

**Michele Rossi, PhD**

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Current position**h-index****Tot. citations****Full Professor**

28 (Scopus), 39 (Google Scholar) [updated: January 19, 2021]

2962 (Scopus), 5295 (Google Scholar) [updated: January 19, 2021]

Short bio. I am a Full Professor at the *Department of Information Engineering (DEI)*, University of Padova, Italy. My current research interests are on: **a)** stochastic optimization and protocol design for Cyber Physical Systems (CPS): smart health, human data analysis, **b)** energy harvesting mobile networks: energy management and mobile edge computing, **c)** wireless sensing. I have authored 100+ scientific papers published in International conferences, book chapters and Journals, mainly of the IEEE, two patents (with **DOCOMO**) and I have been the recipient of *seven best paper awards* from the IEEE. Since 2005, I have been actively supervising research on Internet of Things (IoT)/CPS/mobile networks within the DEI Signet group. Besides scientific research and PhD supervision, I have constantly worked with prominent industries in the IoT/CPS/mobile spaces. In 2005–2009, I have collaborated with **DOCOMO Euro-Labs** (Munich, Germany) in the design of distributed processing, storage and data dissemination schemes 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 continues nowadays through the involvement in the **H2020 MSCA ITN SCAVENGE** and the submission of new proposals. 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 (2016–2020), the **H2020 MSCA ITN MINTS** on mm-wave networks/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). I am the *SCAVENGE scientific dissemination officer*. At DEI, I coordinate a research group of six PhD students, I sit on two DEI governing boards: the **DEI Research Board** (“Commissione Ricerca del DEI”) and the **PhD School Directive Board** (“Consiglio Direttivo della Scuola di Dottorato”). I am the *director* of the DEI/IEEE PhD Summer School of Information Engineering (SSIE) (<http://ssie.dei.unipd.it>). In 2011-2016, I have been **Associate Editor** (AE) of the *IEEE Transactions on Wireless Communications*. I am **Associate Editor** (AE) of the *IEEE Transactions on Mobile Computing* and of the *Open Journal of the IEEE Communications Society (OJ-COMS)*. I have been on the TPC of 100+ international conferences, and I serve as reviewer for scientific Journals of the IEEE, ACM, Springer and Elsevier. 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 Nov. 2020–Current
 - **Teaching:** see section **Teaching**.
 - **Research and supervision:** see section **Research Group Supervision**.
 - **Member of:** “Commissione Ricerca del DEI”, “Collegio dei Docenti della Scuola di Dottorato”, “Consiglio Direttivo della Scuola di Dottorato”.
 - **Director of** the Summer School of Information Engineering, <http://ssie.dei.unipd.it>.
 - **Co-responsible of:** selection and enrollment of International students within the DEI Master Degree on Internet Multimedia Engineering (MIME), <http://mime.dei.unipd.it/>.
 - **Member of:** Directive Board of the Master’s Degree in Data Science at the Department of Mathematics (DM), <https://datascience.math.unipd.it/>, University of Padova. Responsible person for the internship program.
 - **Project management:** see section **Research Projects**.
- **University of Padova – Dept. of Inf. Engineering (DEI)** Padova, Italy
Associate Professor May 2017–Nov. 2020
 - **Teaching:** see section **Teaching**.
 - **Research and supervision:** see section **Research Group Supervision**.
 - **Member of:** “Commissione Ricerca del DEI”, “Collegio dei Docenti della Scuola di Dottorato”, “Consiglio Direttivo della Scuola di Dottorato”.
 - **Director of** the Summer School of Information Engineering, <http://ssie.dei.unipd.it>.
 - **Co-responsible of:** selection and enrollment of International students within the DEI Master Degree on Internet Multimedia Engineering (MIME), <http://mime.dei.unipd.it/>.
 - **Member of:** Directive Board of the Master’s Degree in Data Science at the Department of Mathematics (DM), <https://datascience.math.unipd.it/>, 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–Apr. 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** Barcelona, Spain
Visiting Marie Curie Senior Researcher 2011–Current
 - **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., [28][29][30][90][101].
 - The SCAVENGE project, still ongoing, publications are: [11], [14], [12], [16], [28], [72], [74], [76], [78], [81], [83], [90], [94].
- **EEMCS, University of Twente** Twente, The Netherlands
Visiting Researcher Nov. 2004
 - 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 [47].
- **University of California San Diego** San Diego, CA, US
Visiting Researcher – Center for Wireless Communications (CWC) Mar. 2003-Oct. 2003
 - 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 [43][131][164].
- **University of Ferrara – Dept. of Engineering** Ferrara, Italy
Research Engineer (2000-2001), PhD Student (2001-2004), PostDoc (2005) Feb. 2000-Oct. 2005
 - Research on TCP, ARQ and HARQ processes see, e.g., [56][57][155][156].
 - 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”** Ferrara, Italy
Professor of Computer Programming Mar. 20-July 7, 2000
 - 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**.
- **Oct. 2010-Oct. 2016 (six years)**: 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.
- **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**.
- **Jan. 2008-current**: Member of the PhD School Board “Collegio dei Docenti della Scuola di Dottorato”.
- **Jan. 2016-current**: Member of the PhD School Directive Board “Consiglio Direttivo della Scuola di Dottorato”.
- **2009-current**: Member and co-founder of the DEI Task Force on Residential Smart Micro-Grids, which brings together experts in Power Electronics, Control Theory, Telecommunications and Measurement Systems (<http://smartgrid.dei.unipd.it/>).
- **2017-current**: Director of the DEI Summer School of Information Engineering (SSIE), <http://ssie.dei.unipd.it>.
- **Jan. 2018-current**: Co-responsible of the selection and enrollment of International students within the DEI Master’s Degree on Internet Multimedia Engineering (MIME) at the Department of Information Engineering, University of Padova, <http://mime.dei.unipd.it/>.
- **Oct. 2019-current**: 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.

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 [53][152].
- **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 [54]. 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 University 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 UMTS MBMS services. Scientific publications are [50][56][57][143][144].
- **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 [158][159] and several scientific publications, e.g., [38], [44], [109], [113], [119].
- **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 "Conorzio 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 (Conorzio 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).

- 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 Skłodowska-Curie Innovative Training Network (MSCA-ITN). **UNIPD budget:** 784.5 k€.
- 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 Skłodowska-Curie Inno-



vative Training Network (MSCA-ITN). **UNIPD budget:** 522.999 k€. Web: <https://b5g-mints.eu/>.

- **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 of 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 Skłodowska-Curie Innovative Training Network (MSCA-ITN). **UNIPD budget:** 522.999 k€. Website: <https://windmill-itn.eu/>.
- **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” (<http://www.scavenge.eu/>), project no. 675891 (Pillar: **Excellent Science**), funded by the European Commission under the Horizon 2020 program. SCAVENGE is a Marie Skłodowska-Curie Innovative Training Network (MSCA-ITN). **UNIPD budget:** 516.122 k€.
- **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 in-



volving 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 (<http://signet.dei.unipd.it/>) and CERIST (<http://www.cerist.dz/>), 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 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** 29 April-2 May 2019
IEEE INFOCOM
 - 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** 1-4 May, 2017
IEEE INFOCOM
 - Awarded a distinguished TPC member of IEEE INFOCOM 2017
<https://infocom2017.ieee-infocom.org/committee/tpc-members>.
- **Samsung Global Research Outreach (GRO) Award** 2014 - 2015
SAMSUNG Korea
 - 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** April 2014
Elsevier Ad Hoc Networks
- **FP7 SWAP project selected by the EU Commission as a success story** Mar. 1, 2014
European Commission
 - Article published on the Horizon 2020 Website on Mar. 1, 2014: <https://ec.europa.eu/programmes/horizon2020/en/news/smart-sensors-harvest-power-sun-heat-or-vibrations>.
- **Premio Città Impresa 2013** May 8, 2013
Nordest Europa
 - 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** Sept. 20, 2012
TriesteNext, TELECOM Italia



- 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 Giacomini 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** (H2020 MINTS: Mr. E. Bashirov as PhD student and H2020 SCAVENGE: Mr. T. Dlamini and Mr. A.F. Gambín as PhD students), **INTEL** (Dr. Zordan as a PostDoc), and the **University of Padova** (Junior researcher grants and the IoT-SURF project:



Dr. Zordan, Dr. Bonetto, Dr. Gadaleta as PostDocs). Currently, Dr. Rossi's research group counts six PhD students.

Supervised MS and BS theses (2005-2020)

- 10 BS theses;
- 60 Master theses.

Supervised PhD Students (2008–2019)

- **Riccardo Masiero** (XXIII ciclo, 2008–2010).
PhD thesis title: “Distributed Optimization and Data Recovery for Wireless Networking”.
- **Cristiano Tapparelo** (XXIV ciclo, 2009–2011).
PhD Thesis title: “Design of cooperative networking protocols in wireless networks through stochastic optimization techniques”.
- **Davide Zordan** (XXVI ciclo, 2011–2013).
PhD thesis title: “Compression vs Transmission Tradeoffs for Energy Harvesting Sensor Networks”.
- **Riccardo Bonetto** (XXVII ciclo, 2012–2014).
PhD thesis title: “Combined Networking and Control Strategies for Smart Micro Grids: Analysis, Co-simulation and Performance Assessment”.
- **Mohsen Hooshmand** (XXIX ciclo, 2014–2016, funded by CARIPARO).
PhD thesis title: “Sensing and Compression Techniques for Environmental and Human Sensing Applications”.
- **Matteo Gadaleta** (XXXI ciclo, 2015–2018).
PhD thesis title: “Artificial Intelligence for Data Analysis and Signal Processing”.
- **Maria Scalabrin** (XXXI ciclo, 2015–2018).
PhD thesis title: “Bayesian Learning Strategies in Wireless Networks”.
- **Thembelilhe Dlamini** (MSCA PhD, XXXII ciclo, 2016-2019, PhD defense in March 2020).
PhD thesis title: “Energy Management Strategies for Sustainable 5G Mobile Networks”.
- **Ángel Fernández Gambín** (MSCA PhD, XXXII ciclo, 2016-2019, PhD defense in March 2020).
PhD thesis title: “Core Network Management Procedures for Self-Organized and Sustainable 5G Cellular Networks”.

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).

Current research group

- **Michele Berno**, PhD student XXXIII ciclo, 2017-2020;
- **Stefano Campese**, PhD student XXXVI ciclo, 2020-2023;
- **Marco Canil**, PhD student XXXVI ciclo, 2020-2023;
- **Davide Cecchinato**, PhD student XXXIII ciclo, 2017-2020;



- **Nicolò Dal Fabbro**, PhD student XXXVI ciclo, 2020-2023;
- **Francesca Meneghello**, PhD student XXXIV ciclo, 2018-2021;
- **Enver Bashirov**, PhD student XXXV ciclo, 2019-2022;
- **Giovanni Perin**, PhD student XXXV ciclo, 2019-2022;
- **Jacopo Pegoraro**, PhD student, XXXV ciclo, 2019-2022;
- **Silvia Zampato**, PhD student XXXVI ciclo, 2020-2023

MAIN SCIENTIFIC COLLABORATIONS

Dr. Rossi has collaborated with numerous research centers, universities and industrial partners. Next, the main scientific collaborations (in alphabetic order) are listed.

- **Athonet S.R.L.** (<https://www.athonet.com/>) **Topic:** Software Defined Networking
Vicenza, Italy *Scientific, H2020*
 - Research on “Software Defined Networking” [12], [16], [74].
 - Partner in the **H2020-MSCA-ITN SCAVENGE** project.
 - Co-supervision of PhD student Thembelilhe Dlamini (funded by SCAVENGE).
- **CEA – Alternative Energies & Atomic Energy Commission** **Topic:** IoT/Mobile Networks
Paris, France *Scientific, FP7, H2020*
 - Research on Security suites for IoT [98].
 - Partner in **FP7 IoT-A** (2010-2013) and **H2020-MSCA-ITN SCAVENGE** (2016-2020) projects.
 - Collaboration with CEA-LIST (Paris) and CEA-LETI (Grenoble) labs.
 - Submission of EU projects.
- **CERIST – Centre de Recherche sur l’information scientifique et technique** **Topic:** WSN/IoT
Alger, Algérie *Scientific, MAE*
 - Research on energy harvesting WSN [22].
 - Collaboration within the **Italy-Algeria MAE** project.
- **CTTC – Centre Tecnològic Telecomunicacions Catalunya** **Topic:** Green Mobile Networks
Barcelona, Spain *Scientific, H2020*
 - Dr. Rossi has a solid collaboration with Dr. **Paolo Dini** and Dr. **Lorenza Giupponi** from CTTC, that has been consolidated through the EU project SCAVENGE, producing joint research papers on green mobile networks, e.g., [14], [28], [83], [90], [94]. A chapter on the use of machine learning in 5G mobile systems has been published [59] in the **5G Italy White Book** (<https://www.5gitaly.eu/5g-italy-book/>).
 - Partner in the **FP7 SWAP** (2010-2014) and **H2020-MSCA-ITN SCAVENGE** (2016–2020) projects.
 - Submission of EU projects.
- **IMDEA Networks** **Topic:** Compressive Sensing, mm-wave
Madrid, Spain *Scientific, H2020*
 - Dr. Rossi has a major collaboration with Dr. **Joerg Widmer**, Research Director at IMDEA Networks. Their collaboration started when Dr. Widmer was working at DOCOMO Eurolabs. They carried out



joint research on network coding, compressive sensing and, recently, on mm-wave channel sensing [38], [44], [80], [109], [113], [119].

- Recent work on mm-wave has been published in the IEEE Trans. on Mobile Computing [7].
- Partner in the recently funded **H2020-MSCA-ITN MINTS** project.

- **Imperial College London, EEE Dept.** **Topic:** Green Mobile Networks
London, UK *H2020*
 - Collaboration with Prof. **Deniz Gunduz**, EEE Department at Imperial.
 - Partner in the **H2020-MSCA-ITN SCAVENGE** (2016–2020) project.
 - Submission of EU projects.
- **Newcastle University, Faculty of Medical Sciences** **Topic:** Human Data Analysis
Newcastle upon Tyne, UK *Scientific*
 - Dr. Rossi is collaborating with Prof. **Lynn Rochester**, Professor of *human movement science* and Director of *clinical ageing research unit*, and Dr. Silvia del Din, in the use of Deep Learning for the analysis/segmentation of inertial walking data from diseased (Parkinson) and healthy subjects [69].
- **Northeastern University, ECE Dept.** **Topic:** WSN, Human Sensing
Boston, USA *Scientific*
 - Dr. Rossi has been collaborating with Prof. **Tommaso Melodia** on optimal transmission/compression policies for energy harvesting WSN [26] and, more recently, on the compression of ECG signals from wearable devices [19].
 - Organization of the **IEEE SECON 2019** conference (Boston, June 2019) in the role of **TCP Workshop Chair** (four workshops managed, one of which fully organized, CyberEdge: <https://cyberedge.dei.unipd.it/>).
- **Purdue University, ECE Dept.** **Topic:** mm-wave
Purdue, USA *Scientific, H2020*
 - Ongoing collaboration with Prof. **Nicolò Michelusi** on “beam training and data transmission optimization in vehicular mm-wave networks” [73], [75], [67].
- **Royal Institute of Technology - KTH** **Topic:** Smart Energy Grids
Stockholm, Sweden *Scientific*
 - Dr. Rossi has collaborated with Prof. **Carlo Fischione** on “optimization techniques for smart energy grids” [18].
- **Saint Louis University, Computer Science Dept.** **Topic:** Edge Computing
Saint Louis, USA *Scientific, NSF*
 - Ongoing collaboration with Prof. **Flavio Esposito**. Published papers are [66], [68].
 - Prof. Flavio Esposito (PI) and Prof. Michele Rossi (Co-PI) collaborated through the **NSF project** “ICE-T: RI: A Knowledge-Defined Platform for Real-Time Management of Transmissions and Computations at Network Edge”; NSF 18-535 US-EU Internet Core & Edge Technologies (ICE-T) Program.
- **SAMSUNG Advanced Institute of Technology** **Topic:** Human Data Analysis
Korea *Scientific*
 - SAMSUNG funded project on signal processing for wearable IoT devices (2015). Published papers are [19], [20], [27], [89], [86], [88].
- **WorldSensing** **Topic:** Sensing and Data Mining
Barcelona, Spain *Scientific, FP7, H2020*
 - Dr. Rossi has been collaborating with Dr. **Ignasi Vilajosana**, CEO of WorldSensing, performing research on cyber physical systems and vehicular traffic monitoring [23], [30], [77], [101].



- Partner in the **FP7 SWAP** (2010-2014) and **H2020-MSCA-ITN SCAVENGE** (2016–2020) projects.

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–current*
 - “**Network Coding**” (INP9086800) 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**” (INQ0090779) 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.
- **Human Data Analytics** 6 ECTS (6 CFU)
University of Padova *a.y. 2017/2018–Current*
 - “**Human Data Analytics (HDA)**” (INP7080694) 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, learning with the attention mechanism. HDA 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 video, ECG and inertial signals.
- **Wireless Communications (module A)** 6 ECTS (6 CFU)
University of Padova *a.y. 2019/2020 (offered one time)*
 - “**Wireless Communications**” (INP6075439) 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” (INP6075439)** 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 Telecomunicazioni”** (“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** *2000*
Industrial Technical State Institute (ITIS)
 - 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

- **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 Transactions on Mobile Computing (ongoing)**. Since Feb. 1, 2017.
- **Associate Editor of the IEEE Open Journal of the Communications Society OJ-COMS (ongoing)**. Since Sept. 1, 2019.

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

- 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: years 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 and 2021.
- 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 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 (see <http://www.gtti.it/>), 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 Carreare, 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.

LIST OF PUBLICATIONS

Impact Factors (IF) are obtained from the **2020 Journal Citation Report** from the **Web of Science group**TM (part of *Clarivate Analytics*), see <https://clarivate.com/webofsciencelgroup/>

Journal Papers:

- [1] I. Labriji, F. Meneghello, D. Cecchinato, S. Sesia, E. Perraud, E.-C. Strinati,, **M. Rossi**, "Mobility Aware and Dynamic Migration of MEC Services for the Internet of Vehicles," *IEEE Transactions on Network and Service Management*, special issue on "Novel Techniques for Managing Softwarized Networks". **Acceptor for publication**. 2021. (IF=3.878).
- [2] F. Esposito, M. Mushtaq, M. Berno, G. Davoli, D. Borsatti, W. Cerroni, **M. Rossi**, "Necklace: an Architecture for Distributed and Robust Service Function Chains with Guarantees," *IEEE Transactions on Network and Service Management*, special issue on "Novel Techniques for Managing Softwarized Networks". **Acceptor for publication**. 2021. (IF=3.878).
- [3] H. D. Trinh, A. F. Gambin, L. Giupponi, **M. Rossi**, P. Dini, "Mobile Traffic Classification through Physical Channel Fingerprinting: a Deep Learning Approach," *IEEE Transactions on Network and Service Management*. **Accepted for publication**. 2020. (IF=3.878).
- [4] M. Hussain, M. Scalabrin, **M. Rossi**, N. Michelusi, "Mobility and Blockage-aware Communications in Millimeter-Wave Vehicular Networks," *IEEE Transactions on Vehicular Technology*. **Accepted for publication**. 2020. (IF=5.379).
- [5] J. Pegoraro, F. Meneghello, **M. Rossi**, "Multi-Person Continuous Tracking and Identification from mm-Wave micro-Doppler Signatures," *IEEE Transactions on Geoscience and Remote Sensing*. **Accepted for publication**. 2020. (IF=5.855).



- [6] A. F. Gambin, **M. Rossi**, "A Sharing Framework for Energy and Computing Resources in Multi-Operator Mobile Networks," *IEEE Transactions on Network Service and Management*. Vol. 17, No. 2, June 2020. (IF=3.878).
- [7] M. Scalabrin, G. Bielsa, A. Loch, **M. Rossi**, J. Widmer, "Machine Learning Based Network Analysis using Millimeter-Wave Narrow-Band Energy Traces," *IEEE Transactions on Mobile Computing*. Vol. 19, No. 5, May 2020. (IF=5.112).
- [8] F. Meneghello, **M. Rossi**, N. Bui, "Smartphone Identification via Passive Traffic Fingerprinting: a Sequence-to-Sequence Learning Approach," *IEEE Network*. Vol. 34, No. 2, March/April 2020. (IF=8.808).
- [9] **M. Rossi**, M. Centenaro, A. Ba, S. Eleuch, T. Erseghe, M. Zorzi, "Distributed Learning Algorithms for Optimal Data Routing in IoT Networks," *IEEE Transactions on Signal and Information Processing over Networks*. Vol. 6, No. 1, February 2020. (IF=3.153).
- [10] M. Gadaleta, **M. Rossi**, E. J. Topol, S. R. Steinhubl, G. Quer, "On the Effectiveness of Deep Representation Learning: the Atrial Fibrillation Case," *IEEE Computer*. Vol. 52, pp. 18-29, November 2019. (IF=4.419).
- [11] A. F. Gambin, M. Scalabrin, **M. Rossi**, "Online Power Management Strategies for Energy Harvesting Mobile Networks," *IEEE Transaction on Green Communications and Networking*. Vol. 3, No. 3, pp. 721-738, September 2019. (IF=n.a.).
- [12] T. Dlamini, A.F. Gambin, **M. Rossi**, "Online Supervisory Control and Resource Management for Energy Harvesting BS Sites Empowered with Computation Capabilities," *Wireless Communications and Mobile Computing*, Special Issue: "Energy Efficient Wireless Networks", Vol. 2019, Article ID 8593808, 17 pages, February 2019. (IF=1.819).
- [13] M. Gadaleta, E. Grisan, A. Facchinetti, **M. Rossi**, "Prediction of Adverse Glycemic Events from Continuous Glucose Monitoring Signal," *IEEE Journal of Biomedical and Health Informatics*, Vol. 23, No. 2, pp. 650-659, March 2019. (IF=5.223).
- [14] N. Piovesan, A. F. Gambin, M. Miozzo, **M. Rossi**, P. Dini, "Energy Sustainable Paradigms and Methods for Future Mobile Networks: a Survey," published online, *Elsevier Computer Communications*, Vol. 119, Pages 101-117, April 2018. (IF=2.816).
- [15] M. Gadaleta, **M. Rossi**, "IDNet: Smartphone-based Gait Recognition with Convolutional Neural Networks," *Elsevier Pattern Recognition*, Vol. 74, Pages 25-37, February 2018. (IF=7.196).
- [16] T. Dlamini, **M. Rossi**, D. Munaretto, "Softwarization of Mobile Network Functions towards Agile and Energy Efficient 5G Architectures: A Survey," *Wireless Communications and Mobile Computing*, Vol. 2017, Article ID 8618364, 20 November 2017. (IF=1.819).
- [17] M. Gadaleta, F. Chiariotti, **M. Rossi**, A. Zanella "D-DASH: a Deep Q-learning Framework for DASH Video Streaming," *IEEE Transactions on Cognitive Communications and Networking*, Vol. 3, No. 4, Dec. 2017. (IF=4.574).
- [18] R. Bonetto, **M. Rossi**, S. Tomasin, C. Fischione, "Joint Optimal Pricing and Electrical Efficiency Enforcement for Rational Agents in Micro Grids," *IEEE Access*, Vol. 5, September 2017. (IF=3.745).
- [19] M. Hooshmand, D. Zordan, T. Melodia, **M. Rossi**, "SURF: Subject-adaptive Unsupervised signal compression for wearRable Fitness monitors," *IEEE Access*, Vol. 5, September 2017. (IF=3.745).
- [20] M. Hooshmand, D. Zordan, D. Del Testa, E. Grisan, **M. Rossi**, "Boosting the Battery Life of Wearables for Health Monitoring Through the Compression of Biosignals," *IEEE Internet of Things Journal*, Vol. 4, No. 5, October 2017. (IF=9.936).



- [21] A. Biason, C. Pielli, **M. Rossi**, A. Zanella, D. Zordan, M. Kelly, and M. Zorzi, "An Energy- and Context-Centric Perspective on IoT Architecture and Protocol Design," *IEEE Access*, Vol. 5, April 2017. (IF=3.745).
- [22] L. Khelladi, D. Djenouri, **M. Rossi**, N. Badache, "Efficient On-Demand Multi-Node Charging Techniques for Wireless Sensor Networks," *Elsevier Computer Communication*, Vol. 101, March 2017. (IF=2.816).
- [23] L. Turi, N. Piovesan, E. Toigo, B. Martinez and **M. Rossi**, "Data Analytics for Smart Parking Applications," *Sensors*, special issue on "Smart City: Vision and Reality", Vol. 16, No. 10, September 2016. (IF=3.031).
- [24] M. Hooshmand, **M. Rossi**, D. Zordan and M. Zorzi, "Covariogram-based Compressive Sensing for Environmental Wireless Sensor Networks," *IEEE Sensors*, Vol. 16, No. 6, March 2016. (IF=3.073).
- [25] R. Bonetto, S. Tomasin, **M. Rossi** and M. Zorzi, "On The Interplay of Distributed Power Loss Reduction and Communication in Low Voltage Microgrids," *IEEE Transactions on Industrial Informatics*, Vol. 12, No. 1, February 2016. (IF=9.112).
- [26] D. Zordan, T. Melodia and **M. Rossi**, "On the Design of Temporal Compression Strategies for Energy Harvesting Sensor Networks," *IEEE Transactions on Wireless Communications*. Vol. 15, No. 2, February 2016. (IF=6.779).
- [27] D. Del Testa and **M. Rossi**, "Lightweight Lossy Compression of Biometric Patterns via Denoising Autoencoders," *IEEE Signal Processing Letters*, Vol. 22, No. 12, September 2015. (IF=3.105).
- [28] D. Zordan, M. Miozzo, P. Dini and **M. Rossi**, "When Telecommunication Networks Meet Energy Grids: Cellular Networks with Energy Harvesting and Trading Capabilities," *IEEE Communications Magazine*, Vol. 53, No. 6, June 2015. (IF=11.052).
- [29] N. Bui and **M. Rossi**, "Staying Alive: System Design for Self-Sufficient Sensor Networks," *ACM Transactions on Sensor Networks*, Vol. 11, No. 3, May 2015. (IF=2.469).
- [30] D. Zordan, B. Martinez, I. Vilajosana and **M. Rossi**, "On the Performance of Lossy Compression Schemes for Energy Constrained Sensor Networking," *ACM Transactions on Sensor Networks*, Vol. 11, No. 1, November 2014. (IF=2.469).
- [31] C. Tapparello, O. Simeone and **M. Rossi**, "Dynamic Compression-Transmission for Energy-Harvesting Multihop Networks with Correlated Sources," *IEEE/ACM Transactions on Networking*, Vol. 22, No. 6, December 2014. (IF=3.315).
- [32] A. P. Castellani, **M. Rossi**, M. Zorzi, "Back Pressure Congestion Control for CoAP/6LoWPAN Networks," *Elsevier Ad Hoc Networks*, Special Issue on "From M2M Communications to the Internet of Things: Opportunities and Challenges", Vol. 18, July 2014, pp: 71-84. (IF=3.643).
- [33] A. Camilló, M. Nati, C. Petrioli, **M. Rossi** and M. Zorzi, "IRIS: Integrated Data Gathering and Interest Dissemination System for Wireless Sensor Networks," *Elsevier Ad Hoc Networks*, Special Issue on "Cross-Layer Design in Ad Hoc and Sensor Networks". Vol. 11, No. 2, March 2013, pp: 654-671. (IF=3.643).
- [34] G. Quer, R. Masiero, G. Pillonetto, **M. Rossi** and M. Zorzi, "Sensing, Compression and Recovery for WSNs: Sparse Signal Modeling and Monitoring Framework," *IEEE Transactions on Wireless Communications*, Vol. 11, No. 10, October 2012, pp: 3447-3461. (IF=6.779).
- [35] **M. Rossi**, C. Tapparello and S. Tomasin, "On Optimal Cooperator Selection Policies for Multi-Hop Ad Hoc Networks," *IEEE Transactions on Wireless Communications*, Vol. 10, No. 2, February 2011, pp: 506-518. (IF=6.779).



- [36] **M. Rossi**, N. Bui, G. Zanca, L. Stabellini, R. Crepaldi and M. Zorzi, "SYNAPSE++: Code Dissemination in Wireless Sensor Networks using Fountain Codes," *IEEE Transactions on Mobile Computing*, Vol. 9, No. 12, December 2010, pp: 1749-1765. (IF=5.112).
- [37] N. Baldo, M. Miozzo, F. Guerra, **M. Rossi** and M. Zorzi, "Miracle: the Multi-Interface Cross-layer Extension of ns2," *EURASIP Journal of Wireless Communications and Networking*, Special Issue on Simulators and Experimental Testbeds Design and Development for Wireless Networks, Volume 2010 (2010), Article ID 761792, 16 pages. (IF=1.408).
- [38] A. Asterjadhi, E. Fasolo, **M. Rossi**, J. Widmer and M. Zorzi, "Toward Network Coding-Based Protocols for Data Broadcasting in Wireless Ad Hoc Networks," *IEEE Transactions on Wireless Communications*, Vol. 9, No. 2, February 2010, pp: 662-673. (IF=6.779).
- [39] P. Casari, A.P. Castellani, A. Cenedese, C. Lora, **M. Rossi**, L. Schenato and M. Zorzi, "The Wireless Sensor Networks for City-Wide Ambient Intelligence (WISE-WAI) Project," *Sensors*, Vol. 9, No. 6, May 2009, pp: 4056-4082. (IF=3.031).
- [40] **M. Rossi**, N. Bui and M. Zorzi, "Cost and Collision Minimizing Forwarding Schemes for Wireless Sensor Networks: Design, Analysis and Experimental Validation," *IEEE Transactions on Mobile Computing*, Vol. 8, No. 3, March 2009, pp: 322-337. (IF=5.112).
- [41] L. Badia, N. Bui, M. Miozzo, **M. Rossi** and M. Zorzi, "Improved Resource Management through User Aggregation in Heterogeneous Multiple Access Wireless Networks," *IEEE Transactions on Wireless Communications*, Vol. 7, No. 9, September 2008, pp: 3329-3334. (IF=6.779).
- [42] **M. Rossi**, L. Badia, P. Giacomini and M. Zorzi, "Energy and Connectivity Performance of Routing Groups in Multi-radio Multi-hop Networks," *Wireless Communications and Mobile Computing Journal*, John Wiley & Sons. Vol. 8, No. 3, March 2008, pp. 327-342. (IF=1.819).
- [43] **M. Rossi**, R.R. Rao and M. Zorzi, "Statistically assisted routing algorithms (SARA) for hop count based forwarding in wireless sensor networks," *Springer Wireless Networks Journal*, Vol. 14, No. 1, February 2008, pp: 55-70. (IF=2.659).
- [44] E. Fasolo, **M. Rossi**, J. Widmer and M. Zorzi, "In-Network Aggregation Techniques for Wireless Sensor Networks: A Survey," *IEEE Wireless Communications Magazine*, April 2007, pp: 70-87. **BEST TUTORIAL PAPER AWARD**. See: <http://www.comsoc.org/about/memberprograms/comsoc-awards/best>. (IF=11.391).
- [45] **M. Rossi** and M. Zorzi, "Integrated Cost-Based MAC and Routing Techniques for Hop Count Forwarding in Wireless Sensor Networks," *IEEE Transactions on Mobile Computing*, Vol. 6, No. 4, April 2007, pp: 434-448. (IF=5.112).
- [46] L. Badia, M. Miozzo, **M. Rossi** and M. Zorzi, "Routing Schemes in Heterogeneous Wireless Networks Based on Access Advertisement and Backward Utilities for QoS Support," *IEEE Communications Magazine*, Vol. 45, No. 2, February 2007, pp: 67-73. (IF=11.052).
- [47] S. Dulman, **M. Rossi**, P. Havinga and M. Zorzi, "On the hop count statistics for randomly deployed wireless sensor networks," *International Journal of Sensor Networks (IJSNET)*, Vol. 1, No. 1/2, 2006, pp: 89-102. (IF=1.428).
- [48] L. Badia, **M. Rossi** and M. Zorzi, "SR ARQ Packet Delay Statistics on Markov Channels in the Presence of Variable Arrival Rate," *IEEE Transactions on Wireless Communications*, Vol. 5, No. 7, July 2006, pp: 1639-1644. (IF=6.779).
- [49] **M. Rossi**, L. Badia and M. Zorzi, "SR ARQ Delay Statistics on N-State Markov Channels with Non-instantaneous feedback," *IEEE Transactions on Wireless Communications*, Vol. 5, No. 6, June 2006, pp:1526-1536. (IF=6.779).



- [50] **M. Rossi**, F. H.P. Fitzek, M. Zorzi, "Error Control Techniques for Efficient Multicast Streaming in UMTS Networks: Proposals and Performance Evaluation," *IIS Journal of Systemics, Cybernetics and Informatics*, Vol. 2, No. 3, 2004. (IF=n.a.).
- [51] **M. Rossi**, L. Badia, M. Zorzi, "On the Delay Statistics of SR-ARQ over Markov Channels with Finite Round-Trip Delay," *IEEE Transactions on Wireless Communications*, Vol. 4, No. 4, July 2005, pp: 1858-1868. (IF=6.779).
- [52] **M. Rossi**, R. Vicenzi, M. Zorzi, "Accurate Analysis of TCP on Channels with Memory and Finite Round-Trip Delay," *IEEE Transactions on Wireless Communications*, Vol. 3, No., 2, March 2004. pp: 627-640. (IF=6.779).
- [53] C.F. Chiasserini, F. Cuomo, L. Piacentini, **M. Rossi**, I. Tinnirello, F. Vacirca, "Architectures and Protocols for Mobile Computing Applications: A Reconfigurable Approach," *IEEE Computer Networks*, Vol. 44, No. 4, March 2004. pp: 545-567. (IF=3.111).
- [54] M. Marchese, **M. Rossi**, G. Morabito, "Performance Enhancing Architecture for Satellite Communications," *IEEE Journal on Selected Areas in Communications (JSAC). Special Issue on Broadband IP Networks via Satellites*. Vol. 22, No. 2, February 2004, pp: 320-332. (IF=11.420).
- [55] **M. Rossi**, M. Zorzi, "Analysis and Heuristics for the Characterization of Selective Repeat ARQ Statistics over Wireless Channels," *IEEE Transactions on Vehicular Technology*. Vol. 52, No. 5, September 2003. pp: 1365-1377. (IF=5.379).
- [56] M. Zorzi, **M. Rossi**, G. Mazzini, "Throughput and Energy Performance of TCP on a Wideband CDMA air interface," *Wireless Communications and Mobile Computing*, vol. 2, No. 1, February 2002. (IF=1.819).
- [57] A. Giovanardi, G. Mazzini, **M. Rossi**, M. Zorzi, "Improved Header Compression for TCP/IP over Wireless Links," *IEE Electronics Letters*, Vol. 36, No. 23, November 2000, pp: 1958-1960. (IF=1.316).

PhD Thesis:

- [58] **M. Rossi**, "Error Control Algorithms for Wireless Communications Networks: Analysis and Performance Evaluation," *PhD Thesis*, University of Ferrara, Italy, March 2004.

Book Chapters:

- [59] P. Dini, **M. Rossi**, "Machine Learning for 5G Mobile Networks: a Pragmatic Essay on Where, How and Why," Chapter 30 of the White Book: "The 5G Italy Book 2019: a Multiperspective View of 5G," December 2019. URL: <https://www.5gitaly.eu/5g-italy-book/>.
- [60] R. Bonetto, **M. Rossi**, "Smart Grid for the Smart City," book chapter in: "Designing, Developing, and Facilitating Smart Cities", Ed. Angelakis, Tragos, Kapovits, Pöhls, and Bassi. Springer International Publishing, Switzerland, November 6, 2016. ISBN-13: 978-3-319-44922-7.
- [61] N. Bui, **M. Rossi** and M. Zorzi, "Networking Technologies for Smart Grid," book chapter in: "IEEE Smart Grid Research: IEEE Vision for Smart Grid Communications: 2030 and Beyond", Ed. Sanjay Goel, Stephen F. Bushand Dave Bakken. IEEE Communications Society 2013. IEEE 3 Park Avenue New York, NY 10016-5997 US.
- [62] N. Bui, A. P. Castellani, P. Casari, **M. Rossi**, L. Vangelista and M. Zorzi, "Implementation and Performance Evaluation of Wireless Sensor Networks for Smart Grid," Book Chapter in E. Hossain, Z. Han, and H. V. Poor, *Smart Grid Communications and Networks*, (edited volume), Cambridge University Press, IBSN-13: 978-1107014138, June 30, 2012.



- [63] **M. Rossi**, "Data Link Layer," book chapter in: *Principles of Communications Networks and Systems*. Ed. N. Benvenuto and M. Zorzi. John Wiley and Sons Ltd. November 15, 2011. ISBN-13: 978-0470744314. **(105 pages)**

Conference Papers:

- [64] F. Meneghello, D. Cecchinato, **M. Rossi**, Mobility Prediction via Sequential Learning for 5G Mobile Networks, *IEEE WiMob*, 12-14 October, Thessaloniki, Greece, 2020.
- [65] J. Pegoraro, D. Solimini, F. Matteo, E. Bashirov, F. Meneghello, **M. Rossi**, "Deep Learning for Accurate Indoor Human Tracking with a mm-Wave Radar," *IEEE RadarConf*, Florence, Italy, 21-25 September, 2020.
- [66] M. Berno, F. Esposito, **M. Rossi**, "Elastic Function Chain Control for Edge Networks under Reconfiguration Delay and QoS Requirements," *IEEE Mobile Cloud*, Oxford, UK, 3-6 August, 2020. **BEST PAPER AWARD**
- [67] M. Hussain, M. Scalabrin, **M. Rossi**, N. Michelusi, "Adaptive Millimeter-Wave Communications Exploiting Mobility and Blockage Dynamics," *IEEE ICC*, Dublin, Ireland, 7-11 June, 2020.
- [68] D. Cecchinato, M. Berno, F. Esposito, **M. Rossi**, "Allocation of Computing Tasks in Distributed MEC Servers co-powered by Renewable Sources and the Power Grid," *IEEE ICASSP*, Barcelona, Spain, 4-8 May, 2020.
- [69] M. Gadaleta, G. Cisotto, **M. Rossi**, R. Z. Ur Rehman, L. Rochester, S. Del Din, "Deep Learning Techniques for Improving Digital Gait Segmentation," *IEEE Engineering in Medicine and Biology Conference (EMBC) 2019*, Berlin, Germany, 23-27 July, 2019.
- [70] M. Berno, J. J. A. Espín, **M. 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. **BEST PAPER AWARD**
- [71] D. Talon, L. Attanasio, F. Chiariotti, M. Gadaleta, A. Zanella, **M. Rossi**, "Comparing DASH Adaptation Algorithms in a Real Network Environment," *European Wireless 2019*, Aarhus, Denmark, 2-4 May, 2019.
- [72] A. F. Gambin, **M. Rossi**, "Smart Energy Policies for Sustainable Mobile Networks via Forecasting and Adaptive Control," *IEEE GLOBECOM Workshop: "Wireless Energy Harvesting Communication Networks"*, Abu Dhabi, United Arab Emirates, 9-13 December, 2018.
- [73] M. Scalabrin, N. Michelusi, **M. Rossi**, "Beam Training and Data Transmission Optimization in Millimeter-Wave Vehicular Networks," *IEEE Global Communications Conference (GLOBECOM) 2018*, Abu Dhabi, United Arab Emirates, 9-13 December, 2018.
- [74] T. Dlamini, A. F. Gambin, D. Munaretto, **M. Rossi**, "Online Resource Management in Energy Harvesting BS Sites Through Prediction and Soft-Scaling of Computing Resources," *IEEE International Symposium on Personal, Indoor and Mobile Radio Communications (PIMRC)*, Bologna, Italy, 9-12 September, 2018.
- [75] M. Scalabrin, N. Michelusi, **M. Rossi**, "Beam Training and Data Transmission Optimization in mm-Wave Vehicular Networks," *IEEE ICC 2018 Workshops-N2Women/WICE*, Kansas City, US, May 2018.
- [76] A. F. Gambin, E. Gindullina, L. Badia, **M. Rossi**, "Energy Cooperation for Sustainable IoT Services within Smart Cities," *IEEE Wireless Communications and Networking Conference (WCNC) 2018*, Barcelona, Spain, 15-18 April, 2018.
- [77] M. Scalabrin, M. Gadaleta, R. Bonetto, **M. Rossi**, "A Bayesian Forecasting and Anomaly Detection Framework for Vehicular Monitoring Networks," *IEEE Machine Learning for Signal Processing Workshop (MLSP) 2017*, Roppongi, Tokyo, Japan, September 25-28, 2017.



- [78] A. F. Gambin, **M. Rossi**, "Energy Cooperation for Sustainable Base Station Deployments: Principles and Algorithms," *IEEE Global Communications Conference (GLOBECOM) 2017*, Singapore, 4-8 December, 2017. **AWARD for the BEST PAPER of the Green Communications Systems and Networks Symposium**
- [79] D. Zordan, R. Parada, **M. Rossi**, M. Zorzi, "Automatic Rate-Distortion Classification for the IoT: Towards Signal-Adaptive Network Protocols," *IEEE Global Communications Conference (GLOBECOM) 2017*, Singapore, 4-8 December, 2017.
- [80] M. Scalabrin, **M. Rossi**, G. Bielsa, A. Loch, J. Widmer, "Millimetric Diagnosis: Machine Learning Based Network Analysis for mm-Wave Communication," *IEEE World of Wireless Mobile and Multimedia Networks (WoWMoM)*, Macau, China, June 12-15, 2017.
- [81] L. Bonati, A. F. Gambin, **M. Rossi**, "Wireless Power Transfer under the Spotlight: Charging Terminals amid Dense Cellular Networks," *IEEE World of Wireless Mobile and Multimedia Networks (WoWMoM)*, Macau, China, June 12-15, 2017.
- [82] D. Zordan, **M. Rossi**, M. Zorzi, "Rate-Distortion Classification for Self-Tuning IoT Networks." *IEEE ICC 2017 (IEEE ICC-WT04: 5th IEEE International Workshop on Smart Communication Protocols and Algorithms)*, Paris, France, 21-25 May 2017.
- [83] M. Miozzo, L. Giupponi, **M. Rossi**, P. Dini, "Switch-On/Off Policies for Energy Harvesting Small Cells through Distributed Q-Learning," *IEEE WCNC 2017 (IEEE WCNC Workshop on Green and Sustainable 5G Wireless Networks (GRASNET 2))*, San Francisco, CA US, 19-22 March 2017.
- [84] M. Centenaro, **M. Rossi**, M. Zorzi "Joint Optimization of Lossy Compression and Transport in Wireless Sensor Networks," *IEEE GLOBECOM Workshop on Low-Layer Implementation and Protocol Design for IoT Applications (IEEE GLOBECOM 2016)*, Washington DC, US, 4-8 December 2016.
- [85] R. Bonetto, **M. Rossi**, "Parallel Multi-Step Ahead Power Demand Forecasting through NAR Neural Networks," *IEEE International Conference on Smart Grid Communications (SmartGridComm 2016)*, November 6-9, Sydney, Australia, 2016.
- [86] V. Vadori, E. Grisan, **M. Rossi**, "Biomedical Signal Compression With Time- And Subject-Adaptive Dictionary For Wearable Devices," *IEEE International Workshop on Machine Learning for Signal Processing (MLSP 2016)*, Sept. 13-16, Vietri sul Mare, Salerno, Italy, 2016.
- [87] M. Gadaleta, L. Merelli, **M. Rossi**, "Human Authentication From Ankle Motion Data Using Convolutional Neural Networks," *IEEE Statistical Signal Processing Workshop (SSP 2016)*, June 26-29, Palma de Maiorca, Spain, 2016.
- [88] E. Grisan, G. Cantisani, G. Tarroni, S. K. Yoon and **M. Rossi**, "A supervised learning approach for robust detection of heart beat in plethysmographic data," *IEEE Engineering in Medicine and Biology Society (EMBS)*, August 25-29, Milan, Italy, 2015.
- [89] R. Francescon, M. Hooshmand, M. Gadaleta, E. Grisan, S. K. Yoon and **M. Rossi**, "Toward Lightweight Biometric Signal Processing for Wearable Devices," *IEEE Engineering in Medicine and Biology Society (EMBS)*, August 25-29, Milan, Italy, 2015.
- [90] M. Miozzo, L. Giupponi, **M. Rossi**, P. Dini, "Distributed Q-Learning for Energy Harvesting Heterogeneous Networks". *IEEE ICC Workshop on Green Communications and Networks with Energy Harvesting, Smart Grids, and Renewable Energies*. June 8-12, London, UK, 2015.
- [91] R. Bonetto, T. Caldognetto, S. Buso, **M. Rossi**, S. Tomasin, P. Tenti, "Lightweight Energy Management of Islanded Operated Microgrids for Prosumer Communities". *IEEE International Conference on Industrial Technology (ICIT 2015)*. March 17-19, Seville, Spain, 2015.



- [92] R. Bonetto, S. Tomasin and **M. Rossi**, "When Order Matters: Communication Scheduling for Current Injection Control in Micro Grids," *IEEE PES Conference on Innovative Smart Grid Technologies*. February 17-20, Washington DC, US, 2015.
- [93] **M. Rossi**, M. Hooshmand, D. Zordan and M. Zorzi "Toward Practical Distributed Compression for Spatio-Temporal WSN Signals," *IEEE International Conference on Computing, Networking and Communications (ICNC 2015)*. February 16-19, Anaheim, California, US, 2015.
- [94] M. Miozzo, D. Zordan, P. Dini and **M. Rossi**, "SolarStat: Modeling Photovoltaic Sources through Stochastic Markov Processes," *IEEE Energy Conference (ENERGYCON 2014)*. May 13-16, Dubrovnik, Croatia, 2014.
- [95] N. Bui and **M. Rossi**, "Dimensioning Self-sufficient Networks of Energy Harvesting Embedded Devices," *International Workshop on Wireless Access Flexibility (WiFlex 2013)*. September 4-6, Kaliningrad, Russia, 2013.
- [96] D. Altolini, V. Lakkundi, N. Bui, C. Tapparello and **M. Rossi**, "Low Power Link Layer Security for IoT: Implementation and Performance Analysis," *IEEE IWCMC 2013*. June 1-5, Cagliari, Sardinia, Italy, 2013.
- [97] M. Mezzavilla, M. Miozzo, **M. Rossi**, N. Baldo and M. Zorzi, "A Lightweight and Accurate Link Abstraction Model for System-Level Simulation of LTE Networks in ns-3," *ACM MSWIM 2012*. October 21-25, Paphos, Cyprus Island, 2012.
- [98] R. Bonetto, N. Bui, V. Lakkundi, A. Olivereau, A. Serbanati and **M. Rossi**, "Secure Communication for Smart IoT Objects: Protocol Stacks, Use Cases and Practical Examples," *IEEE IoT-SoS 2012*. June 25, San Francisco, CA, US, 2012.
- [99] R. Bonetto, N. Bui, **M. Rossi** and M. Zorzi, "McMAC: a power efficient, short preamble Multi-Channel Medium Access Control protocol for wireless sensor networks," *WNS3 2012, International Workshop on NS3*. March 23, Sirmione, Italy, 2012.
- [100] C. Tapparello, S. Tomasin and **M. Rossi**, "Online Policies for Opportunistic Virtual MISO Routing in Wireless Ad Hoc Networks," *IEEE WCNC 2012*. 1-4 April, Paris, France, 2012.
- [101] N. Bui, A. Georgiadis, **M. Rossi**, I. Vilajosana, "SWAP Project: Beyond the State of the Art on Harvested Energy-Powered Wireless Sensors Platform Design," *IEEE IoTech 2011*. 17 October, Valencia, Spain, 2011.
- [102] D. Zordan, G. Quer, M. Zorzi and **M. Rossi**, "Modeling and Generation of Space-Time Correlated Signals for Sensor Network Fields," *IEEE GLOBECOM 2011*. 5-9 December, Houston, Texas, US, 2011.
- [103] C. Tapparello, D. Chiarotto, **M. Rossi**, O. Simeone and M. Zorzi, "Spectrum Leasing via Cooperative Opportunistic Routing in Distributed Ad Hoc Networks: Optimal and Heuristic Policies," *Asilomar Conference on Signals Systems and Computers*. 6-9 November, Pacific Grove, CA, US, 2011.
- [104] A.P. Castellani, M. Gheda, N. Bui, **M. Rossi** and M. Zorzi, "Web Services for the Internet of Things through CoAP and EXI," *IEEE ICC 2011 Workshop on Embedding the Real World into the Future Internet (RWWFI 2011)*. 5-9 June, Kyoto, Japan, 2011.
- [105] C. Tapparello, S. Tomasin and **M. Rossi**, "On Interference-Aware Cooperation Policies for Wireless Ad Hoc Networks," *International IEEE Conference on Ultra Modern Telecommunications (ICUMT 2010)*. 18-20 October, Moscow, Russia, 2010.
- [106] G. Quer, D. Zordan, R. Masiero, M. Zorzi and **M. Rossi**, "WSN-Control: Signal Reconstruction through Compressive Sensing in Wireless Sensor Networks," *IEEE International Workshop on Practical Issues in Building Sensor Network Applications (SenseApp 2010)*. 11-14 October, Denver, Colorado, US, 2010.



- [107] N. Bui, M. Dissegna, **M. Rossi**, O. Ugus and M. Zorzi, "An Integrated System for Secure Code Distribution in Wireless Sensor Networks," *IEEE PerCom Workshop on Pervasive Wireless Networking (PWN 2010)*. April 2, Mannheim, Germany, 2010.
- [108] A.P. Castellani, N. Bui, P. Casari, **M. Rossi**, Z. Shelby and M. Zorzi, "Architecture and Protocols for the Internet of Things: A Case Study," *First International Workshop on the Web of Things (WoT 2010)*. March 29-April 2, Mannheim, Germany, 2010.
- [109] R. Masiero, G. Quer, D. Munaretto, **M. Rossi**, J. Widmer and M. Zorzi, "Data Acquisition through joint Compressive Sensing and Principal Component Analysis," *IEEE GLOBECOM 2009*. November 30-December 4, Honolulu, Hawaii, US, 2009.
- [110] R. Masiero, G. Quer, **M. Rossi** and M. Zorzi, "A Bayesian Analysis of Compressive Sensing Data Recovery in Wireless Sensor Networks," *IEEE SASN 2009*. October 12-14, Saint Petersburg, Russia, 2009.
- [111] M. Miozzo and **M. Rossi**, "Heterogeneous Routing and Composition in Ambient Networking, International Workshop on Cross-Layer Design," *IEEE IWCLD 2009*. June 11-12, Palma de Mallorca, Spain, 2009.
- [112] R. Masiero, D. Munaretto, **M. Rossi**, J. Widmer and M. Zorzi, "A Note on the Buffer Overlap Among Nodes Performing Random Network Coding in Wireless Ad Hoc Networks," *IEEE VTC-Spring 2009*. April 26-29, Barcelona, Spain, 2009.
- [113] G. Quer, R. Masiero, D. Munaretto, **M. Rossi**, J. Widmer and M. Zorzi, "On the Interplay Between Routing and Signal Representation for Compressive Sensing in Wireless Sensor Networks," *Workshop on Information Theory and Applications (ITA 2009)*. February 8-13, San Diego, CA, US, 2009.
- [114] P. Casari, **M. Rossi** and M. Zorzi, "Fountain Codes and their Application to Broadcasting in Underwater Networks: Performance Modeling and Relevant Tradeoffs," *ACM WUWNet 2008*. September 5, San Francisco, CA, US, 2008.
- [115] **M. Rossi**, G. Zanca, L. Stabellini, R. Crepaldi, A.F. Harris III, and M. Zorzi, "SYNAPSE: A Network Reprogramming Protocol for Wireless Sensor Networks using Fountain Codes," *IEEE SECON 2008*. June 16-20, San Francisco, California, US, 2008.
- [116] M. Miozzo, **M. Rossi** and M. Zorzi, "Architectures for Seamless Handover Support in Heterogeneous Wireless Networks," *IEEE WCNC 2008*. Mar. 31-Apr. 3, Las Vegas, Nevada, US, 2008.
- [117] D. Munaretto, J. Widmer, **M. Rossi** and M. Zorzi, "Resilient Coding Algorithms for Sensor Network Data Persistence," *EWSN 2008*. January 30-February 1, Bologna, Italy, 2008. (Also published in the Springer Lecture Notes in Computer Science (LNCS), Vol. 4913/2008)
- [118] P. Casari, **M. Rossi** and M. Zorzi, "Towards Optimal Broadcasting Policies for HARQ based on Fountain Codes in Underwater Networks," *IEEE WONS 2008*. January 23-25, Garmisch-Partenkirchen, Germany, 2008.
- [119] E. Fasolo, **M. Rossi**, J. Widmer and M. Zorzi, "A Proactive Network Coding Strategy for Pervasive Wireless Networking," *IEEE GLOBECOM 2007*. November 26-30, Washington, DC, US, 2007.
- [120] L. Badia, N. Bui, M. Miozzo, **M. Rossi** and M. Zorzi, "Mobility Aided Routing in Multi-hop Heterogeneous Networks with Group Mobility," *IEEE GLOBECOM 2007*. November 26-30, Washington, DC, US, 2007. **BEST PAPER AWARD.**
- [121] A.F. Harris III, M. Miozzo, **M. Rossi** and M. Zorzi, "Performance Improvements in Ad Hoc Networks Through Mobility Groups and Channel Diversity," *WICON 2007*. October 22-24, Austin, Texas, US, 2007.



- [122] N. Baldo, F. Maguolo, M. Miozzo, **M. Rossi** and M. Zorzi, "ns2-MIRACLE: a Modular Framework for Multi-Technology and Cross-Layer Support in Network Simulator 2," *ACM NSTools 2007*. October 22, Nantes, France, 2007.
- [123] E. Fasolo, **M. Rossi**, J. Widmer and M. Zorzi, "On MAC Scheduling and Packet Combination Strategies for Practical Random Network Coding," *IEEE ICC 2007*. June 24-28, Glasgow, Scotland, UK, 2007.
- [124] R. Crepaldi, S. Friso, A.F. Harris III, M. Mastrogiovanni, C. Petrioli, **M. Rossi**, A. Zanella and M. Zorzi, "The Design, Deployment, and Analysis of SignetLab: A Sensor Network Testbed and Interactive Management Tool," *IEEE Tridentcom 2007*. May 21-23, Orlando, Florida, US, 2007.
- [125] **M. Rossi**, N. Bui and M. Zorzi, "Cost and Collision Minimizing Forwarding Schemes for Wireless Sensor Networks," *IEEE INFOCOM 2007*. May 6-12, Anchorage, Alaska, US, 2007.
- [126] D. Munaretto, J. Widmer, **M. Rossi** and M. Zorzi, "Network Coding Strategies for Data Persistence in Static and Mobile Sensor Networks," *International Workshop on Wireless Networks: Communication, Cooperation and Competition (WNC³ 2007)*. April 16, Limassol, Cyprus, 2007.
- [127] M. Mastrogiovanni, C. Petrioli, **M. Rossi**, A. Vitaletti and M. Zorzi, "Integrated Data Delivery and Interest Dissemination Techniques for Wireless Sensor Networks," *IEEE GLOBECOM 2006*. November 27-December 1, San Francisco, CA, US, 2006.
- [128] M. Miozzo, **M. Rossi** and M. Zorzi, "Routing Strategies for Coverage Extension in Heterogeneous Wireless Networks," *IEEE PIMRC 2006*. September 11-14, Helsinki, Finland, 2006.
- [129] L. Badia, N. Bui, M. Miozzo, **M. Rossi** and M. Zorzi, "On the Exploitation of User Aggregation Strategies in Heterogeneous Wireless Networks," *IEEE CAMAD 2006*. June 8-9, Trento, Italy, 2006. **BEST PAPER AWARD.**
- [130] E. Fasolo, C. Prehofer, **M. Rossi**, Q. Wei, J. Widmer, A. Zanella and M. Zorzi, "Challenges and new approaches for efficient data gathering and dissemination in pervasive wireless networks," *InterSense 2006*. May 30-31, Nice, France, 2006.
- [131] **M. Rossi**, R.R. Rao and M. Zorzi, "Cost Efficient Routing Strategies over Virtual Coordinates for Wireless Sensor Networks," *IEEE GLOBECOM 2005*. November 20-December 2, St. Louis, MO, US, 2005.
- [132] L. Badia, **M. Rossi** and M. Zorzi, "Queueing and Delivery Analysis of SR ARQ on Markov Channels with Non-instantaneous Feedback," *IEEE GLOBECOM 2005*. November 20-December 2, St. Louis, MO, US, 2005.
- [133] **M. Rossi**, L. Badia, N. Bui and M. Zorzi, "On Group Mobility Patterns and their Exploitation to Logically Aggregate Terminals in Wireless Networks," *IEEE VTC-Fall 2005*. September 25-28, Dallas, Texas, US, 2005.
- [134] S. Blom, C. Bellettini, A. Sinigalliesi, L. Stabellini, **M. Rossi** and G. Mazzini, "Transmission Power Measurements for Wireless Sensor Nodes and their Relationship to the Battery Level," *IEEE ISWCS 2005*. September 5-7, Siena, Italy, 2005.
- [135] L. Badia, **M. Rossi** and M. Zorzi, "On the Statistics of Delay Terms in SR ARQ on Markov Channels," *IEEE ISWCS 2005*. September 5-7, Siena, Italy, 2005.
- [136] **M. Rossi** and M. Zorzi, "Probabilistic Algorithms for Cost-based Integrated MAC and Routing in Wireless Sensor Networks," *International Workshop on Measurement, Modeling, and Performance Analysis of Wireless Sensor Networks (SenMetrics 2005)*. July 21, San Diego, CA, US, 2005.
- [137] **M. Rossi** and M. Zorzi, "Cost Efficient Localized Geographical Forwarding Strategies for Wireless Sensor Networks," *Tyrrhenian International Workshop on Digital Communications (TIWDC 2005)*. July 4-6, Sorrento, Italy, 2005.



- rento, Italy, 2005. (Also published in the book: "Distributed Cooperative Laboratories: Networking, Instrumentation and Measurements," Springer 2006. F. Davoli, S. Palazzo, S. Zappatore (Eds.))
- [138] **M. Rossi**, L. Badia, P. Giacomini and M. Zorzi, "On the Effectiveness of Logical Device Aggregation in Multi-radio Multi-hop Networks," *IEEE MobiWac 2005*. June 13-16, Maui, Hawaii, US, 2005. **BEST PAPER AWARD**.
- [139] A. Surtees, R. Aguero, J. Tenhunen, **M. Rossi** and D. Hollos, "Routing Group Formation in Ambient Networks," *14th IST Mobile & Wireless Communications Summit*. June 19-23, Dresden, Germany, 2005.
- [140] N. Baldo, A. Odorizzi and **M. Rossi**, "Buffer Control Strategies for the Transmission of TCP Flows over Geostationary Satellite Links Using Proxy-Based Architectures," *IEEE VTC-Spring 2005*. May 30-June 1, Stockholm, Sweden, 2005.
- [141] **M. Rossi**, P. Casari, M. Levorato and M. Zorzi, "Multicast Streaming over 3G Cellular Networks through Multi-Channel Transmissions: Proposals and Performance Evaluation," *IEEE WCNC 2005*. March 13-17, New Orleans, Louisiana, US, 2005.
- [142] **M. Rossi**, L. Badia and M. Zorzi, "SR-ARQ Delay Statistics on N-State Markov Channels with finite Round Trip Delay," *IEEE GLOBECOM 2004*. November 29-December 3, Dallas, Texas, US, 2004.
- [143] **M. Rossi**, M. Zorzi and F. H.P. Fitzek, "Link Layer Algorithms for Efficient Multicast Service Provisioning in 3G Cellular Systems," *IEEE GLOBECOM 2004*. November 29-December 3, Dallas, Texas, US, 2004.
- [144] **M. Rossi**, M. Zorzi, F. Fitzek, "Investigation of Link Layer Algorithms and Play-Out Buffer Requirements for Efficient Multicast Services in 3G Cellular Systems," *IEEE PIMRC 2004*. September 5-8, Barcelona, Spain, 2004.
- [145] **M. Rossi**, L. Badia, M. Zorzi, "Exact Statistics of ARQ Packet Delivery Delay over Markov Channels with Finite Round-Trip Delay," *IEEE GLOBECOM 2003*. December 1-5, San Francisco, CA, US, 2003.
- [146] **M. Rossi**, L. Scaranari, M. Zorzi, "On the UMTS RLC Parameters Setting and their Impact on Higher Layers Performance," *IEEE VTC-Fall 2003*. October 6-9, Orlando, FL, US, 2003.
- [147] **M. Rossi**, F. Fitzek, M. Zorzi, "Error Control Techniques for Efficient Multicast Streaming in UMTS Networks," *SCI 2003*, July 27-30, Orlando, FL, US, 2003.
- [148] **M. Rossi**, M. Zorzi, "An Accurate Heuristic Approach for UMTS RLC Delay Statistics Evaluation," *IEEE VTC-Spring 2003*. April 22-25, Jeju, Korea, 2003.
- [149] **M. Rossi**, L. Badia, M. Zorzi, "Accurate Approximation of ARQ Packet Delay Statistics over Markov Channels with Finite Round-Trip Delay," *IEEE WCNC 2003*. March 16-20, New Orleans, Louisiana, US, 2003.
- [150] **M. Rossi**, L. Badia, M. Zorzi, "On the Delay Statistics of an Aggregate of SR-ARQ Packets over Markov Channels with Finite Round-Trip Delay," *IEEE WCNC 2003*. March 16-20, New Orleans, Louisiana, US, 2003.
- [151] G. Morabito, S. Palazzo, **M. Rossi**, M. Zorzi, "Improving End-To-End Performance in Reconfigurable Networks through Dynamic Setting of TCP Parameters," *2nd International Workshop on QoS in Multiservice IP Networks (QoS-IP 2003)*. February 24-26, Milan, Italy, 2003.
- [152] A. Roveri, C.F. Chiasserini, M. Femminella, T. Melodia, G. Morabito, **M. Rossi**, I. Tinnirello, "The RAMON Module: Architecture Framework and Performance Results," *2nd International Workshop on QoS in Multiservice IP Networks (QoS-IP 2003)*. February 24-26, Milan, Italy, 2003.
- [153] D. Adami, M. Marchese, G. Morabito, **M. Rossi**, L. Veltri, "Transport Protocol and Resource Management for Satellite Networks: Framework of a Project," *5th European Workshop on Mobile/Personal Satcoms (EMPS 2002)*. 25-26 September, Baveno-Stresa, Lake Maggiore, Italy, 2002.



- [154] A. Giovanardi, G. Mazzini, **M. Rossi**, "Analysis and Optimization of a Transparent Multicast Mobility Support in Cellular Systems," *IEEE ICC 2002*. April 28-May 2, New York, USA, 2002.
- [155] **M. Rossi**, A. Giovanardi, M. Zorzi, G. Mazzini, "TCP/IP Header Compression: Proposal and Performance Investigation on a WCDMA Air Interface," *IEEE PIMRC 2001*. September 30-October 3, San Diego, USA, 2001.
- [156] M. Zorzi, **M. Rossi**, G. Mazzini, "Performance of TCP on a Wideband CDMA Air Interface," *IWDC 2001: Evolutionary Trends of the Internet*. September 17-20, Taormina, Italy, 2001.
- [157] A. Giovanardi, G. Mazzini, **M. Rossi**, "An Agent-Based Approach for Multicast Applications in Mobile Wireless Networks," *IEEE GLOBECOM 2000*. November 27-December 1, San Francisco, CA, US, 2000.

Patents:

- [158] E. Fasolo, D. Munaretto, **M. Rossi** and J. Widmer, "Method and Apparatus for Operating a Wireless Network for Gathering Data: a Centralized Approach," Joint invention with DoCoMo Euro-Labs. Application granted on the 17th of March 2010. European patent no. EP2071774.
- [159] E. Fasolo, D. Munaretto, **M. Rossi** and J. Widmer, "Method and Apparatus for Operating a Wireless Network for Gathering Data: a Distributed Approach," Joint invention with DoCoMo Euro-Labs. Application granted on the 27th of October 2011. European patent no. EP2071779.

Demos:

- [160] N. Bui, C. Tapparello, **M. Rossi** and M. Zorzi, "Reprogramming over the Air and Sensor Island Management through SYNAPSE++," *Demo Abstract, IEEE SECON*. June 22-26, 2009, Rome, Italy.
- [161] R. Crepaldi, A.F. Harris III, **M. Rossi**, G. Zanca and M. Zorzi, "Fountain Reprogramming Protocol: a Reliable Data Dissemination Scheme for Wireless Sensor Networks Using Fountain Codes," *Demo Abstract, ACM SenSys*. November 6-9, 2007, Sydney, Australia.
- [162] M. Mastrogiovanni, C. Petrioli, **M. Rossi** and M. Zorzi, "Integrated and Dynamically Adaptable Interest Dissemination and Convergecasting Algorithms for Wireless Sensor Networks," *Demo Abstract, IEEE SECON*. September 25-28, 2006, Reston, VA, US.

Posters:

- [163] M. Mastrogiovanni, C. Petrioli, **M. Rossi** and M. Zorzi, "Towards Integrated and Self-configuring Routing and Interest Dissemination Strategies for Wireless Sensor Networks," *Poster Abstract, ACM MobiHoc*. May 22-25, 2006, Firenze, Italy.
- [164] **M. Rossi**, R.R. Rao and M. Zorzi, "Cost Efficient On-line Hop Count Routing for Wireless Sensor Networks," *Poster Abstract, ACM MobiHoc*. May 25-28, 2005, Urbana Champaign, IL, US.

Newsletters:

- [165] **M. Rossi**, A. Bassi, F. Carrez, M. Zorzi, Ad Hoc and Sensor Networks Technical Committee (AHSN TC) Newsletter: "The EU IoT-A Project - Toward a Common Language for the Internet of Things," *IEEE Communications Society*, Vol. 1, No. 6, June, 2014.