
Cristina Emma Margherita Rottondi

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Personal Data:

- **Date of birth:** January 13, 1986
- **Place of Birth:** Rho (Milano)
- **Nationality:** Italian
- **Work Address:**
Department of Electronics and Telecommunications (DET)
Corso Duca degli Abruzzi, 24, 10129 Torino, ITALY

Current position:

- **Jan. 2019- Assistant Professor** at the Department of Electronics and Telecommunications of Politecnico di Torino, Italy.
- Main research interests: Optical Networks, Networked Music Performance.

Previous positions:

- **Sept. 2015- Dec. 2018, Researcher** at Dalle Molle Institute for Artificial Intelligence (IDSIA), Scuola universitaria professionale della Svizzera italiana (SUPSI), Università della Svizzera italiana (USI), Lugano, Switzerland
- **Jan. 2014- Aug. 2015, Postdoctoral Researcher** at Dept. of Electronics, Information and Bioengineering, Politecnico di Milano, Italy

Education:

- **PhD degree in Information Engineering (High Qualification Program jointly erogated by Politecnico di Milano, Politecnico di Torino and Politecnico di Bari)**
Jan. 2011 - Dec. 2013, Politecnico di Milano
 - Thesis title: “Privacy Preserving Data Collection in the Automatic Metering Infrastructure of Smart Grids”
 - Supported by Fondazione Ugo Bordoni and Scuola Interpolitecnica di Dottorato
- **Master degree in Telecommunications Engineering**
Sept. 2008 - Oct. 2010, Politecnico di Milano
 - Master Thesis Title: “Internet traffic classification with per-source attributes”. Final grade: 110/110 cum laude
- **Bachelor degree in Telecommunications Engineering**
Sept. 2005 - Jul. 2008, Politecnico di Milano
 - Bachelor Thesis Title: “Electrical bistability phenomena in diphenyl-bitiophene-based devices”. Final grade: 110/110 cum laude
- **Scientific School Certificate**
Sept. 2000 - Jul. 2005, Liceo Scientifico “G. Galilei” in Legnano (MI) Italy
 - Final grade: 100/100

Professional and Research Experiences:

- **Visiting PhD Student/Postdoctoral Researcher**, INRIA, Institut National de Recherche en Informatique et en Automatique (Sophia Antipolis, France), *Nov. 2013, Apr. - May 2014*
- **Visiting PhD Student**, AISEC, Fraunhofer Research Intitution for Applied and Integrated Security (Munich, Germany), *Feb. 2012 - Apr. 2012, Sept. 2012 - Feb. 2013*
- **Project collaboration**, Alcatel-Lucent, Optics Division, Vimercate (Italy), *Sept. 2011 - Sept. 2012*

I wrote or co-authored more than 80 papers in the area of Smart Grid energy management and communication security, optical network planning, networked music performance and Internet traffic classification.

I have been serving as reviewer for several international conferences and and journals in the areas of Telecommunications and Smart Grids. From July 2015 to April 2018 I served as Newsletter Editor for the IEEE STC on Sustainable computing (<http://stc-sustainable-computing.ieee.net/>). Since October 2016 I am Associate Editor for *IEEE Access*.

I have served as project proposal reviewer for the French National research Agency (ANR) 2017 generic call, panel CE25 (networks, high performance computing and storage) and for the Research Foundation - Flanders (Fonds Wetenschappelijk Onderzoek - Vlaanderen, FWO), 2018 Postdoctoral Fellow call.

In the last years I've been responsible for tutoring/co-tutoring 14 master students (Marco Savi, Daniele Polenghi, Giulia Mauri, Alessandro Panzeri, Constantin Yagne, Simone Fontana, Hani El Khoury, Antonio Cuccarese, Riccardo Di Marino, Mohammad Ismail Hossan, Hatef Abdollahi, Neman Abdoli, Youkabed Sadri, Paolo Grasso).

I was Technical Program Committee member for the following conferences:

- *ICGREEN 2015, Fourth International Conference on Green IT Solutions*, Milan, Italy, July 9-10th 2015
- *2016 Greenmetrics Workshop*, in conjunction with *ACM Sigmetrics*, Antibes, France, June 14-18 2016
- *2017 Greenmetrics Workshop*, in conjunction with *ACM Sigmetrics*, Urbana-Champaign, Illinois, June 5 2017

- *2017 CySWater, 3rd International Workshop on Cyber-Physical Systems for Smart Water Networks*, in conjunction with *CPS Week 2017* Pittsburg, PA, April 2017
- *9th International Conference on Applied Operational Research - ICAOR 2017*, Taiwan, 18-20 December 2017, also serving as chair for the co-located *Workshop on Big Data Analytics and Decision Science*
- *IEEE International Conference on Computing, Networking and Communications, QoS and System Modeling Symposium*; Maui, Hawaii, March 5-8 2018
- *2018 IEEE Summer Topical Meeting Series, Machine Learning-assisted Software-Defined Optical Networks topical meeting*; Waikaloa, Hawaii, July 9-11 2018
- *2018 CySWater, 4th International Workshop on Cyber-Physical Systems for Smart Water Networks*, in conjunction with *CPS Week 2018* Porto, Portugal, April 2018
- *2018 GLOBECOM, Selected Areas in Communications: Smart Grid and Power Line Communications*, 9-13 December 2018, Abu Dhabi, UAE
- *2018 ONDM, 22th International Conference on Optical Network Design and Modeling*, 14-17 May 2018, Dublin, Ireland
- *VTC2018 Fall, IEEE 88th Vehicular Technology Conference*, 27-30 August 2018, Chicago, USA
- *IEEE International Conference on Computing, Networking and Communications, QoS and System Modeling Symposium*; Honolulu, Hawaii, February 19-21 2019
- *ONDM 2019, 23rd International Conference on Optical Network Design and Modeling*, 13-16 May 2019, Athens, Greece
- *2019 GLOBECOM, Selected Areas in Communications: Smart Grid Communications*, 9-13 December 2019, Waikoloa, HI, USA
- *ONDM 2020, 24th International Conference on Optical Network Design and Modeling*, 18-21 May 2020, Castelldefels, Barcelona, Spain
- *GLOBECOM 2020, Selected Areas in Communications: Smart Grid Communications and Power Line Communications*, 7-11 December 2020, Taipei, Taiwan
- *FRUCT27, 27th IEEE Conference of Open Innovations Association FRUCT*, 7-9 September 2020, Trento, Italy
- *ICNCC 2020, 9th International Conference on Networks, Communication and Computing*, 18-20 December 2020, Tokyo, Japan.

I served as Publicity chair for the conference *PERFORMANCE 2020, The 38th International Symposium on Computer Performance, Modeling, Measurements and Evaluation* (6-9 November 2020, Milan, Italy)

I participated to the following European projects:

- *SmarrH2O: a European Project on Water Sustainability* (2014-2016)
- *EnCOMPASS: Collaborative Recommendations, Visualisation and Adaptive Control for Personalised Energy Saving* (2017-2019)

Research Activities:

My current fields of research are *optical network design* and *networked music performance*. Formerly, I also investigated *energy management and communication security in Smart Grids* and *Internet traffic analysis and classification*.

Optical network design The research activity investigates the benefits brought by the introduction of distance adaptive transceivers supporting multiple modulation formats and baud rates in flexible grid networks in terms of spectrum occupation and transceiver utilization. I have proposed methodological approaches for the design of architectures for optical ring metro networks and mesh backbone networks relying on Integer Linear Programming formulations for optimal network deployments, as

well as heuristics and analytical bounds for near-to-the-optimum solutions [31,32,33,78]. Complexity analyses of the proposed formulations have also been performed [22,64,71]. The impact of usage of spatial division multiplexing by exploiting multimode/multicore optical fibers is currently under investigation [4,5,16,37,49,51,61,62], as well as Machine Learning approaches [3,6] for quality of transmission evaluation [1,11,36,38,39,41,46,47,57] and imprecise Markov chain models for performance evaluation of resource allocation policies [9,56].

Networked Music Performance Networked Music Performance promises to revolutionize music rehearsal and teaching by allowing multiple remote players to simultaneously perform together from different physical locations by means of an Internet connection over a telecommunication network. However, in order to reproduce realistic rehearsing conditions, multiple technical, psycho-cognitive and purely musical issues must be addressed. In particular, at network level, very strict requirements in terms of latency and jitter must be satisfied to keep the one-way end-to-end transmission delay below a few tens of milliseconds. This research aims at investigating how the timbral characteristics of the instruments and the rhythmic complexity of the performed piece influence the musicians' performance. To this aim, psycho-acoustics have been performed by modeling the end-to-end (local microphone to remote speaker) channel, considering signal analog/digital conversion, signal codec, signal packetization, signal transmission and the computer real-time-processing limitation [15,20,35].

Communication privacy and security in Smart Grids Privacy of user-related data is of paramount importance in Smart Grid scenarios: the increasing diffusion of Automatic Meter Reading (AMR) and the possibility to open the system to third party services has raised many concerns about the protection of personal data related to energy consumption. On one side, information regarding customers' personal habits can be inferred by analyzing metering data; on the other side, detailed knowledge of consumption measurements is crucial for the timely management of energy distribution, provisioning, and forecasting. Current research topics:

- *Privacy-friendly data aggregation and anonymization in the automatic metering infrastructure of Smart Grids:* Design of privacy-preserving infrastructures and communication protocols for the secure collection of metering data, which allow utilities and third parties to obtain time and/or space aggregated energy consumption measurements [22,27,29,30,71,73,74,77] or disaggregated but pseudonymized meter readings [28,75], thus making them unable to associate the individual measurements with the identity of the customer (i.e., the meter) that generated the data.
- *Privacy-friendly distributed optimization of energy consumption in Smart Grids:* Design of secure mechanisms and protocols enabling the distributed optimization of energy consumption without compromising the privacy of the users, with the aim of shaping the load profile of a neighborhood according to the local energy production by renewable sources [12,18,24,60,67,72,C1].
- *Privacy-friendly vehicle-to-grid interactions:* Development of mathematical models and heuristics to optimize the power exchange among the batteries of electric vehicles and the smart grid, taking into account the constraints introduced by the power grid infrastructure and the dynamic and partially unpredictable trend of energy production and demand [21,66], as well as possible security and privacy implications [26,70].

Energy Management in Smart Buildings The incorporation of Smart technologies in buildings is considered as the key factor for the achievement of the objectives of energy efficiency, integration of Renewable Energy Sources, and reduction in the emissions of pollutants. The research activity is aimed at the design of energy management frameworks for residential and campus buildings [13,14,17,19,40,43,50,55,58,59,66,65,C2]. The designed infrastructures provide effective management tools for the local schedule of the energy usage at the users' side, supporting the integration of distributed energy sources (e.g. photovoltaic and wind power plants), energy storage banks, and various categories of controllable loads (including water/heat pumps, Heating, Ventilating and Air Conditioning (HVAC) plants, and electric vehicles). Such local Energy Management Systems must ensure to the users quality of service guarantees while enabling Automatic Demand Response with variable

energy tariffs and interactions between users and utilities/ grid operators in case of emergencies. To this aim, the frameworks must also include prediction models for energy production/consumption patterns and building thermal inertia based on weather forecasts and expectations about building occupation, and a system to collect human feedbacks about the perceived thermal comfort.

Internet traffic analysis and classification Internet traffic classification techniques aim at associating to a packet sequence between two hosts and two corresponding transport ports (flow) the generating application. The research activity is focused on the design of statistical classifiers aimed at discriminating different categories of Internet traffic, relying only on statistical attributes of the traffic flows/sources [34,80,81,82,83], thus complementing the more intrusive Deep Packet Inspection techniques. Moreover, analyses on network neutrality preservation in the collection of crowdsourced traffic measurements and in the management of content caches have been conducted [2,7,9,44,54].

Teaching Activity:

The following courses have been taught at “Politecnico di Milano”

- *Spring 2011, 2013, 2014* Teaching assistant in the undergraduated course *Network Software Platforms*
- *Spring 2012, 2013, 2014, 2016, 2017, 2018.* Teaching Assistant in the graduated course *Network Security and Cryptography*
- *Fall 2014, 2015, 2016, 2017, 2018.* Co-lecturer and teaching assistant in the graduated course *Communication Networks for Electricity Systems*

The following courses have been taught at “Politecnico di Torino”

- *Spring 2019* Teaching assistant in the graduated course *Operational Research*
- *Spring 2019* Teaching assistant in the undergraduated course *Communication Networks*
- *Spring 2019* Teaching assistant in the graduated course *Mobile Broadband Networks*
- *Spring 2020* Lecturer in the undergraduated course *Communication Networks*

Scholarships and Awards:

- *June 2020* IEEE Communications Society Award N2Women: Rising Stars in Networking and Communications
- *May 2020* IEEE Communications Society Chalres Kao Award for paper “Machine-Learning Method for Quality of Transmission Prediction of Unestablished Lightpaths”, *IEEE/OSA Journal of Optical Communications and Networking*, Vol. 10, No. 2, pp. A286-297, February 2018.
- *May 2019* Best in-session presentation award in Technical Session “Optical Networking and its Applications in Datacenters” for paper “Routing and Spectrum Assignment Integrating Machine-Learning-Based QoT Estimation in Elastic Optical Networks” in *INFOCOM 2019, IEEE International Conference on Computer Communications*, Paris, France
- *July 2018* Italian National Scientific Qualification: Associate Professorship, Disciplinary Sector 09/F2 - Telecommunications (6 years validity)
- *July 2017* the paper “Differentially Private Queries in Crowdsourced Databases for Net Neutrality Violations Detection” by Maria Silvia Abba Legnazzi, Cristina Rottondi and Giacomo Verticale, receives the excellent paper award in *ICUFN 2017, The 9th International Conference on Ubiquitous and Future Networks*, Milan, Italy
- *June 2017* the paper “enCOMPASS - an Integrative Approach to Behavioural Change for Energy Saving” by Piero Fraternali, Sergio Herrera, Jasminko Novak, Mark Melenhorst, Dimitrios Tzovaras, Stelios Krinidis, Andrea Emilio Rizzoli, Cristina Rottondi and Francesca Cellina is best paper finalist in *1st Global IoT Summit*, Geneva, Switzerland

- *March 2017* the paper “Modelling Spectrum Assignment in a Two-Service Flexi-Grid Optical Link with Imprecise Continuous-Time Markov Chains” by Cristina Rottondi, Alexander Erreygers, Giacomo Verticale, and Jasper De Bock receives the best paper award in *DRCN 2017, IEEE International Conference on Design of Reliable Communication Networks*
- *November 2014* the paper “On the Complexity of Optimal Electric Vehicles Recharge Scheduling” by Cristina Rottondi, Giacomo Verticale, and Giovanni Neglia receives the best paper award in *Online GreenComm 2014, IEEE Online Conference on Green Communications*
- *March 2012* Golden medal as Best Master Student in Telecommunications Engineering for years 2008-2010
Donor: Prof. Giovanni Azzone, Dean of Politecnico di Milano
- *October 2010* Scholarship from “Famiglia Legnanese” Foundation
Donor: Education Department of Lombardy
- *May 2010* Golden medal as Best Bachelor Student in Telecommunications Engineering for years 2005-2008
Donor: Prof. Giulio Ballio, Dean of Politecnico di Milano
- *October 2009* Scholarship from “Famiglia Legnanese” Foundation
Donor: AMGA S.p.A., Legnano
- *October 2008* Scholarship from “Famiglia Legnanese” Foundation
Donor: F.lli. Cozzi S.p.A - Alfa Romeo, Legnano
- *October 2005* Scholarship from “Famiglia Legnanese” Foundation
Donor: Famiglia Legnanese, Legnano

Invited Talks:

- *March 9th, 2020* invited talk “Active vs Transfer Learning Approaches for QoT Estimation with Small Training Datasets”, 2020 Optical Fiber Communication Workshop “The Role of Machine Learning for the Next-generation of Optical Communication Systems and Networks”
- *September 19th, 2018*, invited talk “Optimized design of flexi-grid optical networks with SDM technologies”, PSC2018 - Photonics in Switching and Computing, Workshop “Space Division Multiplexed Optical Transmission”
- *September 17th, 2017*, invited talk “Machine learning-assisted routing and spectrum assignment in flexible optical networks”, 43rd European Conference on Optical Communications, Workshop “Opportunities for machine learning in optical communication: from components characterization, systems design and network optimization”
- *July 11th, 2016*, invited talk “Privacy Issues in the Automatic Metering Infrastructure of Smart Grids”, in International Summer School on Hybrid Microgrids, University of Pavia, Dept. of Industrial and Information Engineering.

CS Skills:

Operating Systems: Windows 95/98/XP/Vista/7/10, Linux (user)

Programming: C, R, Matlab.

Applications: Microsoft Office

Operation Research: CPLEX, AMPL

Languages:

Italian: mother tongue

English: fluent. *Dec. 2006* First Certificate in English (B2 level) - grade A, received by British Council

German: good. *May 2005* Zertifikat Deutsch (B1 level) - grade A, received by Goethe-Institut Mailand

French: basic

Interests:

I am really fond of music: I started playing the piano at the age of 4 and I currently play also keyboard and organ. Since 2005 I have been singing as soprano in the polyphonic choir “Jubilate” of Legnano.

September 2000 “Theory and solfeggio” exam in the Academy of Music “Guido Cantelli” (Novara)

May 2010 Choir “Jubilate” receives the 3rd prize in the category Mixed Choirs at Varna European Grand Prix for Choral Singing (Bulgaria)

November 2016 Cristina Rottondi and Francesco Pasqualotto, “Ten Traditional German Songs Arranged for Piano”, Lulu Editions.

available online: <http://www.lulu.com/spotlight/rottondiepasqualotto>

Free audio recordings available online: <https://www.youtube.com/user/FrancescoPasqualotto>

Publications:

Journal papers

1. Dario Azzimonti, Cristina Rottondi and Massimo Tornatore: “Reducing probes for quality of transmission estimation in optical networks with active learning”, *Journal of Optical Communications and Networking* Volume 12, Issue 1, pp. A38-A48, 2020
2. Davide Andreoletti, Omran Ayoub, Cristina Rottondi, Silvia Giordano, Giacomo Verticale and Massimo Tornatore, “A Privacy-Preserving Protocol for Network-Neutral Caching in ISP Networks” in press in *IEEE Access*
3. Francesco Musumeci, Cristina Rottondi, Giorgio Corani, Shahin Shakhkarami, Filippo Cugini and Massimo Tornatore, “A Tutorial on Machine Learning for Failure Management in Optical Networks”, *IEEE/OSA Journal of Lightwave Technology*, Volume 37, Issue 16, pp. 4125-4139, August 2019
4. Cristina Rottondi, Paolo Martelli, Pierpaolo Boffi and Massimo Tornatore, “Transceivers and Spectrum Usage Minimization in Few-Mode Optical Networks”, *IEEE/OSA Journal of Lightwave Technology*, Volume 37, Issue 16, pp. 4030-4040, August 2019
5. Cristina Rottondi, Paolo Martelli, Pierpaolo Boffi, Luca Barletta and Massimo Tornatore, “Crosstalk-Aware Core and Spectrum Assignment in a Multicore Optical Link with Flexible Grid”, *IEEE Transactions on Communications*, Volume 67, Issue 3, pp. 2144 - 2156, 2019
6. Francesco Musumeci, Cristina Rottondi, Avishek Nag, Irene Macaluso, Darko Zibar, Marco Ruffini and Massimo Tornatore, “An Overview on Application of Machine Learning Techniques in Optical Networks”, *IEEE Communications Surveys and Tutorials*, Volume 21, Issue 2, pp. 1383 - 1408, Second quarter 2019
7. Davide Andreoletti, Silvia Giordano, Cristina Rottondi, Massimo Tornatore, Giacomo Verticale, “To be neutral or not neutral? The in-network caching dilemma”, *IEEE Internet Computing*, Volume 22, Issue 6, Nov.-Dec. 2018
8. Spartaco Albertarelli, Piero Fraternali, Sergio Herrera, Mark Melenhorst, Jasminko Novak, Chiara Pasini, Cristina Rottondi, Andrea-Emilio Rizzoli, “A Survey on the Design of Gamified Systems for Energy and Water Sustainability”, *MDPI Games* Volume 9 Issue 3, Nr. 38, September 2018
9. Alexander Erreygers, Cristina Rottondi, Giacomo Verticale and Jasper de Bock, “Imprecise Markov Models for Scalable and Robust Performance Evaluation of Flexi-Grid Spectrum Allocation Policies”, *IEEE Transactions on Communications*, vol. 66, no. 11, pp. 5401-5414, November 2018.
10. Maria Silvia Abba Legnazzi, Cristina Rottondi and Giacomo Verticale, “Secure and Differentially Private Detection of Net Neutrality Violations by means of Crowdsourced Measurements”, *Wireless Personal Communications*, Volume 107, Issue 3, pp. 1443-1464, 2019
11. Cristina Rottondi, Luca Barletta, Alessandro Giusti and Massimo Tornatore, “Machine Learning Method for Quality of Transmission Prediction of Unestablished Lightpaths”, *IEEE/OSA Journal of Optical Communications and Networking*, Volume 10, Issue 2, pp. A286 - A297, Feb. 2018
12. Cristina Rottondi and Giacomo Verticale, “A Privacy-Friendly Gaming Framework in Smart Electricity and Water Grids”, *IEEE Access*, vol. 5, pp.14221-14233, 2017
13. Alessandro Facchini, Cristina Rottondi and Giacomo Verticale, “Evaluating the Effects of Social Interactions on a Distributed Demand Side Management System for Domestic Appliances”, *Energy Efficiency*, vol.10, Issue 5, pp. 1175-1188, 2017
14. Alessandro Piti', Giacomo Verticale, Cristina Rottondi, Antonio Capone and Luca Lo Schiavo “The Role of Smart Meters in Enabling Real-Time Energy Services for Households: the Italian Case”, *Energies*, Volume 10, Issue 2, Article number 199, 2017
15. Cristina Rottondi, Chris Chafe, Claudio Allocchio and Augusto Sarti, “An Overview on Networked Music Performance Technologies”, *IEEE Access* vol. 4, pp. 8823-8843, 2016

16. Cristina Rottondi, Pierpaolo Boffi, Paolo Martelli and Massimo Tornatore, "Routing, Modulation Format, Baud Rate and Spectrum Allocation in Optical Metro Rings with Flexible Grid and Few-Mode Transmission", *IEEE/OSA Journal of Lightwave Technology*, Volume 35, Issue 1, Jan.1, 1 2017, pp. 61-70
17. Antimo Barbato, Cristiana Bolchini, Angela Geronazzo, Elisa Quintarelli, Andrei Palamarciuc, Alessandro Piti', Cristina Rottondi, and Giacomo Verticale, "Energy Optimization and Management of Demand Response Interactions in a Smart Campus", *Energies* 2016, Volume 9, Number 6, Article Number 398.
18. Cristina Rottondi, Antimo Barbato, Lin Chen, and Giacomo Verticale, "Enabling Privacy in a Distributed Game-Theoretical Scheduling System for Domestic Appliances", *IEEE Transactions on Smart Grid*, vol.8, no.3, pp.1220-1230, May 2017
19. Cristina Rottondi, Markus Duchon, Dagmar Koss, Andrei Palamarciuc, Alessandro Piti', Giacomo Verticale, and Bernhard Schaetz, "An Energy Management Service for the Smart Office", *Energies* Vol. 8, Issue 10, pp. 11667-11684, Nov. 2015
20. Cristina Rottondi, Michele Buccoli, Massimiliano Zanoni, Dario Garao, Giacomo Verticale, and Augusto Sarti, "Analysis of the Effects of Packet Delay on Networked Musical Interactions", *Journal of the Audio Engineering Society*, Vol. 63, Issue 11, pp. 864-875, Nov. 2015
21. Cristina Rottondi, Giovanni Neglia, and Giacomo Verticale, "Complexity Analysis of Optimal Recharge Scheduling for Electric Vehicles", *IEEE Transactions on Vehicular Technology*, Vol. 65, Issue 6, pp. 4106 - 4117, July 2016
22. Marco Savi, Cristina Rottondi, and Giacomo Verticale, "Evaluation of the Precision-Privacy Tradeoff of Data Perturbation for Smart Metering" *IEEE Transactions on Smart Grid*, vol.6, no.5, pp.2409-2416, Sept. 2015
23. Massimo Tornatore, Cristina Rottondi, Roza Gosien, Krzysztof Walkowiak, Giuseppe Rizzelli, and Annalisa Morea, "On the Complexity of of Routing and Spectrum Assignment in Flexible Grid Ring Networks", *IEEE/OSA Journal of Optical Communications and Networking*, Vol. 7, Issue 2, pp. A256-A267, March 2015
24. Cristina Rottondi and Giacomo Verticale, "Privacy-Friendly Load Scheduling of Deferrable and Interruptible Domestic Appliances in Smart Grids", *Computer Communications, Special Issue on Networking and Communications for Smart Cities*, Volume 58, 1 March 2015, Pages 29-39
25. Cristina Rottondi, Alessandro Panzeri, Constantin Yagne, and Giacomo Verticale, "Detection and Mitigation of the Eclipse Attack in Chord Overlays", *International Journal of Computational Science and Engineering* Volume 13 Issue 2, January 2016 pp. 111-121
26. Cristina Rottondi, Simone Fontana, and Giacomo Verticale, "Enabling Privacy in Vehicle-to-Grid Interactions for Battery Recharging", *Energies* 2014, Volume 7, Issue 5, 2780-2798
27. Cristina Rottondi, Marco Savi, Giacomo Verticale, and Christoph Krauss, "Mitigation of P2P Overlay Attacks in the Automatic Metering Infrastructure of Smart Grids", *Security and Communication Networks*, Volume 8, Issue 3, pages 343-359, February 2015
28. Cristina Rottondi, Giulia Mauri, and Giacomo Verticale, "A Protocol for Metering Data Pseudonymization in Smart Grids", *Transaction on Emerging Telecommunications Technologies*, Vol. 26, Issue 5, pp. 876-892, May 2015
29. Cristina Rottondi, Giacomo Verticale, and Christoph Krauss "Distributed Privacy-Preserving Aggregation of Metering Data in Smart Grids" *Journal on Selected Areas in Communications, Smart Grid Communications series*, vol.31, no.7, pp.1342-1354, July 2013
30. Cristina Rottondi, Giacomo Verticale, and Antonio Capone "Privacy-Preserving Smart Metering with Multiple Data Consumers" *Computer Networks*, vol.57 no.7, pp.1699-1713, May 2013
31. Cristina Rottondi, Massimo Tornatore and Giancarlo Gavioli "Optical Ring Metro Networks With Flexible Grid And Distance-Adaptive Optical Coherent Transceivers", *Bell Labs Technical Journal*, Vol. 18, Issue 3, pp. 95 - 110, Dec. 2013

32. Cristina Rottondi, Massimo Tornatore, Achille Pattavina and Giancarlo Gavioli “Routing, Modulation Level and Spectrum Assignment in Optical Metro Ring Networks using Elastic Transceivers” *Journal of Optical Communications and Networking*, Vol. 5, Issue 4, pp. 305-315, Mar. 2013
33. Cristina Rottondi, Massimo Tornatore, Achille Pattavina and Giancarlo Gavioli “Traffic Grooming and Spectrum Assignment for Coherent Transceivers in Metro-Flexible Networks” *Photonics Technology Letters, IEEE* , vol.25, no.2, pp.183-186, Jan.15, 2013
34. Cristina Rottondi and Giacomo Verticale “Internet Traffic Classification Using the Index of Variability” *Latin America Transactions, IEEE (Revista IEEE America Latina)*, Volume: 10, Issue: 3, Page(s): 1817-1823, May 2012

Conference papers

35. Prateek Verma, Alessandro Ilic Mezza, Chris Chafe, Cristina Rottondi, “A Deep Learning Approach for Low-Latency Packet Loss Concealment of Audio Signals in Networked Music Performance Applications”, in *27th IEEE Conference of the Open Innovations Association FRUCT*, Trento, Italy, September 7-9, 2020
36. Memedhe Ibrahim, Hatem Abdollahi, Alessandro Giusti, Cristina Rottondi, Massimo Tornatore, “Machine Learning Regression vs. Classification for QoT Estimation of Unestablished Lightpaths”, in *Advanced Photonics Congress 2020*, held virtually , July 13-16, 2020
37. Cristina Rottondi, Gabriella Bosco, Andrea Carena, and Andrea Bianco, “Modulation format, core and spectrum assignment in a multicore optical link with and without MIMO receivers (Invited)”, in *22nd International Conference on Transparent Optical Networks (ICTON)*, Bari, Italy, July 19-23, 2020
38. Dario Azzimonti, Cristina Rottondi, Alessandro Giusti, Massimo Tornatore, Andrea Bianco, “Active vs Transfer Learning Approaches for QoT Estimation with Small Training Datasets”, to be presented in *Optical Fiber Communication (OFC)*, San Diego, CA, USA, March 8-12, 2020
39. Riccardo di Marino, Cristina Rottondi, Alessandro Giusti, Andrea Bianco, “Assessment of Domain Adaptation Approaches for QoT Estimation in Optical Networks”, *Optical Fiber Communication (OFC) 2020*, San Diego, CA, USA, March 8-12, 2020
40. Anosh Arshad Sundhu, Cristina Rottondi and Giacomo Verticale, “Real-time Disaggregation of Residential Energy Consumption Enhanced with User Feedback”, *4th IEEE International Conference on Computing, Communications and Security*, Rome, Italy, 10-12 October 2019
41. Matteo Salani, Cristina Rottondi and Massimo Tornatore; “How to Integrate Machine-Learning Probabilistic Output in Integer Linear Programming: a case for RSA”, *ECOC 2019, 45th European Conference on Optical Communication*, Dublin, Ireland, 22-26 September 2019
42. Piero Fraternali, Francesca Cellina, Sergio Herrera, Mark Melenhorst, Jasminko Novak, Chiara Pasini, Cristina Rottondi and Andrea Emilio Rizzoli, “Visualizing and gamifying resource consumption data: lessons learned, challenges and a research agenda for the future”, *DACH+ Energy Informatics 2019*, Salzburg, Austria, September 26-27, 2019
43. Cristina Rottondi, Marco Derboni, Dario Piga and Andrea-Emilio Rizzoli, “An optimisation-based energy disaggregation algorithm for low frequency smart meter data”, *DACH+ Energy Informatics 2019*, Salzburg, Austria, September 26-27, 2019
44. Francesco Malandrino, Cristina Rottondi, Carla Fabiana Chiasserini, Andrea Bianco and Ioannis Stavrakakis, “Multiservice UAVs for Emergency Tasks in Post-disaster Scenarios”, ACM Workshop on innovative aerial communication solutions for First Responders network in emergency scenarios (iFIRE '19), July 2, 2019, Catania, Italy
45. Davide Andreoletti, Cristina Rottondi, Silvia Giordano, Giacomo Verticale and Massimo Tornatore, “An open privacy-preserving and scalable protocol for a Network-Neutrality compliant caching”, *ICC 2019 - IEEE International Conference on Communications, Next-Generation Networking and Internet Symposium*, 20-24 May 2019, Shanghai, China

46. Dario Azzimonti, Cristina Rottondi and Massimo Tornatore, "Using Active Learning to Decrease Probes for QoT Estimation in Optical Networks", *Optical Fiber Communication (OFC)* 2019, 3-7 March, San Diego, California, USA
47. Matteo Salani, Cristina Rottondi and Massimo Tornatore, "Routing and Spectrum Assignment Integrating Machine-Learning-Based QoT Estimation in Elastic Optical Networks", *IEEE International Conference on Computer Communications (INFOCOM)* Paris, France, 29 April - 2 May 2019
48. Alessandro Gattolin, Cristina Rottondi and Giacomo Verticale, "BlAsT: Blockchain-Assisted Key Transparency for Device Authentication", *IEEE 4th International Forum on Research and Technology for Society and Industry*, Palermo, Italy, September 10-13, 2018
49. Cristina Rottondi and Massimo Tornatore, "An Inter-Modal-Coupling-Aware Heuristic Algorithm for Routing, Spectrum and Mode Assignment in Few-Mode Optical Networks", *Advanced Photonics Congress*, Zurich, Switzerland, July 2-5 2018
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