Giovanni Interdonato

Assistant Professor, PhD in Electrical Engineering

Assistant Prof. at the University of Cassino and Southern Lazio. Ph.D. in Electrical Engineering with specialization in Communication Systems. Research interests in beyond-5G physical layer technologies and communication protocols.

giovanni.interdonato.phd@gmail.com

Cassino (FR), Italy

scholar.google.com/citations?user=CAWnjKEAAAAJ

linkedin.com/in/interdonatogiovanni

WORK EXPERIENCE

Assistant Professor
University of Cassino and Southern Lazio

03/2021 - Present — *Cassino, Italy*

- Research on beyond-5G physical layer technologies: Massive MIMO, reconfigurable intelligent surfaces, mmWave communications.
- Course director, examiner, and lecturer for the master level course: *Digital signal processing* (Telecommun. Eng. LM-27, ING-INF/03)
- Co-author of +20 publications (G. Scholar H-index 12, ~1130 citations).

Contact : Prof. Stefano Buzzi, head of division - buzzi@unicas.it

Researcher
ERICSSON AB

11/2015 - 10/2020 — *Linköping, Sweden*

Radio Network Modelling and Control, Ericsson Research

- Development of novel signal processing algorithms for modern communication systems. Focus on 5G NR communication protocols.
- Development of flexible, cost-efficient architectures for practical distributed massive MIMO deployments. Co-inventor of the Ericsson Radio Stripes: ericsson.com/en/blog/2019/2/radio-stripes.
- Co-Inventor of 7 inventions resulting in +25 patent applications.

Contact : Dr. Nicklas Johansson, former manager - nicklas.johansson@ericsson.com

EDUCATION

PhD in Electrical Engineering
Linköping University (Sweden)

11/2015 - 10/2020 — *Contact: Prof. Erik G. Larsson, former advisor (erik.g.larsson@liu.se)*

- Analysis, design and optimization of smart and distributed device-centric cellular architectures. Focus on 5G large-scale multiple-antenna technologies (massive MIMO, cell-free massive MIMO).
- Teaching assistant in tutorial and lab sessions for master level courses: *multiple antenna communications*, *wireless communications*.
- Main supervisor in Master's degree projects involving collaborations with Ericsson AB and the Swedish Defence Research Agency (FOI)
- Participation in international conferences, 5G events and schools (GLOBECOM 2016, GlobalSIP 2018, ICC 2019, IEEE 5G Summit 2016, IEEE SPS and EURASIP School on Signal Processing for 5G, 2017.
- 240 ECTS achieved with advanced courses in: MIMO systems, neural networks and deep learning, nonlinear and convex optimization, detection and estimation of signals, data compression. PhD dissertation: "Cell-Free Massive MIMO: Scalability, Signal Processing and Power Control" (link to the download)

MSc in Computer and Telecommun. Systems Eng.
Mediterranea University of Reggio Calabria (Italy)

03/2015 — *Contact: Prof. Giuseppe Araniti, former advisor (araniti@unirc.it)*

- Thesis: "A Novel LTE Random Access Scheme for Massive Machine Type Communications"

SKILLS AND EXPERTISE

Wireless Communications | Signal Processing | IPR | Detection and Estimation | Optimization | Teaching | 5G/6G systems | massive MIMO | cell-free networks

AWARDS AND GRANTS

Exemplary Reviewer 2021, IEEE Trans. Communications

Exemplary Editor 2022, IEEE Communications Letters

Post-doctoral fellowship (01/2021 - 02/2021)
University of Cassino and Southern Latium. Research on "user-centric wireless communication systems operating at the mmWave bands"

Grant from the Ericsson Research Foundation (05/2019)

Marie-Curie research fellowship (11/2015 - 10/2018)
Multi-partner European Training Network project, within the framework of the H2020 Marie Skłodowska-Curie Innovative Training Networks (ITNs).

PROJECTS AND VISITINGS

Reliable aerial and satellite networks: joint communication, computation, and caching for critical scenarios (RAIN4C) (09/2023 - Present)
- Associated Investigator of the project "RAIN4C" funded by the Italian Ministry of University and Research within the programme PRIN 2022.

H2020 MSCA ITN "Meta Wireless" (09/2021 - Present)
- Coordinator of the "Meta Wireless" Early Stage Researchers, with the National Inter-University Consortium for Telecommunications (CNIT).

H2020 MSCA ITN "5Gwireless" (11/2015 - 10/2018)
- Early stage researcher with Ericsson AB. Research on innovative architectures, wireless technologies and tools for high capacity and sustainable 5G ultra-dense cellular networks.

Visiting at Universitat Politècnica de Catalunya (UPC), Barcelona, Spain (11/2017 - 03/2018)
- Training on network interference modeling for ultra-dense networks. Exploiting interference statistics for introducing interference-awareness in device-centric architectures.

Visiting at Centre Tecnològic de Telecomunicacions de Catalunya, Barcelona, Spain. (04/2014 - 09/2014)
- Design and performance analysis of novel LTE random access protocols for supporting QoS of massive machine type communications.

SERVICES

Associate Editor
IEEE Commun. Letters (2022-present), IEEE Open Journal of the Commun. Society (2022-present), Frontiers in Signal Processing (2023-present), Frontiers in Communications and Networks (2023-present)

Technical Program Committee member
IEEE VTC-Spring '21-'23, IEEE WCNC '22-'24, IEEE GLOBECOM '22-'23