Michele Rossi, PhD

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Current position	**Full Professor**
h-index	34 (Scopus), 45 (Google Scholar) [updated: December 4, 2024]
Tot. citations	4636 (Scopus), 7584 (Google Scholar) [updated: December 4, 2024]

Short bio. I am a Full Professor at the University of Padova, Italy. My current research interests are on: **a)** stochastic optimization and protocol design for Cyber Physical Systems (CPS), **b)** green ICT: mobile networks and mobile edge computing, **c)** joint communication and wireless sensing. I have authored 190+ scientific papers published in International conferences, book chapters and Journals, mainly of the IEEE, three patents, and I have been the recipient of eight awards from the IEEE. Since 2005, I have been actively supervising PhD students at DEI. In 2005–2009, I have collaborated with **DOCOMO Euro-Labs** (Munich, Germany) on distributed processing, storage and data dissemination for ad hoc networks (Network Coding and Compressive Sensing). Since 2010, I have been collaborating with **Worldsensing** (Barcelona, Spain) on CPS solutions for Smart Cities; this collaboration has led to joint publications and continued through the involvement in the **H2020 MSCA ITN SCAVENGE** project (2016–2020) and in the currently running project **H2020 MSCA ITN GREENEDGE**. In 2016-2018, I have been Co-PI of the **ECCENTRIC** project "ECCENTRIC: an Energy and Context-Centric Perspective on IoT Architecture and Protocol Design", funded by **INTEL**'s Strategic Research Alliance. Since 2002, I have worked in several EU projects on Wireless Sensor Networks (WSN) such as **EYES** ("protocols for energy efficient WSN", 2002–2005), **e-SENSE** ("protocols and architectures for WSN", 2004–2007), **SENSEI** ("WSN as enablers of the future Internet", 2007–2010) and **SWAP** (Marie Curie, "Symbiotic Wireless Autonomous Powered systems", 2010–2014). In 2010-2013, I have coordinated the protocol design activity (WP3) within the **EU IoT-A** project (the flagship FP7 EU integrated project on IoT Architectures, 2010–2013) and I have been a **senior Marie Curie researcher** within SWAP. Since 2010, I have been the **Principal Investigator** of several projects, including **MOSAICS** ("MOnitoring Sensor and Actuator networks through Integrated Compressive Sensing and data gathering", 2010–2012), a **SAMSUNG GRO** award on biometric signal processing for wearable IoT devices (2014–2015), the **H2020 MSCA ITN SCAVENGE** on mobile networks exploiting ambient energy (*scientific dissemination officer*, 2016–2020), the **H2020 MSCA ITN MINTS** on mm-wave radio sensing technology for beyond 5G networks (2020–2024), the **H2020 MSCA ITN GREENEDGE** on green edge computing (**project coordinator**, 2021–2025), and the **IoT-SURF** project on software libraries and processing tools for IoT objects (2016–2017). Since May 2024, I have been working with **Huawei** on Integrated Sensing and Communications for 6G systems. At DEI, I am the coordinator of the Bachelor's Degree on Telecommunications, Internet and Multimedia Engineering, of the Master's Degree in ICT for Internet and Multimedia (MIME) and a lead a research group involving PhD students and PostDocs with focus on edge computing, machine learning and wireless sensing. In 2017-2023 I have been the director of the DEI/IEEE PhD Summer School of Information Engineering (SSIE). I have been **Associate Editor** (AE) of the *IEEE Transactions on Wireless Communications* (2011-2016) and of the *Open Journal of the IEEE Communications Society (OJ-COMS)* (2019-2024). Since Feb. 2017, I am **Associate Editor (AE)** of the *IEEE Transactions on Mobile Computing*. I have been on the TPC of 100+ international conferences. I am a *Senior Member* of the IEEE.

EDUCATION

- **University of Ferrara – Dept. of Engineering**   Ferrara, Italy
  PhD Telecommunications Engineering   *2001 - 2004*
  - PhD degree, March 26, 2004, **PhD in Telecommunications Engineering**, doctoral thesis entitled "Error Control Algorithms for Wireless Communication Networks: Analysis and Performance Evaluation". Supervisor: Prof. **Michele Zorzi**. Final grade: "ottimo".

- **University of Ferrara**   Ferrara, Italy
  M.S. Electrical Engineering   *1995 - 2000*
  - MS degree, Feb. 18, 2000, graduated with 110/110 **Magna Cum Laude** (5 years).
  - Major in Telecommunications Engineering.

WORK EXPERIENCE

- **University of Padova – Dept. of Inf. Engineering (DEI)**   Padova, Italy
  Full Professor   *Oct. 12, 2020–Current*
  - **Teaching:** see section Teaching.
  - **Research and supervision:** see section Research Group Supervision.
  - **Member of:** "Collegio dei Docenti della Scuola di Dottorato" (DEI Doctoral School Teaching Board).
  - **Co-Director of** the DEI/IEEE Summer School of Information Engineering (SSIE).
  - **Coordinator** of the Bachelor's Degree on Telecommunications, Internet and Multimedia Engineering and of the Master's Degree ICT for Internet and Multimedia (MIME).
  - **Project management:** see section Research Projects.

- **University of Padova – Dept. of Inf. Engineering (DEI)**   Padova, Italy
  Associate Professor   *May 2, 2017–Oct. 11, 2020*
  - **Teaching:** see section Teaching.
  - **Research and supervision:** see section Research Group Supervision.
  - **Member of:** "Commissione Ricerca del DEI" (DEI Research Board), "Collegio dei Docenti della Scuola di Dottorato" (DEI Doctoral School Teaching Board), "Consiglio Direttivo della Scuola di Dottorato" (DEI Doctoral School Directive Board).
  - **Director of** the DEI/IEEE Summer School of Information Engineering (SSIE).
  - **Co-responsible of**: selection and enrollment of International students within the DEI Master Degree on Internet Multimedia Engineering (MIME).
  - **Member of:** Directive Board of the Master's Degree in Data Science at the Department of Mathematics (DM), University of Padova. He restructured the internship program with associated industries and research labs.
  - **Project management:** EU projects and industrial collaborations, see section Research Projects.

- **University of Padova – Dept. of Inf. Engineering**   Padova, Italy
  Assistant Professor   *Oct. 2005–May 1, 2017*
  - **Teaching:** Wireless Communications (72 hours) and Reti di Telecomunicazioni (48 hours).
  - **Research and supervision:** MS and PhD students, PostDocs.

- – Oct. 2010-Oct. 2016: member of the didactic commission and reference person for the ERASMUS International Exchange Program for the Master students of Telecommunication Engineering.

  – **EU projects:** Ambient Networks phase II, e-SENSE, SENSEI, SWAP, IoT-A.

  – **Industrial collaborations:** DOCOMO Eurolabs.

- **WorldSensing (WS) & CTTC** <div align="right">Barcelona, Spain</div>
  Visiting Marie Curie Senior Researcher <div align="right">*2011–Current*</div>

  – **Marie Curie** senior researcher within the EU FP7 SWAP project.

  – Visited WS and CTTC in May 2011, April 2012, May 2013, May 2014 (two weeks per year) within the EU SWAP project, and in June 2016 (two weeks) within the EU SCAVENGE ITN.

  – The activity within the SWAP project has led to several publications, e.g., [46][47][48][124][135].

  – The SCAVENGE project, still ongoing, publications are: [29], [32], [30], [34], [46], [106], [108], [110], [112], [115], [117], [124], [128].

- **EEMCS, University of Twente** <div align="right">Twente, The Netherlands</div>
  Visiting Researcher <div align="right">*Nov. 2004*</div>

  – Visiting researcher at the faculty of Electrical Engineering, Mathematics and Computer Science (EEMCS), University of Twente, The Netherlands.

  – Research on wireless sensor networks, under the supervision of Prof. **Paul Havinga**.

  – This period of study has led to the publication of the Journal paper [65].

- **University of California San Diego** <div align="right">San Diego, CA, US</div>
  Visiting Researcher – Center for Wireless Communications (CWC) <div align="right">*Mar. 2003-Oct. 2003*</div>

  – Visiting researcher at CWC, University of California, San Diego, US.

  – Research on WSN, under the supervision of Prof. **Ramesh R. Rao**.

  – This period of study has led to the publication of papers [61][165][199].

- **University of Ferrara – Dept. of Engineering** <div align="right">Ferrara, Italy</div>
  Research Engineer (2000-2001), PhD Student (2001-2004), PostDoc (2005) <div align="right">*Feb. 2000-Oct. 2005*</div>

  – Research on TCP, ARQ and HARQ processes see, e.g., [74][75][189][190].

  – Italian projects RAMON and VICOM (funded by MIUR).

  – Industrial collaborations: European Space Agency (ESA) and ERICSSON AB.

  – Involvement in EU Projects (Ambient Networks phase I, EYES).

- **Technical State Institute (ITIS) "Niccolò Copernico"** <div align="right">Ferrara, Italy</div>
  Professor of Computer Programming <div align="right">*Mar. 20-July 7, 2000*</div>

  – Professor of Computer Programming (C and C++ languages).

INSTITUTIONAL ACTIVITIES AT THE UNIVERSITY OF PADOVA

- **Scientific Supervision** of BS, MS, PhD students and PostDocs, see section Research Group Supervision.

- **Principal Investigator** within several research projects, see section Research Projects.

- **Jan. 2008-current:** Member of the DEI Doctoral School Teaching Board "Collegio dei Docenti della Scuola di Dottorato".

- **2005-current:** Teaching courses. Current courses are **Wireless Networks** (6 ECTS, 48 hours), **Network Coding** (6 ECTS, 48 hours) and **Human Data Analytics** (6 ECTS, 48 hours). See section Teaching.

- **2017-2023:** Director of the DEI/IEEE Summer School of Information Engineering (SSIE).

- **Jan. 2016-2020:** Member of the PhD School Directive Board "Consiglio Direttivo della Scuola di Dottorato".

- **Jan. 2018-2020:** Co-responsible of the selection and enrollment of International students within the DEI Master's Degree on ICT for Internet and Multimedia (MIME) at the Department of Information Engineering, University of Padova.

- **Oct. 2019-2020:** Member of the Directive Board of the Master's Degree in Data Science (DS) at the Department of Mathematics (DM), University of Padova. Responsible for the DS internship program.

- **Oct. 2010-Oct. 2016:** member of the *didactic commission* and reference person for the *ERASMUS International Exchange Program* for the Master students of Telecommunication Engineering at the Department of Engineering (DEI), University of Padova.

PARTICIPATION IN RESEARCH PROJECTS FEATURING NATIONAL AND/OR INTERNATIONAL COLLABORATIONS

- **MIUR RAMON project on Multi-Radio Interfaces**   University of Ferrara
  Italian MIUR   *Jan. 1, 2000–Dec. 31, 2000*
  - **PhD Researcher** in the RAMON project (Reconfigurable Access Module for MObile computiNg Applications). RAMON was an Italian project funded by **MIUR** ("Ministero dell'Istruzione, dell'Università e della Ricerca"). Six telecommunication groups (Roma "La Sapienza", Perugia, Catania, Ferrara, Palermo and Politecnico di Torino) took part in the project, dealing with the design of a wireless access module supporting multiple radio interfaces and minimizing the performance degradation of TCP during handovers performed across different physical layer technologies. Dr. Rossi contributed to the design of a network simulator (written in ns2) with multi-radio technology support [71][186].

- **ESA Project on Mobile Satellite Networks**   University of Ferrara
  ESA   *Jan. 1, 2001–Dec. 31, 2003*
  - **PhD Researcher** in the project 'Transport Protocol and Resource Management for Mobile Satellite Networks", funded by the **European Space Agency (ESA)** (contract no. 14956/00/NL/ND). Dr. Rossi was actively involved in WP4200, "Performance Evaluation", designing and implementing a system level protocol simulator, that he subsequently used to characterize the proposed networking solution [72]. A **CNIT consortium** featuring the following Italian universities was involved in the research: Pisa, Genoa, Catania, Ferrara, Rome.

- **MIUR VICOM on Wireless Sensor Networks**   University of Ferrara
  Italian MIUR   *Jan. 1, 2002–Dec. 31, 2005*
  - **PhD Researcher** in the Italian FIRB project funded by MIUR ("Ministero dell'Istruzione, dell'Università e della Ricerca") within the program "Enabling ICT for the Society of Knowledge". With this project, Dr. Rossi started his research activity on routing and channel access strategies for WSN. Part of this research has been carried out at the UCSD in San Diego, where Dr. Rossi was a visiting PhD student.

- **EU EYES project**   CNIT
  European Commission   *Mar. 1, 2002–Feb. 28, 2005*
  - **PhD Researcher** in the EU EYES project (IST-2001-34734) on network protocols for energy efficient WSN. The research consortium partners were: University of Twente, Consorzio Nazionale Interuniversitario per le Telecomunicazioni (CNIT), Infineon Technologies Austria, Nedap, Technical Univer-

sity of Berlin (TUB), University of Rome "La Sapienza", see: http://cordis.europa.eu/project/rcn/61532_en.html

- **ERICSSON AB - Industrial Collaboration**   University of Ferrara
  ERICSSON   *Jan. 1, 2002, Dec. 31, 2004*
  - **PhD Researcher** within the research collaboration between **ERICSSON AB** (Kista, Stockholm, Sweden) and the Telecommunication Group at the University of Ferrara, Italy. Dr. Rossi has been responsible for the following research lines: **1)** TCP/IP header compression algorithms, **2)** investigation of hybrid ARQ techniques for the UMTS WCDMA air interface and **3)** characterization and optimization of UTMS MBMS services. Scientific publications are [68][74][75][177][178].

- **Ambient Networks phase I**   CFR
  European Commission   *Jan. 1, 2004–Dec. 31, 2005*
  - **Post Doctoral Researcher** in the Integrated EU FP6 project Ambient Networks phase I (FP6-IST-507134 Integrated Project on heterogeneous and ubiquitous wireless networking, 2002-2005). Dr. Rossi participated in the project as a researcher within the research organization CFR "Consorzio Futuro in Ricerca". The project was led by ERICSSON AB and featured the participation of 41 European partners, see: http://cordis.europa.eu/project/rcn/71236_en.html

- **DOCOMO - Industrial Collaboration**   UNIPD
  DOCOMO Eurolabs   *Jan. 1, 2004–Dec. 31, 2009*
  - **Senior researcher** in a collaboration with **DOCOMO Eurolabs** in Munich, Germany. Dr. Rossi supervised the research activity of two PhD students and has been the supervisor of a few Master theses. The research activity dealt with storage and dissemination techniques based on network coding, within distributed wireless networks. After an initial study of network coding (2005-2007), the activity continued with the investigation of Compressive Sensing (2008-2009) for the joint compression and data gathering in WSN. This collaboration has led to two international patents [192][193] and several scientific publications, e.g., [56], [62], [143], [147], [153].

- **EU Ambient Networks phase II**   CFR
  European Commission   *Jan. 1, 2006–Dec. 31, 2007*
  - **Senior Researcher** and **Task Leader** (WPF) in the EU Ambient Networks phase II (FP7-IST-027662, 2005-2007). Dr. Rossi participated in the project as a PhD researcher within the research organization CFR "Consorzio Futuro in Ricerca". The research consortium featured the participation of 43 partners from all over Europe. See: http://cordis.europa.eu/project/rcn/80709_en.html

- **EU e-SENSE**   CFR
  European Commission   *Jan. 1, 2006–Dec. 31, 2007*
  - **Senior researcher** in the EU FP6 e-SENSE project: "Capturing Ambient Intelligence for Mobile Communications through Wireless Sensor Networks" (Integrated FP6 project, G.A. no. IST-FP6-IP-027227). Dr. Rossi participated in the project as a PhD researcher within the research organization CFR "Consorzio Futuro in Ricerca". The project was led by the "Commissariat à l'énergie atomique et aux énergies alternatives" (CEA), France, and featured the participation of 24 European partners, see: http://cordis.europa.eu/project/rcn/80695_en.html

- **EU SENSEI**   CFR
  European Commission   *Jan. 1, 2008–Dec. 31, 2010*
  - **Senior researcher** and **Task leader** (in WP4) in the EU project SENSEI (FP7 Integrated project no. 215923). Dr. Rossi participated in the project as a PhD researcher within the research organization CFR "Consorzio Futuro in Ricerca". The project was led by the Commissariat à l'énergie atomique et aux énergies alternatives (CEA), France, and featured the participation of 23 European partners, see: http://cordis.europa.eu/project/rcn/85429_en.html

- **EU SWAP**   CFR
  European Commission   *Aug. 1, 2010–July 31, 2014*
  - **Marie Curie Senior Researcher** within the EU SWAP project (Symbiotic Wireless Autonomous Powered system, IAPP FP7 project, G.A. no. FP7-PEOPLE-251557), funded by the Marie Curie Industry and Academia Partnerships and Pathways (IAPP) program. Dr. Rossi has been involved in the design of energy scavenging WSN, supervising the activity of PhD students, engineers, and Master thesis students, frequently visiting WorldSensing and CTTC in Barcelona, both in Spain. Through this project, he has started a fruitful collaboration with Worldsensing and CTTC, which continues today. The project featured the participation of: CTTC (Spain), Worldsensing (Spain), CFR (Consorzio Futuro in Ricerca, Italy), Patavina Technologies (Italy). See: http://cordis.europa.eu/project/rcn/95008_en.html

- **EU IoT-A**   CFR
  European Commission   *Sept. 1, 2010–Sept. 30, 2013*
  - **Senior researcher**, **deputy WP3 leader**, **task leader**. Dr. Rossi participated in the integrated FP7 project IoT-A, G.A. no. 257521, where he has been Deputy WP leader for WP3: "'Protocol Suite" and task leader for the "IoT-A protocol design task". Within this project he has supervised a team of young engineers, one PhD and two PostDocs, dedicated to the development of the IoT protocol stack. The project was led by VDI/VDE Innovation, Berlin, Germany, and featured the participation of 21 European partners, see: http://cordis.europa.eu/project/rcn/95713_en.html

RESEARCH PROJECTS

Dr. Rossi has developed a solid experience in project writing and management, which continues through the writeup of new proposals targeting industrial collaborations, national/regional and European funding schemes. Next, the projects where Dr. Rossi has/had a leading role, are listed (from newest to oldest).

- **Industrial collaboration ISAC**   **Topic:** Joint Communication & Sensing
  Huawei   *November 16, 2024–May 16, 2026*
  - **Principal Investigator**. Sensing techniques for environmental monitoring with mm-wave and sub-6 Ghz radios.

- **Industrial collaboration ISAC**   **Topic:** Joint Communication & Sensing
  IMDEA Networks   *April 15, 2024–April 15, 2025*
  - **Principal Investigator**. Sensing techniques for human sensing with mm-wave radios.

- **Horizon Europe ROBUST-6G**   **Topic:** Security in 6G systems
  European Commission   *January. 1, 2024–June. 30, 2026*
  - **Principal Investigator (PI)** @UNIPD. Integration of AI-based security features into 6G Mobile Systems. The work entails the design of resilient methods for AI architectures in communication networks, including federated learning and adversarial machine learning. **UNIPD budget:** 301.750 k€.

- **H2020 GREENEDGE**   **Topic:** Green Edge Computing
  European Commission   *March. 1, 2021–Feb. 28, 2025*
  - **Project Coordinator** of the H2020 research project "GREENEDGE: Taming the environmental impact of mobile networks through GREEN EDGE computing platforms", project no. 953775 (Pillar: **Excellent Science**), funded by the European Commission under the Horizon 2020 program. GREENEDGE

is a Marie Sklodowska-Curie Innovative Training Network (MSCA-ITN). **UNIPD budget:** 784.5 k€ (project total: 4064465 €).

- **H2020 MINTS**   **Topic:** Millimeter-wave Networking and Sensing
  European Commission   *Nov. 1, 2019–Oct. 31, 2024*
  – **Principal Investigator (PI)** @UNIPD of the H2020 research project "MINTS: Millimeter-wave Networking and Sensing for Beyond 5G", project no. 861222 (Pillar: **Excellent Science**), funded by the European Commission under the Horizon 2020 program. MINTS is a Marie Sklodowska-Curie Innovative Training Network (MSCA-ITN). **UNIPD budget:** 522.999 k€. (project total: 3894477 €).

- **PRIN Call 2017**   **Topic:** 5G wireless networks
  Italian MIUR   *Oct. 1, 2019–September 30, 2022*
  – **Co-PI** @UNIPD of the PRIN project no. 2017NS9FEY entitled "Realtime Control of 5G Wireless Networks: Taming the Complexity of Future Transmission and Computation Challenges", funded by the Italian Ministry of Education, University and Research (MIUR). The consortium is composed of University of Padova (leader), Polytechnic University of Bari and University o Trento. **UNIPD budget:** 211.124 k€, total budget: 512.327 k€.

- **H2020 WINDMILL**   **Topic:** Machine learning for wireless
  European Commission   *Jan. 1, 2019–Dec. 31, 2022*
  – **Key person** @UNIPD of the H2020 research project "WINDMILL", project no. 813999 (Pillar: **Excellent Science**), funded by the European Commission under the Horizon 2020 program. Dr. Rossi's role is to provide specialized training, organizing a summer school in "machine learning for wireless communications". WINDMILL is a Marie Sklodowska-Curie Innovative Training Network (MSCA-ITN). **UNIPD budget:** 522.999 k€.

- **Wearable sensing – Junior Research Grant**   **Topic:** Human Data Analysis
  University of Padova   *Oct. 1 2018– Sept. 30, 2019*
  – **PI** of the research project "Signal processing for wearable biomedical sensors: towards early health assessment and monitoring".
  – Grant to support a Post-Doctoral researcher for one year. **Budget:** 20 k€.

- **US-EU project**   **Topic:** Edge Computing
  National Science Foundation (NSF)   *Oct. 1, 2018–Sept. 30, 2019*
  – **Co-PI** of project "ICE-T: RI: A Knowledge-Defined Platform for Real-Time Management of Transmissions and Computations at Network Edge" (with PI Prof. Flavio Esposito from Saint Louis University, USA), funded within the NSF 18-535 US-EU Internet Core & Edge Technologies (ICE-T) Program. The project provides funding for joint research actions between EU and US based institutions (visits, personnel, etc.). **Budget:** 100 kUSD.

- **SIRENS Project - Industrial**   **Topic:** Wireless alert system for vehicular networks
  TREESSE Impianti   *2018*
  – **Principal Investigator** of an industrial project on the design of a wireless alert system for emergency vehicles (e.g., ambulances). **Budget:** 22 k€.

- **Traffic Monitoring - Industrial**   **Topic:** Traffic monitoring and prediction
  Worldsensing   *2017*
  – **Principal Investigator** of an industrial collaboration with Worldsensing on the design of a machine learning algorithm for traffic monitoring and forecasting. **Budget:** 11 k€.

- **H2020 SCAVENGE**   **Topic:** Energy harvesting cellular networks
  European Commission   *Jan. 1, 2016–Dec. 31, 2020*

- **PI** @UNIPD of the H2020 research project SCAVENGE, project no. 675891 (Pillar: **Excellent Science**), funded by the European Commission under the Horizon 2020 program. SCAVENGE is a Marie Sklodowska-Curie Innovative Training Network (MSCA-ITN). **UNIPD budget:** 516.122 k€. (project total: 3653723 €).

- **ECCENTRIC Project - Industrial**   **Topic:** Internet of Things
  INTEL   *2016–2018*
  - **Co-PI** of the "ECCENTRIC", project funded within the **INTEL Strategic Research Alliance (ISRA)** program. ECCENTRIC is a research grant on networking protocols for the Internet of Things involving heterogeneous radios and devices, energy harvesting, resource optimization and learning. The project is set to design efficient data gathering protocols (both distributed and centralized), that should adapt their operation in an online fashion through data-dependent context-learning techniques. **Budget:** 581.759 kUSD.

- **IoT-SURF**   **Topic:** Internet of Things
  University of Padova   *2016–2017*
  - **PI** of the "IoT-SURF" project, funded by the University of Padova. The main goal of IoT-SURF (CPDA no. 151221) has been to develop libraries for the on-the-fly processing of diverse sensor data, with emphasis on human data signals, e.g., scene recognition, context extraction and motion/activity recognition from inertial sensors from wearable technology, targeting assisted living and e-health applications. **Budget:** 43 k€.

- **Algeria-Italy**   **Topic:** Internet of Things
  Ministero Affari Esteri (MAE)   *2016–2017*
  - **Principal Investigator** of a bilateral scientific collaboration (*mobility*) funded by MAE ("Ministero Affari Esteri", http://www.esteri.it/mae/) and by the Algerian Government. The project topic is "energy harvesting WSN" and supports the mobility of senior researchers from the DEI Dept., University of Padova and CERIST, located in Algiers, Algeria. **Financial support:** full support for travels and lodging for researchers.

- **Global Research Outreach (GRO) Program**   **Topic:** Human Data Analysis
  SAMSUNG Korea   *Oct. 2014–Oct. 2015*
  - **Principal Investigator** of the research project "Boosting Efficiency in Biometric Signal Processing for Smart Wearable Devices", funded by **SAMSUNG** under the Global Research Outreach (GRO) program. **Budget:** 84 kUSD.

- **ENGINE – Junior Research Grant**   **Topic:** Smart Energy Grids
  University of Padova   *2015–2017*
  - **Principal Investigator** of the research project "ENGINE: ENGinnering the INternet of Energy" on the joint optimization of market, control and communication strategies in smart micro-grids.
  - Grant to support a Post Doctoral researcher for two years. **Budget:** 20 k€.

- **PhD Research Grant**   **Topic:** Smart Sensing
  Fondazione CARIPARO   *2014–2016*
  - **Principal Investigator** of the project "Sensing and Compression Techniques for Environmental and Human Sensing Applications" on smart sensing techniques for environmental and human data.
  - Grant to support a PhD researcher for three years (salary, food and lodging). **Budget:** ≈ 66 k€.

- **MOSAICS**   **Topic:** Compressive Sensing
  University of Padova   *2010–2013*
  - **Principal Investigator** of the MOSAICS project (CDPA 094077): "MOnitoring Sensor and Actuator networks through Integrated Compressive Sensing and data gathering", funded by the University of

Padova. The research objective consisted of exploiting *compressive sensing* for the efficient data compression and recovery in WSN. **Budget:** 45.5 k€.

AWARDS AND RECOGNITIONS

- **Best Dataset Award**
  IEEE *December 2022*
  - Francesca Meneghello, Nicolo Dal Fabbro, Domenico Garlisi, Ilenia Tinnirello, **Michele Rossi**, IEEE DataPort Dataset Upload Contest, with the dataset CSI dataset for Wireless Human Sensing on 80 MHz Wi-Fi Channels.

- **Best Paper Award** Oxford, UK
  IEEE *August 2020*
  - Michele Berno, Flavio Esposito, **Michele Rossi**, "Elastic Function Chain Control for Edge Networks under Reconfiguration Delay and QoS Requirements," IEEE Mobile Cloud, August 3-6, Oxford, UK, 2020.

- **Best Paper Award** Rome, Italy
  IEEE *June 2019*
  - Michele Berno, Juan José Alcaraz Espín, **Michele Rossi**, "On the Allocation of Computing Tasks under QoS Constraints in Hierarchical MEC Architectures," IEEE International Conference on Fog and Mobile Edge Computing (FMEC 2019), June 10-13, Rome, Italy, 2019.

- **Distinguished TPC Member**
  IEEE INFOCOM *29 April-2 May 2019*
  - Awarded a distinguished TPC member of IEEE INFOCOM 2019
    https://infocom2019.ieee-infocom.org/committee/tpc-members

- **Best Paper Award** Singapore
  IEEE *Dec. 2017*
  - Awarded by the *IEEE Communications Society's Transmission, Access, and Optical Systems (TAOS) Technical Committee* for **Best Paper** in the "Green Communications Systems and Networks" Symposium. **Paper:** Ángel Fernández Gambín, **Michele Rossi**, "Energy Cooperation for Sustainable Base Station Deployments: Principles and Algorithms," IEEE GLOBECOM 2017, Singapore, December, 2017.

- **Distinguished TPC Member**
  IEEE INFOCOM *1-4 May, 2017*
  - Awarded a distinguished TPC member of IEEE INFOCOM 2017
    https://infocom2017.ieee-infocom.org/committee/tpc-members.

- **Samsung Global Research Outreach (GRO) Award**
  SAMSUNG Korea *2014 - 2015*
  - Winner of a Samsung GRO Award with a project entitled "Boosting Efficiency in Biometric Signal Processing for Smart Wearable Devices". **Prize:** 84 kUSD .

- **Outstanding Reviewer Award**
  Elsevier Ad Hoc Networks *April 2014*

- **FP7 SWAP project selected by the EU Commission as a success story**
  European Commission *Mar. 1, 2014*
  - Article published on the Horizon 2020 Website on Mar. 1, 2014.

- **Premio Città Impresa 2013**
  Nordest Europa   *May 8, 2013*
    – Awarded as one the 1,000 young talents in the Venice area among all disciplines, including academic research, entrepreneurs and athletics. Dr. Rossi has received the "Premio Città Impresa" 2013 at the Teatro Comunale of Vicenza on May 8, 2013.

- **Italiax10**
  TriesteNext, TELECOM Italia   *Sept. 20, 2012*
    – Selected to present his project idea on Smart-Grids, involving multi disciplinary research on telecommunications, control systems and power electronics at **ItaliaX10**, held on Sept. 20, 2012 at the Teatro Verdi of Trieste, Italy. ItaliaX10 is an event organized by TriesteNext and TELECOM Italia, where **ten young Italian researchers from all disciplines** were selected and invited to present highly innovative project ideas. The event has been chaired by Marco Cattaneo, director of "Le Scienze di Repubblica". ItaliaX10 has been broadcast live on the Web.

- **Best Tutorial Paper Award**
  IEEE   *2008*
    – Elena Fasolo, **Michele Rossi**, Joerg Widmer and Michele Zorzi, "In-Network Aggregation Techniques for Wireless Sensor Networks: A Survey," IEEE Wireless Communications Magazine, April 2007.

- **Best Paper Award**   Washington, DC, US
  IEEE   *2007*
    – Leonardo Badia, Nicola Bui, Marco Miozzo, **Michele Rossi** and Michele Zorzi, "Mobility Aided Routing in Multi-hop Heterogeneous Networks with Group Mobility," IEEE GLOBECOM, Washington, DC, US. Nov. 26-30, 2007.

- **Best Paper Award**   Trento, Italy
  IEEE   *2006*
    – Leonardo Badia, Nicola Bui, Marco Miozzo, **Michele Rossi** and Michele Zorzi, "On the Exploitation of User Aggregation Strategies in Heterogeneous Wireless Networks," IEEE CAMAD, Trento, Italy, June 8-9, 2006.

- **Best Paper Award**   Maui, Hawaii, US
  IEEE   *2005*
    – **Michele Rossi**, Leonardo Badia, Paolo Giacon and Michele Zorzi, "On the Effectiveness of Logical Device Aggregation in Multi-radio Multi-hop Networks," IEEE MobiWac, Maui, Hawaii, US. June 13-16, 2005.

- **Travel Grant**   New Orleans, US
  IEEE   *2003*
    – In 2003, he has been awarded a **travel grant** for the attendance of the IEEE WCNC conference (held in New Orleans, US), where he presented two scientific papers.

The following MS students of Dr. Rossi have been presented with the **InTesi Award**, offered by the "Parco Scientifico e Tecnologico Galileo" (http://www.galileopark.it/) to the **best Master theses in terms of innovation and cooperation with the industry** within the Padova–area:

- 2014: Riccardo Bonetto;

- 2010: Davide Zordan, Andreini Alberto;

- 2009: Fornasiero Francesco, Visonà Marco, Dissegna Moreno.

RESEARCH GROUP SUPERVISION

Dr. Rossi is an enthusiastic supervisor. Since 2008, he has been running his own research group. This was possible through various grants from the **Fondazione CARIPARO** (PhD grant for Dr. Hooshmand), **SAMSUNG Korea** (SAMSUNG GRO AWARD, 2014–2015, Dr. Zordan as a PostDoc), the **European Commission** (several PhD students hired through the H2020 MSCA ITN projects MINTS, SCAVENGE and GREENEDGE), **INTEL** (Dr. Zordan as a PostDoc), the **University of Padova** (Junior researcher grants and the IoT-SURF project: Dr. Zordan, Dr. Bonetto, Dr. Gadaleta as PostDocs), and the Italian National Recovery and Resilience Plan (NRRP) (Dr. Meneghello and Dr. Pegoraro as PostDocs, Ms. Cicciarella as PhD student).

PhD Students who successfully defended their thesis (2008–2023)

1. **Riccardo Masiero** (XXIII ciclo, 2008–2010)
   PhD thesis title: " Distributed Optimization and Data Recovery for Wireless Networking".

2. **Cristiano Tapparello** (XXIV ciclo, 2009–2011)
   PhD Thesis title: " Design of cooperative networking protocols in wireless networks through stochastic optimization techniques".

3. **Davide Zordan** (XXVI ciclo, 2011–2013)
   PhD thesis title: "Compression vs Transmission Tradeoffs for Energy Harvesting Sensor Networks".

4. **Riccardo Bonetto** (XXVII ciclo, 2012–2014)
   PhD thesis title: "Combined Networking and Control Strategies for Smart Micro Grids: Analysis, Co-simulation and Performance Assessment".

5. **Mohsen Hooshmand** (XXIX ciclo, 2014–2016, funded by CARIPARO)
   PhD thesis title: "Sensing and Compression Techniques for Environmental and Human Sensing Applications".

6. **Matteo Gadaleta** (XXXI ciclo, 2015–2018)
   PhD thesis title: "Artificial Intelligence for Data Analysis and Signal Processing".

7. **Maria Scalabrin** (XXXI ciclo, 2015–2018)
   PhD thesis title: "Bayesian Learning Strategies in Wireless Networks".

8. **Thembelilhe Dlamini** (MSCA PhD, XXXII ciclo, 2016-2019)
   PhD thesis title: "Energy Management Strategies for Sustainable 5G Mobile Networks".

9. **Ángel Fernández Gambín** (MSCA PhD, XXXII ciclo, 2016-2019)
   PhD thesis title: "Core Network Management Procedures for Self-Organized and Sustainable 5G Cellular Networks".

10. **Michele Berno** (XXXIII ciclo, 2017-2020)
    PhD thesis title: "Resource Orchestration Techniques for Heterogeneous and Distributed (Edge) Computing Infrastructures ".

11. **Davide Cecchinato** (XXXIII ciclo, 2017-2020)
    PhD thesis title: "Online Control Algorithms for MEC-Enabled Networks".

12. **Francesca Meneghello** (XXXIV ciclo, 2018-2021)
    PhD thesis title: "Wireless Communications and Sensing ‚Äì Opportunities and Challenges for Environment Aware Networks".

13. **Jacopo Pegoraro** (XXXV ciclo, 2019-2022)
    PhD thesis title: "Human Sensing with mmWave Systems: from RADAR to Integrated Sensing and Communication".

14. **Giovanni Perin** (XXXV ciclo, 2019-2022)
    PhD thesis title: "Optimizing edge computing resources towards greener networks and services".

15. **Silvia Zampato** (XXXVI ciclo, 2020-2023)
    PhD thesis title: "Deep learning-based tools and communications for sensing".

16. **Marco Canil** (XXXVI ciclo, 2019-2023)
    PhD thesis title: "Collaborative Human Sensing with mmWave Systems".

17. **Enver Bashirov** (XXXV ciclo, 2019-2022)
    PhD thesis title: "Exploiting mmWave radios for indoor environmental sensing".

18. **Nicolò Dal Fabbro** (XXXVI ciclo, 2020-2023)
    PhD thesis title: "Pushing the Boundaries of Federated Learning: Super-Linear Convergence and Reinforcement Learning Over Wireless'.

Supervised Post-Doctoral researchers (2014–2017)

- **Davide Zordan** (UNIPD Junior grant, EC-CENTRIC project, 2014–2017);

- **Riccardo Bonetto** (UNIPD Junior grant, 2015–2017).

- **Matteo Gadaleta**, (UNIPD Junior grant, 2019-2020).

Post-Doctoral researchers (2021–current)

- **Francesca Meneghello**.

- **Giovanni Perin**.

- **Jacopo Pegoraro**.

Current research group

- **Francesca Meneghello** Post-Doctoral researcher.

- **Giovanni Perin** Post-Doctoral researcher.

- **Jacopo Pegoraro** Post-Doctoral researcher.

- **Aria Khoshsirat**, PhD student XXXVII ciclo, 2021-2024;

- **Aurora Peloso**, PhD student XL ciclo, 2024-2027;

- **Giovanni Perin**, Post-Doctoral Researcher;

- **Zaman Bhalli**, PhD student XXXVIII ciclo, 2022-2025;

- **Riccardo Mazzieri**, PhD student XXXVIII ciclo, 2022-2025.

- **Eleonora Cicciarella**, PhD student XXXIX ciclo, 2023-2026;

- **Gianmaria Ventura**, PhD student XXXIX ciclo, 2023-2026.

TEACHING

Dr. Rossi started teaching in 2000 as a Professor of Computer Programming (C and C++ languages) at the Technical State Institute (ITIS) "Niccolò Copernico" in Ferrara. In 2001-2005, during his PhD and PostDoctoral research periods, he has lectured advanced university courses at the Universities of Ferrara. Since 2005, he has been teaching courses as a Professor at the University of Padova.

- **Network Coding** 6 ECTS (6 CFU)
  University of Padova   *a.y. 2019/2020–2023/2024*
  - **"Network Coding"** is an advanced course offered to the first-year Master students of the ICT for Internet and Multimedia (MIME) degree at DEI. The course features **48 hours** (**6 ECTS**) and is being taught in **English**. **Teaching material:** (sparse) coding on graphs ("low density parity check" codes), application-layer / rateless codes (fountain codes), combining ARQ retransmissions with coding, codes for the distributed storage, retrieval, repair and recovery of databases, distributed codes over networks.

- **Wireless Networks (module A)** 6 ECTS (6 CFU)
  University of Padova   *a.y. 2020/2021–current*
  - **"Wireless Networks"** is an advanced course offered to the Master students of the ICT for Internet and Multimedia (MIME) degree at DEI. The course features **48 hours** (**6 ECTS**) and is being taught in **English**. **Teaching material:** Markov models for wireless fading channels, hybrid ARQ protocols for wireless systems, TCP Reno, New Reno and Cubic: mathematical models and performance analysis, IEEE 802.11a/n/ac: MAC layer, mathematical models and performance analysis.

- **Machine Learning for Human Data** 6 ECTS (6 CFU)
  University of Padova   *a.y. 2017/2018–Current*
  - **"Machine Learning for Human Data (ML4HD)"** is an advanced course offered to the Master students of Data Science at the Department of Mathematics (DM) and to the Master students of the MIME degree at the Department of Information Engineering (DEI) at the University of Padova. The course features **48 hours** (**6 ECTS**) and is being taught in **English**. **Teaching material:** machine learning tools and applications, including clustering, dimensionality reduction (PCA), unsupervised learning (clustering and density estimation, autoencoders), supervised learning: feed forward, convolutional and recurrent neural networks, residual networks, the attention mechanism, transformer architectures, spiking neural networks. ML4HD also features laboratory classes (twelve hours), where students work on a number of hands-on projects dealing with the application of deep neural networks to human data such as medical images, ECG and inertial signals.

- **Wireless Communications (module A)** 6 ECTS (6 CFU)
  University of Padova   *a.y. 2019/2020 (offered one time)*
  - **"Wireless Communications"** is an advanced course offered to the first-year Master students of the ICT for Internet and Multimedia (MIME) degree. The course features **48 hours** (**6 ECTS**) and is being taught in **English**. **Teaching material:** wireless fading channels, diversity, combining techniques, MIMO: multiplexing and beamforming, ARQ, hybrid ARQ, protocol stack analysis (TCP+ARQ+PHY), IEEE 802.11a/n/ac (PHY and MAC layers).

- **Wireless Communications** 9 ECTS (9 CFU)
  University of Padova   *a.y. 2016/2017–2018/2019 (offered three times)*
  - **"Wireless Communications"** is an advanced course offered to the first-year Master students of Telecommunications Engineering and Computer Science (S.S.D. 09/F2 and 09/H1) of the University of Padova. The course featured **72 hours** (**9 ECTS**) and has been taught in **English**. Briefly, the course covered channel propagation, link layer designs, channel access and routing in ad hoc networks/WSN as well

as advanced packet-based coding schemes (*fountain codes*). Relevant scientific papers from the literature were utilized to complement the technical material from the teacher.

- **Reti di Telecomunicazioni**   6 ECTS (6 CFU)
  University of Padova   *a.y. 2016/2017 (offered one time)*
  – In the academic year 2016/2017, Dr. Rossi has been the teacher of the course **"Reti di Telecomuni-cazioni"** ("Communication Networks", **INP5071838**), a course on communication networks offered to the final year BS students of Electrical Engineering of the University of Padova. The course featured **48 hours** (**6 ECTS**).

- **Wireless Systems and Networks**   9 ECTS (9 CFU)
  University of Padova   *a.y. 2012/2013–a.y. 2015/2016 (offered four times)*
  – From a.y. 2012/2013 to a.y. 2015/2016 (four times), Dr. Rossi has been the teacher of the course **"Wireless Systems and Networks"**, an advanced course offered to the final year Master students of Telecommunications Engineering and Computer Science (S.S.D. 09/F2 and 09/H1) of the University of Padova. The course featured **72 hours** (**9 ECTS**) and has been taught in **English**.

- **Sistemi e Reti Wireless**   6 ECTS (6 CFU)
  University of Padova   *a.y. 2005/2006–a.y. 2011/2012 (offered six times)*
  – From a.y. 2005/2006 to a.y. 2011/2012 (six times), Michele Rossi has been the teacher of the course **"Sistemi e Reti Wireless"**, an advanced course offered to the final year Master students of Telecommunications Engineering and Computer Science (S.S.D. 09/F2 and 09/H1) of the University of Padova. The course featured **54 hours** (**6 ECTS**).

- **Teoria dei Fenomeni Aleatori**   6 ECTS (6 CFU)
  University of Ferrara   *a.y. 2004/2005 (offered one time)*
  – During the a.y. 2004/2005, Dr. Rossi has taught the course **"Teoria dei Fenomeni Aleatori" ("Stochastic Systems Theory")** at the University of Ferrara (undergraduate level course, offered to the final year Master students of Electrical Engineering, **54 hours, 6 ECTS**).

- **Wireless Systems II**   6 ECTS (6 CFU)
  University of Ferrara   *a.y. 2004/2005 (offered one time)*
  – During the a.y. 2004/2005, Dr. Rossi has taught the course **"Wireless Systems II"** at the University of Ferrara (undergraduate level course, offered to the final year Master students of Electrical Engineering, **54 hours, 6 ECTS**).

- **Comunicazioni Multimediali II**   6 ECTS (6 CFU)
  University of Ferrara   *a.y. 2003/2004 (offered one time)*
  – During the a.y. 2003/2004, Dr. Rossi has taught the course **"Comunicazioni Multimediali II" (Multimedia Communications II)** at the University of Ferrara (undergraduate level course, offered to the final year Master students of Electrical Engineering, **54 hours, 6 ECTS**). Topics of the course were related to modern communication protocols, with particular emphasis on TCP and its analytical characterization, mathematical modeling of wireless channels, error recovery techniques (e.g., FEC, ARQ and hybrid ARQ schemes) and principles of modern communication systems (3G Cellular systems, e.g., UMTS and satellite communications).

- **Elaborazione Numerica dei Segnali**   6 ECTS (6 CFU)
  University of Ferrara   *a.y. 2003/2004*
  – During the a.y. 2003/2004, Dr. Rossi has been *teaching assistant* for the course "Elaborazione Numerica dei Segnali" ("Digital Signal Processing") at the University of Ferrara.

- **Comunicazioni Elettriche**   6 ECTS (6 CFU)
  University of Ferrara   *a.y. 2002/2003*

    – During the a.y. 2002/2003, Dr. Rossi has been *teaching assistant* for the course "Comunicazioni Elettriche" ("Digital Communications I") at the University of Ferrara.

- **Comunicazioni Elettriche I**   6 ECTS (6 CFU)
  University of Ferrara   *a.y. 2001/2002*
  - During the a.y. 2001/2002, Dr. Rossi has been *teaching assistant* for the course "Comunicazioni Elettriche I" ("Digital Communications I") at the University of Ferrara.

- **Computer Programming**
  Industrial Technical State Institute (ITIS)   *2000*
  - From Mar. 20 to July 7, 2000, Michele Rossi has been a Professor of Computer Programming at the Industrial Technical State Institute (ITIS) "Niccolò Copernico" in Ferrara.

COMMISSIONS OF TRUST

- **European Commission**   Jan. 2024
  Expert evaluator   *ICT area, ERC projects*
- **Regione Puglia Sviluppo**   2023, 2024
  Expert evaluator   *ICT area*
- **Romanian National Council for Scientific Research**   Feb. 1, 2012 - May 5, 2012
  Expert evaluator   *ICT area*
- **Italian MIUR**   Oct. 1, 2014 - Oct. 31, 2014
  Expert evaluator   *Call "SIR 2014"*
- **Romanian National Council for Scientific Research**   Sept. 1, 2016 - Oct. 31, 2016
  Expert evaluator   *Programme 2*
- **Tenure Track Position at the University of Oulu**   May 1-31, 2019
  External expert evaluator   *Topic: Wireless IoT Systems*
  - Dr. Rossi has acted as **external expert evaluator** for a *Tenure Track Assistant Professor* position on "Convergent IoT Communications for Vertical Systems" at the Center for Wireless Communications (CWC), University of Oulu, Finland, `https://www.oulu.fi/cwc/`.

- **Associate Professor Position at the Trinity College Dublin**   November 2019
  External expert evaluator   *Topic: Wireless Systems*
  - Dr. Rossi has acted as **external expert reviewer** for a promotion to *Associate Professor* on "Wireless Systems" at the Trinity College, University of Dublin, Ireland, `https://www.tcd.ie`.

- **PhD Evaluation Panel**   Jan. 25, 2019
  Evaluation Panel Member   *Electrical and Information Engineering*
  - Member of the PhD Evaluation Panel, "Commissione Esame finale Dottorato in Ingegneria Elettrica e Dell'informazione XXXI ciclo", Politecnico di Bari, Bari, Italy. Eleven PhD students were evaluated: Christian Falconi, Michele Chiapperino, Alessandro Grassi, Sherazi Hafiz Husnain Raza, Pasquale Montegiglio, Francesco Nocera, Agnese Ventrella, Benedetta Ferrara, Angelo Cardellicchio, Giulio D'Amato, Giovanni Piccinni.

- **PhD Evaluation Panel**   May 7, 2019
  Evaluation Panel Member   *Information and Communication Technology*
  - Member of the PhD Examination Committee, "Commissione Esame finale Dottorato in Ingegneria Elettrica e delle Telecomunicazioni XXXI ciclo", University of Trento, Trento, Italy. Candidate: Antonio Massaro.

MEMBERSHIPS

- **IEEE**, Institute of Electrical and Electronics Engineers:

  - **Student Member**: 2002–2004. **Member**: 2004–2013. **Senior Member**: since 2013.

- **CNIT** (Consorzio Nazionale Interuniversitario per le Telecomunicazioni): affiliated since 2002.

- **GTTI** (Associazione Gruppo Telecomunicazioni e Tecnologie dell'Informazione): affiliated since 2009.

- **UNIPD HIT** (Human Inspired Technology Research Centre): affiliated since 2013.

SERVICE

- Dr. Rossi has been on the TPC of 100+ international conferences and workshops, for some of which he has been co-organizer (see next).

- **Associate Editor of the IEEE Transactions on Wireless Communications**, area: "Resource Management and Multiple Access" (135 papers processed with decision). **Period:** Aug. 1, 2011– Dec. 31, 2016.

- **Associate Editor of the IEEE Open Journal of the Communications Society OJ-COMS (ongoing)**. **Period:** Sept. 1, 2019–Jan. 9, 2024.

- **Associate Editor of the IEEE Transactions on Mobile Computing (ongoing)**. Since Feb. 1, 2017.

Co-organized Scientific Events

- **ICST WNS2 2008 – TPC co-chair:** The Second International Workshop on NS-2.

- ACM BuildSys 2009: "ACM Workshop On Embedded Sensing Systems For Energy-Efficiency In Buildings" (**co-organizer**), co-located with ACM SenSys.

- ACM BuildSys 2010: "ACM Workshop On Embedded Sensing Systems For Energy-Efficiency In Buildings" (**co-organizer, steering committee**), co-located with ACM SenSys.

- ACM BuildSys 2011: "ACM Workshop On Embedded Sensing Systems For Energy-Efficiency In Buildings" (**co-organizer, steering committee**), co-located with ACM SenSys.

- **IEEE CyberEdge 2019 – organizer and TPC co-chair:** First International Workshop on Edge Computing for Cyber Physical Systems, co-located with IEEE SECON 2019.

- IEEE ICASSP 2020 – International Conference on Acoustics, Speech, and Signal Processing: **co-organizer** of the Special Session "Sustainable Networking and Computing through Machine Learning".

- **IEEE Mobile Cloud 2020 – TPC co-chair:** The International Conference on Mobile Cloud Computing.

- IEEE PIRMC 2018 – **special session chair**: special session SP10 "SS-L Edge Computing in Energy Harvesting Networks".

- **IEEE SECON 2019 – TPC workshop chair:** https://secon2019.ieee-secon.org/committee/.

- IEEE WCNC 2018 (**track chair**): special session on "Energy Harvesting and Remotely Powered Communications for Sustainable Future Networks and IoT".

- IoTech 2011 (**general co-chair**): IEEE Workshop on Internet of Things Technology and Architectures. Co-located with IEEE MASS.

- IoTech 2012 (**general co-chair**): IEEE Workshop on Internet of Things Technology and Architectures. Co-located with IEEE MASS.

- ICCCN 2016 (**co-chair of Sensor/Embedded Networks and Pervasive Computing Track**): The International Conference on Computer Communication and Networks (ICCCN 2016).

- Italian Networking Workshop (INW) 2016 (**co-organizer** and **TPC chair**), San Candido (BZ), Italy.

- Italian Networking Workshop (INW) 2017 (**co-organizer** and **TPC chair**), Falcade (BZ), Italy.

Technical Program Committees (non-exhaustive list)

- ACM DroNet 2015 and 2016: ACM Workshop on Micro Aerial Vehicle Networks, Systems, and Applications for Civilian Use. Co-located with ACM MobiSys.

- DCOSS 2010 and 2011: IEEE International Conference on Distributed Computing in Sensor Systems.

- European Wireless: 2014 (**session organizer and chair**), 2015 (TPC member).

- EWSN 2009, 2010 and 2011: European Conference on Wireless Sensor Networks.

- ACM IoTSP 2011: Workshop on Internet of Things and Service Platforms.

- IEEE GLOBECOM (Global Communications Conference):

  - Wireless Networking Symposium: years 2009, 2010, 2011, 2012, 2013, 2014 and 2015;

  - Ad Hoc and Sensor Networks Symposium: yers 2010, 2011, 2012, 2013, 2014 and 2015;

  - Communication QoS, Reliability and Modeling Symposium: years 2015, 2016, 2017, 2018 and 2019;

  - Mobile and Wireless Networks Symposium: year 2018.

- IEEE ICC (International Conference on Communications):

  - Wireless Networking symposium: years 2008, 2009, 2010, 2011, 2012, 2013;

  - Ad Hoc and Sensor Networking Symposium: years 2008, 2009, 2010, 2011, 2012, 2013;

  - Communications for the Smart Grid: years 2016, 2017;

  - Mobile and Wireless Networking: years 2018, 2019.

- IEEE ICC 2018 workshop on "Promises and Challenges of Machine Learning in Communication Networks".

- IEEE ICCCN 2008 and 2017: International Conference on Computer Communications and Networks.

- IEEE ICNC 2012: International Conference on Computing, Networking and Communications.

- IEEE INFOCOM IEEE International Conference on Computer Communications: 2013, 2014, 2015, 2016, 2017, 2018, 2019, 2020, 2021, 2022, 2023, 2024, 2025.

- IEEE INFOCOM 2019 workshop on the Economics of Fog, Edge and Cloud Computing (ECOFEC 2019).

- IEEE IoT-SoS 2012: First IEEE WoWMoM Workshop on the Internet of Things, Smart Objects and Services.

- IEEE IWCMC 2008, 2009 and 2010: IEEE International Wireless Communications and Mobile Computing Conference.

- IEEE LCN 2009 and 2010: IEEE Conference on Local Computer Networks.

- IEEE MADS 2017: IEEE Symposium on Machine Learning and Metaheuristics Techniques and Applications for Dependable Distributed Systems.

- IEEE PIMRC 2012, 2013, 2014, 2015, 2016, 2017 and 2018: IEEE Personal Symposium on Personal, Indoor and Mobile Radio Communications.

- IEEE SECON 2009, 2010, 2011, 2013 and 2014: IEEE Conference on Sensor, Mesh and Ad Hoc Communications and Networks (SECON).

- IEEE SmartGridComm 2014, 2015 and 2016: IEEE International Conference on Smart Grid Communications.

- IEEE WCNC 2008, 2013 and 2016: IEEE Wireless Communications and Networking Conference.

- IEEE WiSense 2024 (**co-organizer** and **TPC chair**): "International Workshop on Pervasive Wireless Sensing and Edge Computing", co-located with IEEE PERCOM 2024. Biarritz, France.

- IEEE WiSense 2025 (**co-organizer** and **TPC chair**): "2nd International Workshop on Pervasive Wireless Sensing and Edge Computing", co-located with IEEE PERCOM 2025, Washington DC, USA.

- IEEE WONS 2007, 2008, 2013, 2017 and 2018: International Conference on Wireless On-demand Network Systems and Services.

- IEEE WoWMoM 2010 and 2013: IEEE International Symposium on a World of Wireless Mobile and Multimedia Networks.

- IEEE WTS 2009: Wireless Telecommunications Symposium.

- MediaWin 2007, 2008, 2009 and 2010: IEEE Workshop on multiMedia Applications over Wireless Networks.

- Med-Hoc-Net 2018: 17-th Annual Mediterranean Ad Hoc Networking Workshop.

- SENSORNETS 2015: International Conference on Sensor Networks.

- SMARTGREENS 2012: International Conference on Smart Grids and Green IT Systems (SMARTGREENS).

- IFIP Wireless Days 2010, 2011 and 2012.

- ICST WiOpt 2009, 2010, 2011, 2012, 2013, 2014 and 2019: International Symposium on Modeling and Optimization in Mobile, Ad Hoc, and Wireless Networks.

MAJOR SEMINARS AND TALKS

1. "Reconfigurable access module for mobile computing application," technical presentation of the results obtained within the RAMON project. GTTI Annual Meeting, 19–21, June 2002, Trieste, Italy.

2. "Performance Enhancing Architectures for Satellite Communications," technical presentation of the results obtained within the project N. 14956/00/NL/ND. ESTEC (ESA), Noordwijk, The Netherlands, Sept. 17, 2002.

3. "Link layer solutions to provide efficient multicast streaming services in the UMTS cellular system," technical presentation of the results obtained within the ERICSSON Research Framework in year 2002. ERICSSON AB, Kista (Stockholm, Sweden), Dec. 10, 2002.

4. "Efficient MBMS services provisioning in UMTS," technical presentation of the results obtained within the ERICSSON Research Framework in year 2002. University of Ferrara, Department of Engineering, Dec. 19, 2003, Ferrara, Italy.

5. "Error Control Strategies for wireless Communications: Modeling and Performance Evaluation," *Technical Seminar*, Faculty of Electrical Engineering, Mathematics and Computer Science (EEMCS, see http://www.utwente.nl/education/eemcs), Nov. 26, 2004, University of Twente, The Netherlands.

6. "Control Techniques and Algorithms for Wireless Communication Systems: Theory, Examples and Practical Issues," *Colloquium*, Department of Information Engineering, University of Padova, Dec. 2007.

7. "SYNAPSE: Code Dissemination in Wireless Sensor Networks using Fountain Codes," *Colloquium*, Department of Information Engineering (https://www.dei.unipd.it/), University of Padova, May 25, 2009.

8. "Introduction to the IoT-A Communications Model," Internet of Things Week 2011 (IoT-Week, see http://www.iot-week.eu/), 6–9 June 2011, Barcelona, Spain.

9. "Protocol Design in Wireless Networks through Dynamic Programming," *Technical Seminar* held at the Centre Tecnològic Telecomunicacions Catalunya (CTTC), May 7, 2011, Barcelona, Spain.

10. "Communication Technologies and Architectures for Smart Grids," *Technical Seminar* held at the Centre Tecnològic Telecomunicacions Catalunya (CTTC), April 18, 2012, Barcelona, Spain.

11. "Protocol Design through Stochastic Optimization for Mobile Ad Hoc Networks," IMDEA Networks (http://www.networks.imdea.org/), April 24, 2012, Madrid, Spain.

12. "Technologies and Paradigms for the Electrical Grid of the Future," talk given at ItaliaX10, Teatro Verdi (http://www.teatroverdi-trieste.com/), Sept. 20, 2012, Trieste, Italy.

13. "Dimensioning Self-Sufficient Networks of Energy Harvesting Embedded Devices," *Technical Seminar* held at the Centre Tecnològic Telecomunicacions Catalunya (CTTC), May 22, 2013, Barcelona, Spain.

14. "Staying Alive: System Design for Self-Sufficient Sensor Networks," *Technical Seminar* held at WorldSensing (http://www.worldsensing.com/), May 23, 2014, Barcelona, Spain.

15. "The Role of ICT in Smart Micro Grids: communication, control and energy trading," colloquium given at the Accademia Galileiana (http://www.accademiagalileiana.it/), Sala del Guariento, Reggia Carrarese, Oct. 27, 2014, Padova, Italy.

16. "System Designs for Energy Harvesting Sensor Networks," *Technical Seminar* held at the Department of Mathematics (http://www.math.unipd.it/en/) at the University of Padova, Italy, Nov. 4, 2014.

17. "IoT: App Domains, Standards and Way Forward," Talk given at ETSI (http://www.etsi.org/), on Dec. 11, 2014, Sophia Antipolis, France. Invited Speech. ("IoT Global landscape and standards convergence", Closed-door meeting on standardization efforts for IoT featuring the participation of representatives / policy makers from Japan, China, US and the EU. Dr. Rossi was invited as EU IoT-A project representative).

18. "When Telecommunication Networks Meet Energy Grids: Cellular Networks with Energy Harvesting and Trading Capabilities," Italian Networking Workshop (INW), Cavalese, Italy, Jan. 15, 2015.

19. "Boosting Efficiency in Smart Wearable Devices through Biometric Signal Compression," *Technical Seminar* held at IMDEA Networks, Madrid, Sept. 25, 2015.

20. "Data Mining in the IoT era: practical examples and a peek into future developments," *Invited Speech at the Annual IEEE Joint Joint Chapter Meeting*, April 19, 2016, Rochester, NY, US.

21. "Boosting the efficiency of smart wearable devices for the long term monitoring of vital signs." *ECE UR Talk*, April 20, 2016, University of Rochester, NY, US.

22. "Data mining and signal processing for IoT: from environmental monitoring to human sensing." *ECE Colloquium*, April 27, 2016, Northeastern University, Boston, US.

23. "Data Mining in the IoT era: practical examples and a peek into future developments," Talk given at the Centre Tecnològic Telecomunicacions Catalunya (CTTC), June 22, 2016, Barcelona, Spain.

24. "Boosting the efficiency of smart wearable devices for the long term monitoring of vital signs." Talk given at the Universitat Oberta da Barcelona (UOB), June 23, 2016, Barcelona, Spain.

25. "Data mining and signal processing techniques for IoT: two selected examples." *Technical Seminar* held at WorldSensing (http://www.worldsensing.com/), June 29, 2016, Barcelona, Spain.

26. "Data Mining in the IoT era: practical examples and a peek into future developments," *Invited Speech at the Summer PhD School of Information Engineering (SSIE)*, organized by the Department of Information Engineering, University of Padova, July 8, 2016, Brixen (BZ), Italy.

27. "EC-CENTRIC: energy and context centric optimization for future IoT networks," *Invited Speech at the Workshop on Next Generation Wireless*, organized by the Interdisciplinary Science & Engineering Complex (ISEC), Nov. 10, 2017, Northeastern University, Boston, US.

28. "On the Use of Machine Learning Technologies in Communications Systems," invited Speeches at: **1)** The *First CTTC Workshop*, Sitges (Barcelona), Spain, Sept. 21, 2018, **2)** *Politecnico di Bari*, Bari, Italy, Jan. 24, 2019.

29. "Learning for Sequential Data: Tools and Applications," Invited Speech at the "Dipartimento di Ingegneria Elettrica, Elettronica e Informatica," *University of Catania*, Catania, Italy, Sept. 24, 2019.

30. "On the interplay between communication, sensing and computing for upcoming 6G networks," invited talk at the VFCS Workshop *Towards Realistic Usage of AI in 6G Networks: GPAINS Gains vs. Pains with AI in Networked Systems*, Monday, 6th November 2023, Lisbon, Portugal.

31. "Joint Communication & Sensing for 6G networks: Current Research and Open Avenues," invited talk at the Huawei Wireless Workshop held in Munich on November 21, 2024.

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Journal Papers:

[1] L. Ballotta, N. Dal Fabbro, G. Perin, L. Schenato, **M. Rossi**, G. Piro, "VREM-FL: Mobility-Aware Computation-Scheduling Co-Design for Vehicular Federated Learning," *IEEE Transactions on Vehicular Technology*, Accepted for publication, 2024.

[2] K. Wu, J. Pegoraro, F. Meneghello, J. A. Zhang, J. O. Lacruz, J. Widmer, F. Restuccia, **M. Rossi**, X. Huang, D. Zhang, G. Caire, Y. J. Guo, "Sensing in Bi-Static ISAC Systems with Clock Asynchronism: A Signal Processing Perspective," *IEEE Signal Processing Magazine*. Accepted for publication, 2024.

[3] R. Mazzieri, J. Pegoraro, **M. Rossi**, "Attention-Refined Unrolling for Sparse Sequential micro-Doppler Reconstruction," *IEEE Journal of Selected Topics in Signal Processing*, Accepted for publication, 2024.

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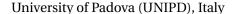
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