nov. 17-21, 2002.

- L. Rugini, P. Banelli, and S. Cacopardi, "Performance analysis of the decorrelating multiuser detector for nonlinear amplified DS-CDMA signals", *IEEE Int. Conf. Commun. (ICC 2002)*, New York City, USA, vol. 3, pp. 1466-1470, Apr. 28-May 2, 2002.

- L. Rugini, P. Banelli, and S. Cacopardi, "An analytical upper bound on MMSE performance using approximated MMSE multiuser detector in flat Rayleigh fading channels", *Europ. Wireless (EW 2002)*, Florence, Italy, vol. 2, pp. 952-956, Feb. 25-28, 2002.

- P. Banelli, S. Cacopardi, and L. Rugini, "Improved performance of MMSE multiuser receivers for asynchronous CDMA: preliminary results", *IEEE Int. Conf. Commun. (ICC 2001)*, Helsinki, Finland, vol. 6, pp. 1959-1963, June 11-15, 2001.

- P. Banelli, S. Cacopardi, and L. Rugini, "Estimation errors sensitivity of MMSE multiuser receivers in DS-CDMA", *COST 262 Workshop Multiuser Detection Spread Spectrum Commun.*, Ulm, Germany, pp. 89-95, Jan. 17-18, 2001.

Perugia, June 30, 2025   *Luca Rugini*