

Curriculum Vitae

Luca Valcarenghi

Personal Information, Qualifications, and Academic Positions

Details and Contacts

Name and Surname: Luca Valcarenghi
Date and Place of Birth: [REDACTED]
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e-mail: luca.valcarenghi@santannapisa.it
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web: <https://www.santannapisa.it/it/luca-valcarenghi>

Languages

Italian (first language)
English (fluent)
French (good)

Certifications

Dec. 1997 TOEFL (Test of English as Foreign Language)
score 547/677
Jul. 1997 Cambridge P.E.T. (Primary English Test)
score "Pass with Merit"

Academic Degrees and Qualifications

Jul. 17, 2017 National Scientific Qualification (ASN — Abilitazione Scientifica Nazionale) as Full Professor (Professore di I Fascia) Settore Concorsuale 09/F2 Telecommunications (date of expiry Jul. 17, 2026)

Apr. 14, 2021 National Scientific Qualification (ASN — Abilitazione Scientifica Nazionale) as Full Professor (Professore di I Fascia) Settore Concorsuale 09/H1 Sistemi di Elaborazione delle Informazioni (date of expiry Apr. 14, 2030)

2003 Habilitation to the profession of Engineer
score 103/120

Dec. 22, 2001 Ph.D. Electrical Engineering, Major in Telecommunications, The University of Texas at Dallas (UTD), Richardson, TX, USA, Grade Point Average (GPA) 4.0/4.0
Dissertation title: "IP-over-WDM Survivable Networks"
Advisor: Dr. Andrea Fumagalli

May 22, 1999 Master of Science in Electrical Engineering (M.S.E.E.), The University of Texas at Dallas (UTD), Richardson, TX, USA, GPA 4.0/4.0
Dissertation title: "Optical Network Design Optimization Based on Simulated Annealing"
Advisor: Dr. Andrea Fumagalli

Oct. 15, 1997 Dottore of Electronics Engineering (Laurea), Politecnico di Torino, Italy
Thesis title: "Posizionamento di Amplificatori Ottici in Reti a Multiplazione di Lunghezza d'Onda" ("Optical Amplifier Placement in WDM Networks")
Advisors: Dr. Andrea Fumagalli, Dr. Fabio Neri, Dr. Gabriella Balestra
score 103/110

Jul. 15, 1991 Classics Diploma, Liceo Classico Luigi Lagrangia, Vercelli, Italy
score 60/60

Personal Information, Qualifications, and Academic Positions (continued)

Positions Held

Dec. 22, 2014- current	Associate Professor (Professore Associato), SSD ING-INF/03 - Telecomunicazioni, Scuola Superiore Sant'Anna di Studi Universitari e Perfezionamento, Pisa, Italy
Oct. 1, 2013- Dec. 21, 2014	Tenured Assistant Professor (Ricamatore di Ruolo Confermato), SSD ING-INF/03 - Telecommunications, Scuola Superiore Sant'Anna di Studi Universitari e Perfezionamento, Pisa, Italy
Oct. 1, 2010- Sep. 30, 2013	Assistant Professor (Ricamatore di Ruolo), SSD ING-INF/03 - Telecommunications, Scuola Superiore Sant'Anna di Studi Universitari e Perfezionamento, Pisa, Italy
Mar. 1, 2010-Sep. 30, 2010	Research Associate, National Research Lab of Photonic Networks, CNIT, Pisa
Sep. 1, 2008-Feb. 26, 2010	Consulting Assistant Professor, SSD ING-INF/03 - Telecommunications, Scuola Superiore Sant'Anna di Studi Universitari e Perfezionamento, Pisa, Italy
Sep. 1, 2002-Aug. 31, 2008	Assistant Professor (Ricamatore a Tempo Determinato), SSD ING-INF/03 - Telecommunications, Scuola Superiore Sant'Anna di Studi Universitari e Perfezionamento, Pisa, Italy
Jan. 2002-Aug. 2002	Research Associate, OpNeAR Lab, EE Department, Erik Jonsson School of EE/CS, The University of Texas at Dallas
Aug. 2000-Dec. 2000	Teaching Assistant, EE Department, Erik Jonsson School of EE/CS, The University of Texas at Dallas
Jan. 1998-Dec. 2001	Research Assistant, OpNeAR Lab, EE Department, Erik Jonsson School of EE/CS, The University of Texas at Dallas
A.Y. 1995-1996	Laboratory Assistant for the courses of "Electronic Measurement" (T3670) and "Electronics" (T1710) of the Politecnico di Torino, Department of Electrical Engineering, II Faculty, Vercelli.
A.Y. 1994-1995	Assistant in the "Laboratorio Informatico di Base" (Laib) ("Computer Lab") of the Politecnico di Torino, II Faculty, Vercelli.

Research Interests

Optical network design, analysis, and optimization;
Artificial Intelligence optimization techniques;
Zero-touch Network and Service Management (ZSM);
Experiential Networked Intelligence (ENI);
Communications network resilience;
Energy-efficiency in communications networks;
Wired-wireless network integration;
Next Generation Mobile Transport Networks (e.g., 5G fronthaul, midhaul, backhaul)
Network Function Virtualisation;
Multi-layer traffic engineering;
Optical network control and management protocols (e.g., Generalized MultiProtocol Label Switching (GMPLS), Path Computation Element (PCE), Software Defined Networks (SDN));
QoS in network infrastructures for Grid computing;
Broadband wireless access (IEEE 802.16);
Smart grid and electric vehicles.

Honors and Fellowships

Honors

- 2018 - IEEE Communications Society CHARLES KAO AWARD for Best Optical Communications & Networking Paper 2018, Divya Chitimalla, Koteswararao Kondepu, Luca Valcarengi, Massimo Tornatore, Biswanath Mukherjee, "5G Fronthaul-Latency and Jitter Studies of CPRI Over Ethernet", IEEE Journal of Optical Communications & Networking, Vol. 9, No. 2, pp. 172-182, February 2017
- 2018 - HONORARY MENTION, 2018 ComSoc Student Competition "Communications Technology Changing the World" (ranked among the top 10 projects among the 33 originally submitted) for the project "Pedestrian Awareness Application", TEAM LEADER: Giannone Francesco, Scuola Universitaria Superiore Sant'Anna, Pisa, Italy, co-leaders K. Kondepu and L. Valcarengi
- 2014 - Distinguished Student Paper Award For Sub-Category 1 Core/Access Networks And Switching Systems for the paper: Dung Pham Van, M. Pubuduni Imali Dias, Koteswararao Kondepu, Luca Valcarengi, Piero Castoldi, and Elaine Wong, "Energy-Efficient Dynamic Bandwidth Allocation for Long-Reach Passive Optical Networks", IEEE/OSA Optoelectronics and Communications Conference/Australian Conference on Optical Fibre Technology (OECC/ACOFT) 2014, July 6-10, 2014, Melbourne Australia
- 2013 - BEST STUDENT PAPER AWARD for the paper: Dung Pham Van, L. Valcarengi, M. Chincoli, P. Castoldi, "Full FPGA-based Implementation of an Energy Efficient ONU with Cooperative Cyclic Sleep", IEEE/OSA Asia Communications and Photonics Conference (ACP) 2013, Nov. 12-15, 2013, Beijing, China
- 2011 - Special Mention for the project "Green Internet", ItaliaCamp 2011, Nov. 21, 2011, Rome, Italy
- 2009 - BEST PAPER AWARD for the paper: S.-W. Wong, L. Valcarengi, S.-H. Yen, D. Campelo, S. Yamashita, L. Kazovsky, "Sleep Mode for Energy Saving PONs: Advantages and Drawbacks", IEEE GLOBECOM Second International Workshop on Green Communications, Nov. 30 2009-Dec. 4 2009, Honolulu, HI

Fellowships through competitive calls

- Jul. 2-9, 2014 - MERIT Visiting Scholar, Melbourne School of Engineering, The University of Melbourne, Melbourne, Australia (AUD 2900/1 week)
- Mar. 28, 2013-Aug. 28, 2013 - FY2012 Japan Society for the Promotion of Science (JSPS) Invitation Fellowship Programs for Research in Japan, Osaka University, Advisor: Prof. Ken-Ichi Kitayama (JPY 369000/month)
- Apr. 15, 2009-Oct. 15, 2009 - Fulbright Research Scholar at Stanford University, E.E. Department, Advisor: Prof. Leonid Kazovsky (\$ 9000/6 months)
- A.Y. 2000-2001 - Telecommunications Engineering Consortium (TxTEC) Fellowship for conducting the project "*Optimized Network Resilience in the Next Generation Internet*" at The University of Texas at Dallas, Richardson, TX, USA (\$ 4000/year).
- A.Y. 1999-2000 - TxTEC Fellowship for conducting the project "*Multi-Objective Optimization of Survivable WDM Backbone Networks Based on Simulated Annealing*" at The University of Texas at Dallas, Richardson, TX, USA (\$ 4000/year).
- A.Y. 1998-1999 - TxTEC Fellowship for conducting the project "*Design of Self-Healing Ring Based Survivable WDM Network Using Simulated Annealing*" at The University of Texas at Dallas, Richardson, TX, USA (\$ 4000/year)
- Sep. 1996-Mar. 1997 - Fellowship Centro Studi e Laboratori Telecomunicazioni Torino (CSELT) (now TILab) for conducting the "Tesi di Laurea" (EUR 2000/6 months) (not through competitive call).

Research Projects

Leadership of International projects funded through competitive calls

- Jun. 1, 2020-May 31, 2023 - BRAINE: Big data pRocessing and Artificial Intelligence at the Network Edge (BRAINE) H2020-ECSEL-2019-2-RIA project ID 876967 (Project Coordinator: Filippo Cugini (CNIT); Principal Investigator Sant'Anna Research Unit: Luca Valcarenghi, EUR 185,937.50 (EC) + EUR 185,937.50 (MIUR)/36 months)
- Jun. 1, 2019-Nov. 30, 2021 - 5Growth: 5G-enabled Growth in Vertical Industries (5Growth) H2020-ICT-2018-3 project ID 856709 (Project Coordinator: Carlos J. Bernardos (UC3M); Principal Investigator Sant'Anna Research Unit: Luca Valcarenghi, EUR 306,250/30 months)
- Mar. 15, 2019-Mar. 14, 2022 - "Network Slice Life-cycle Management for 5G Mobile Network", Scheme for Promotion of Academic and Research Collaboration (SPARC), Government of India, Ministry of Human Resource Development, Indian Institute of Technology Hyderabad, <https://sparc.iitkgp.ac.in/apProposalList.php> (Indian Principal Investigator Antony Franklin, International Principal Investigator Luca Valcarenghi, EUR 90,000/2 years)
- Apr. 1, 2019-Sep. 30, 2019 - Second ORCA Competitive Call for Experiments, "Service level agreement Enforcement in ORCA (SIREN)", within Orchestration and Reconfiguration Control Architecture (ORCA), H2020-ICT-2016-1 grant agreement 732174 (Principal Investigator Luca Valcarenghi, EUR 50,000/6 months)
- Jun. 1, 2017-Nov. 30, 2019 - 5G-TRANSFORMER: 5G Mobile Transport Platform for Verticals (5G-TRANSFORMER) H2020-ICT-2016-2 project ID 761536 (Project Coordinator: Arturo Azcorra (UC3M); Principal Investigator Sant'Anna Research Unit: Luca Valcarenghi, EUR 342002.22/30 months)
- Apr. 20, 2018-May 19, 2018 - "Virtual EPC Recovery Experiment in SoftFIRE (VERIfire)", EU H2020 Softfire Challenge, Principal Investigator Sant'Anna Research Unit: Luca Valcarenghi, EUR 40,000/1 month)
- Feb. 1, 2017-Oct. 31, 2017 - Third WISHFUL Competitive Call for Extensions "Enabling Virtual RAN and EPC experiments in WISHFUL (EVER-WISHFUL)", within Wireless Software and Hardware platforms for Flexible and Unified radio and network control (WISHFUL) H2020-ICT-2014-1 grant agreement 645274 (Principal Investigator (PI) L. Valcarenghi, EUR 100,000/9 months)
- Dec. 2014-Nov. 2015 - 2nd Fed4FIRE Competitive Call experiment "Evaluating Next Generation optical Access energy Efficiency using Fed4FIRE (ENGAGE-F4F)", within "Federation for FIRE (Fed4FIRE)" FP7-ICT-318389, (Principal Investigator (PI) L. Valcarenghi, EUR 50,000/year)
- May 2013-Aug. 2013 - IEEE Standards Education Grant for the project: "FPGA-based Design and Evaluation of an Energy-Efficient 10G-EPON" presented by Dung Pham Van (Student) and L. Valcarenghi (Faculty Advisor), (<https://iee-elearning.org/outreach/mod/book/view.php?id=3530>) (\$ 800)
- Jan. 1, 2013-Dec. 31, 2013 - "Task T1313 EV2GRID Experts Tool-Kit Module 3b: Vehicle to Grid Simulator", Activity EV2GRID Experts, KIC EIT-ICT Labs, Smart Energy Systems Action Line (Principal Investigator (PI) L. Valcarenghi, EUR 20,000/year)
- May 1, 2008-Apr. 30, 2012 - "EURO-FOS Pan-European Photonics Task Force: Integrating Europe's Expertise on Photonic Subsystems" FP7-224402, FP7-ICT-2007-2 Network of Excellence (NoE) (Responsible: Hercules Avramopoulos, PI Sant'Anna Research Unit: L. Valcarenghi, EUR 60,000/year)

Research Projects (continued)

Leadership of National projects funded through competitive calls

- Jan. 2022 (expected)
(eligible for funding) - Joint higher education project "Sviluppo di Tecnologie Avanzate per la Telediagnostica, la Teleassistenza, ed il Teleconsulto in Rete (START)" ("Development of Advanced Technologies for Remote Diagnosis, Remote Care, and Remote Consultancy") co-financed by the Region of Tuscany within the framework "Bando assegni di ricerca 2021", (co-PI L. Valcarenghi, EUR 30,000/2 year)
- Sep. 15, 2020-Sep. 14, 2023 - Bando Ricerca Salute 2018, Regione Toscana, "5G-enabled SOS Intelligent Assistant" (5G-SOSIA) (Project Coordinator: Luca Valcarenghi, EUR 517,925.56/36 months);
- Nov. 1, 2012-Oct. 31, 2014 - "Nuove ONU per reti di accesso ottiche ad alta efficienza energetica (NOÈ)" ("Novel ONUs for Energy efficient optical access networks"), joint higher education project "Providing training for applied and technological research (FORTEC)", co-financed by the Region of Tuscany within the framework "POR CRO FSE 2007-2013 Asse IV - Capitale Umano", (PI L. Valcarenghi, EUR 30,000/year)

Participation to International projects funded through competitive calls

- Jun. 1, 2021-May 31, 2024 - "EELISA INNOVation and COmmon REsearch strategy (EELISA-INNOCORE)", H2020-IBA-SwafS-Support-2-2020, CSA-LSP, project ID 101035811 (PI: Universidad Politecnica de Madrid (UPM); PI Sant'Anna Research Unit: Andrea Mina)
- Nov. 1, 2021-Oct. 31, 2023 - "European Engineering Learning Innovation and Science Alliance (EELISA)", EPP-EUR-UNIV-2020, EPLUS2020-AG Education, Audiovisual and Culture Executive Agency (EACEA) for the EC, project ID 101004081 (PI: Josè Miguel ATIENZA, UPM; PI Sant'Anna Research Unit Andrea Mina, WP5 representative for Scuola Superiore Sant'Anna L. Valcarenghi)
- Jan. 2010-Dec. 2012 - "Scalable Tunable and Resilient Optical Networks Guaranteeing Extremely-high Speed Transport (STRONGEST)", FP7-247674, FP7-ICT-2009-5 Integrated Project (IP) (PI: A. Di Giglio, CNIT Research Unit PI Piero Castoldi, EUR 555,985)
- Jan. 2009-May 2013 - Cost Action IC0804: "Energy efficiency in large scale distributed systems" (Action chair: Jean-Marc Pierson)
- Jan. 1, 2008-Dec. 31, 2010 - "Building the Future Optical Network in Europe - The e-Photon-ONe Network (BONE)" FP7-21863, FP7-ICT-2007-1 Network of Excellence (NoE) (PI: P. Van Daele, Sant'Anna Unit PI P. Castoldi, EUR 30,000/year)
- Jan. 1, 2007-Dec. 31, 2009 - "SERvice oriented ENd-to-end optiAI Ethernet (SERENAdE)", Executive Programme of Scientific and Technological Co-operation between Italy and Quebec for the years 2007-2009, Italian Ministry of Foreign Affairs (MAE) (PI: P. Castoldi, EUR 55,000/year)
- Mar. 1, 2006-Feb. 28, 2008 - "Optical Networks: Towards Bandwidth Manageability and Cost Efficiency (e-Photon/ONe+)", FP6-027497, EU-IST-FP6 Network of Excellence (NoE) (PI: F. Neri, Sant'Anna Unit PI P. Castoldi EUR 50,000/year)
- Mar. 1, 2006-Feb. 28, 2008 - "Next generation Optical network for Broadband European Leadership phase 2 (NOBEL phase 2)" FP6-027305, EU-IST-FP6 Integrated Project (IP) (PI: G. Ferraris, Sant'Anna Unit PI E. Ciaramella, EUR 150,000/year)
- Feb. 1, 2004-Feb. 28, 2006 - "e-Photon/ONe: Towards Bandwidth Manageability and Cost Efficiency", FP6-001933, EU-IST-FP6 Network of Excellence (NoE) (PI: F. Neri, Sant'Anna Unit PI P. Castoldi EUR 40,000/year)

Research Projects (continued)

- Jan. 1, 2004-Feb. 28, 2006 - "Next generation Optical network for Broadband European Leadership (NOBEL)", FP6-506760, EU-IST-FP6 Integrated Project (IP), (PI: A. Manzalini, Sant'Anna Unit PI E. Ciaramella, EUR 150,000/year)
- Jan. 1, 2004-Dec. 31, 2007 - Bilateral Collaboration "XVI EXECUTIVE PROGRAM OF SCIENTIFIC AND TECHNOLOGICAL CO-OPERATION BETWEEN ITALY AND HUNGARY FOR THE YEARS 2004-2007" (Sant'Anna Unit PI: P. Castoldi)
- Jan. 1, 2002-Dec. 31, 2004 - "Design of Packet Switched Reconfigurable DWDM Network with Wavelength Conversion for Multimedia", Priority New Joint Research Projects under Indo-Italian POC 2002-2004 (PI: G. Prati)
- Aug. 1, 2001-Aug. 31, 2004 - "Differentiated Reliability in an Optical Test-bed", CPqD, Brazil, (PI: A. Fumagalli, Grant \$ 300,000)
- Jan. 1, 2001-Dec. 31, 2004 - "Differentiated Reliability (DiR) in Multi-Layer Optical Networks", National Science Foundation (NSF-CISE), USA ANI-0082085 (PI: A. Fumagalli, A. Faragó, Grant \$ 500,119)
- Dec. 6, 2000-Jun. 5, 2006 - COST 270 action "Reliability of Optical Components and Devices in Communications Systems and Networks", European Cooperation in the Field of Scientific and Technical Research: "WG1-Reliability of optical networks and systems including free space optical communications" (Sant'Anna Unit PI: P. Castoldi)
- Jan. 1, 2000-Dec. 31, 2002 - "Optical Pseudo Channels: Using the Optical Layer to Minimize Queuing Delays for Real-Time Traffic", Advance Research Program of the Texas Higher Education Coordinating Board, (PI: J. Cobb, A. Fumagalli, Grant \$101,000)
- Sep. 1, 1999-Aug. 31, 2002 - "On Demand Wavelength Routing in Support of Flexible and High Speed Internet", National Science Foundation NSF-CISE/ANIR 9901579 (PI: I. Chlamtac, A. Fumagalli, Grant \$63,746)
- Sep. 1, 1996-Aug. 31, 2000 - "A Scalable Communication Integrated Optical Network (SCION) for Bandwidth Greedy Multimedia Applications, National Science Foundation NCR-9628189 (PI: I. Chlamtac, Grant \$ 378,351)

Participation to National projects funded through competitive calls

- Dec. 2017-Jun. 2020 - 5G MISE Bari-Matera Trial, Italian Ministry of Economic Development (MISE) 5G pre-commercial trials (Luca Valcarengi responsible of scientific activities for Scuola Superiore Sant'Anna)
- Feb. 1, 2013-Jan. 31, 2016 - National Interest Research Project (PRIN2010): 20102KAZKN "ROAD-NGN - reti ottiche passive di prossima generazione (NG-PON, Next Generation Passive Optical Networks) e reti PON di lunga distanza (Long-Reach PON)" (PI G. Cincotti, Sant'Anna Research Unit PI E. Ciaramella, EUR 50,000/year)
- Nov. 1, 2012-Oct. 31, 2014 - "Gestione Intelligente di Veicoli Elettrici e Microgrid per la Mobilità Sostenibile (GEMMA)" ("Intelligent Management of Electric Vehicles and Microgrid for the Sustainable Mobility"), joint higher education project "Providing training for applied and technological research (FORTEC)", co-financed by the Region of Tuscany within the framework "POR CRO FSE 2007-2013 Asse IV - Capitale Umano", (PI P. Castoldi, EUR 30,000/year)
- Oct. 2010-Mar. 2014 - PAR FAS 2007-2013 Regione Toscana: "ARNO T3: Architectures of Networks and optical nodes for high-capacity transmission, the access-metro-core transport based on integrated photonic technologies"

Research Projects (continued)

- Jan. 2006-Dec. 2008 - "Software and Communication Platforms for High-Performance Collaborative Grid", Italian Fund for Investment in Basic Research (FIRB) (PI: V. Cantoni, Sant'Anna Unit PI P. Castoldi, EUR 154,000/year)
- Sep. 3, 2005-Nov. 30, 2007 - "Traffic and terminal self-configuration in integrated mesh optical and broadband wireless networks (TOWN)", National Interest Research Project (PRIN 2005) (PI: E. Del Re, Sant'Anna Unit PI P. Castoldi, Grant EUR 25,000/year)
- Aug. 1, 2005-Jul. 31, 2007 - "International Master program in Communication Networks Engineering", Italian Fund for the University System Internationalization (INTER LINK) (PI: P. Castoldi, EUR 100,000/year)
- Dec. 16, 2002-Jan. 25, 2005 - "End-to-end traffic engineering and protection in DWDM networks" (INTREPIDO), National Interest Research Project (PRIN 2002) (PI: G. Corazza, Sant'Anna Unit PI P. Castoldi, EUR 20,000/year)
- Sep. 1, 2002-Aug. 30, 2005 - "Enabling platforms for high-performance computational grids oriented scalable virtual organizations (GRID.IT)", Italian Fund for Investment in Basic Research (FIRB), Italian Ministry of Research and University (PI: M. Vanneschi, Sant'Anna Unit PI G. Prati, whole project funding EUR 3,000,000/year)
- Jan. 1, 2002-Dec. 31, 2004 - MIUR CofinLAB Center of Excellence "Communication Networks Engineering" (CNIT/MARCONI/SANT'ANNA): various research lines in the area of "Optical networking" (PI: G. Prati)
- 2002-2006 - FAR Project (Law 297) "Enabling Technologies for photonic networks", funded by Italian Ministry of University and Research

Participation to National and International projects funded through private contracts

- Jan. 1 2020-Dec. 31, 2021 - TIM corporate contract (PI: Piero Castoldi, scientific responsible: Luca Valcarenghi)
- Jan. 1 2019-Dec. 31, 2020 - TIM corporate contract (PI: Piero Castoldi, scientific responsible: Luca Valcarenghi)
- Jan. 1 2018-Dec. 31, 2019 - TIM corporate contract (PI: Piero Castoldi, scientific responsible: Luca Valcarenghi)
- Jan. 1 2017-Dec. 31, 2018 - TIM corporate contract (PI: Piero Castoldi, scientific responsible: Luca Valcarenghi)
- Feb. 18 2016-Feb. 17, 2018 - Trenitalia corporate contract (PI: Piero Castoldi, co-PI: Luca Valcarenghi)
- Dec. 2015-Mar. 2016 - RFI corporate contract (PI: Piero Castoldi, co-PI: Luca Valcarenghi)
- Jan. 2014-Dec. 2016 - RFI corporate contract (PI: Piero Castoldi)
- Jan. 2016-Mar. 2016 - RFI corporate contract (PI: Piero Castoldi)
- Sep. 2013-Nov. 2013 - "Analisi rete dati ACC Roma Tiburtina" ("Analysis of Roma Tiburtina ACC data network") (PI: Piero Castoldi)
- Apr. 2012-Mar. 2014 - "Analisi di affidabilità del sistema tecnologico delle tratte AV/AC" (II AIM) ("Availability analysis of communications systems of high speed/high capacity railway systems" (Second addendum)), (PI: Piero Castoldi)
- Dec. 2010-Dec. 2011 - "Analisi di affidabilità del sistema tecnologico delle tratte AV/AC" (I AIM) ("Availability analysis of communications systems of high speed/high capacity railway systems" (First addendum)), (PI: Piero Castoldi)

Research Projects (continued)

- Jul. 2008-Jul. 2010 - "Analisi di affidabilità del sistema tecnologico delle tratte AV/AC" ("Availability analysis of communications systems of high speed/high capacity railway systems"), Rete Ferroviaria Italiana (RFI), (PI: Piero Castoldi)
- Jun. 15, 2002-Dec. 31, 2002- "Meshed Protection/Restoration in WDM Optical Networks with Multiple Failures", Alcatel, (PI: A. Fumagalli, Contract \$ 60,000)
- Jan. 1, 2000-Dec. 31, 2000 - "Network Synthesis", Artis Software Corporation (PI: A. Fumagalli, Contract \$ 93,228)
- Jan. 1, 1999-Dec. 31, 1999 - "Interworking Between Network Layer (IP) and Optical Layer (WDM) in the Next Generation Internet", Alcatel CRC, (PI: A. Fumagalli, Contract \$25,000)
- Jan. 1, 1998-Dec. 31, 1998 - "Analysis of Optimization Algorithms or Designing Telecommunication Networks", Alcatel CRC, (PI: A. Fumagalli, Contract \$ 25,000)

Professional Activities

Journal Editorship

- Dec. 1, 2020 - Lead Guest Editor Feature Topic, "5G for Verticals: from Theory to Practice and Beyond", IEEE Communications Magazine (Date of publication Jul. 30, 2021)
- 2019-current - Elsevier "Computer Networks", Editor/Editorial Board Member
- 2020-2021 - IEEE "Communications Magazine", Technical Editor
- 2017-2020 - IEEE "Communications Magazine", Associate Technical Editor
- 2016-current - Elsevier "Optical Switching and Networking", Editor/Editorial Board Member
- 2000-2003 - SPIE/Kluwer "Optical Networks Magazine", Feature Editor

Conference and Journal Refereeing Experience

- 1999-current - Peer reviewer for International Conferences and Workshops organized by IEEE, OSA, SPIE, IFIP (i.e., IEEE Infocom, IEEE Globecom, IEEE ICC, IEEE ICCCN, IEEE HPSR, IFIP ONDM, IFIP Networks, IFIP SustainIT), for archival Journal and Magazines published by IEEE, ACM, OSA, SPIE, Kluwer Academics, Elsevier (IEEE/ACM Transactions on Networking, IEEE Transactions on Communications, IEEE Journal on Selected Areas in Communications, Optical Networks Magazine, IEEE Communications, IEEE Networks, IEEE/OSA Journal of Lightwave Technology, Elsevier COMNET, IEEE/OSA Journal of Optical Networking, Elsevier Optical Switching and Networking, Elsevier Computer Communications)

Project Refereeing Experience

- 2021 - Reviewer (Valutatore) CHIST-ERA Call 2020
- project reviewer POR Puglia 2014/2020 - "Research for Innovation - REFIN"
- Reviewer (Valutatore) Avviso FISR 2020 -COVID- PRIMA FASE in the area Life Sciences - Physics and Engineering - Social Sciences and Humanities, MUR
- Jul. 1, 2019-current - Reviewer (Valutatore in itinere) cluster tecnologici nazionali (Decreto Direttoriale 3 agosto 2016 n. 1610), MIUR
- May 22, 2019-Jun. 30, 2019- Expert (Proposal Evaluator) EU H2020
- 2018 - Reviewer, Luxembourg National Research Fund (FNR)
- 2017 - Reviewer cluster tecnologici nazionali (Decreto Direttoriale 3 agosto 2016 n. 1610), MIUR
- 2013 - Referee for the "Future in Research 2013" ("Futuro in Ricerca 2013") program, Italian Ministry of University and Research
- Referee for the "national interest reasearch projects" ("Progetti di ricerca di interesse nazionale") PRIN 2012 program, Italian Ministry of University and Research

Professional Societies and Other Services

- 2020-current - CHAIR Optical Networking Technical Committee (ONTC) IEEE Communications Society
- 2020-current - Member of National Inter-University Consortium for Telecommunications (CNIT) Scientific Committee
- 2019-current - Member of the ITU-T Focus Group on "Environmental Efficiency for Artificial Intelligence and other Emerging Technologies" (FG-AI4EE)
- 2017-2019 - VICE-CHAIR Optical Networking Technical Committee (ONTC) IEEE Communications Society
- 2016-2017 - SECRETARY Optical Networking Technical Committee (ONTC) IEEE Communications Society

Professional Activities (continued)

- 2016-2021 - Scuola Superiore Sant'Anna Representative in National Telecommunications and Information Theory Group (GTTI)
- 2014-current - IEEE Senior Member
- 1999-2014 - IEEE Member
- 2011-current - Participant, as Academia Member, to the International Telecommunication Union Telecommunication Standardization Sector (ITU-T) Study Group 15 (Networks, Technologies and Infrastructures for Transport, Access and Home)
- 2004-2016 - Active participant to the Grid High Performance Network Research Group (GHPN-RG) of the Global Grid Forum (GGF) (now Open Grid Forum - OGF)

Conference Organization Activities

- 2022
 - TPC Member "Optical Network Design and Modeling (ONDM)", ONDM 2022, May 16-19, 2022, Warsaw, Poland
 - TPC Member "Optical Networks and Systems Symposium (ONS)", IEEE ICC 2022, May 16-20, 2022, Seoul, South Korea and Virtual event
- 2021
 - PUBLICATION CO-CHAIR, "28th Symposium on High-Performance Interconnects (HOT Interconnects 2021)", Aug. 18-20, 2021, Virtual conference
 - TPC Member "IEEE International Conference on Cloud Networking", IEEE CloudNet, November 8-10, 2021, Virtual
 - TPC Member "28th International Conference on Telecommunications", ICT 2021, June 1-3, 2021, London, United Kingdom
 - TPC Member "Optical Networks and Systems Symposium (ONS)", IEEE ICC 2021, 14-18 June 2021, Montreal, Canada
- 2020
 - GENERAL CO-CHAIR "5G from Theory to Practice (5GToP) Workshop", co-located with IEEE 5G World Forum, 10-12 Sep. 2020, virtual/online event
 - PUBLICATION CO-CHAIR, "27th Symposium on High-Performance Interconnects (HOT Interconnects 2020)", Aug. 19-21, 2020, virtual/online event
 - TPC CO-CHAIR 10th Workshop on Green Optical Communications (GOC, in conjunction with 22th International Conference on Transparent Optical Networks ICTON 2020, July 19-23, 2020, virtual/online event
 - TPC Member "Optical Networks and Systems Symposium (ONS)", IEEE ICC 2020, June 7-11, 2020, virtual/online event
- 2019
 - TPC MEMBER "Optical Networks and Systems Symposium (ONS)", IEEE Globecom 2019, 9-13 December 2019, Waikoloa, HI, USA
 - PUBLICATION CO-CHAIR, "26th Symposium on High-Performance Interconnects (HOT Interconnects 2019)", Aug. 14-16, 2019, Santa Clara, CA, USA
 - TPC CO-CHAIR 9th Workshop on Green Optical Communications (GOC, in conjunction with 21th International Conference on Transparent Optical Networks ICTON 2019, July 9-13, 2019, Angers, France
 - TPC MEMBER "Optical Networks and Systems Symposium (ONS)", IEEE ICC 2019, 20-24 May 2019, Shanghai, China
- 2018
 - TPC Member "Optical Networks and Systems Symposium (ONS)", IEEE Globecom 2018, 9-13 December 2018, Abu Dhabi, UAE

Professional Activities (continued)

- CO-CHAIR, IEEE RTSI 2018 - Track 3 - 3.6 5G, FROM TECHNOLOGY TO ITS ENABLED APPLICATIONS, 4th International Forum on Research and Technologies for Society and Industry Innovation to shape the future, September 10-13 2018, Palermo, Italy
- TPC CO-CHAIR 8th Workshop on Green Optical Communications (GOC, in conjunction with 20th International Conference on Transparent Optical Networks ICTON 2018, July 1-5, 2018, Bucharest, Romania, July 1-5, 2018
- TPC Member "Optical Networks and Systems Symposium (ONS)", IEEE ICC 2018, 20-24 May 2018, Kansas City, MO, USA
- 2017
 - PUBLICATION CHAIR, "25th Annual IEEE Symposium on High-Performance Interconnects (HOT Interconnects 2017)", Aug. 23-25, Santa Clara, CA, USA
 - TPC CO-CHAIR 7th Workshop on Green Optical Communications (GOC, in conjunction with 19th International Conference on Transparent Optical Networks ICTON 2017, July 2-6, 2017, Girona, Spain
 - PROGRAM CHAIR International Workshop on Application of green techniques to emerging communication and computing paradigms (GCC), in conjunction with IEEE International Conference on Communications, 21-25 May 2017, Paris, France
 - TPC Member, "Optical Networks and Systems Symposium (ONS)", IEEE Globecom 2017, Dec. 4-8, 2017, Singapore
 - TPC Member, "European Conference on Networks and Communications (EuCNC) 2017", June 12-15, 2017, Oulu, Finland
 - TPC Member, "24th International Conference on Telecommunication (ICT) 2017", May 3-5, 2017, Limassol, Cyprus
- 2016
 - TPC CHAIR, "Selected Areas in Communications Symposium - Access Network & System (SAC-ANS)", IEEE Globecom 2016, Dec. 4-8, 2016, Washington, D.C., USA
 - PUBLICATION CHAIR, "24th Annual IEEE Symposium on High-Performance Interconnects (HOT Interconnects 2015)", Aug. 24-25, Santa Clara, CA, USA
 - TPC CO-CHAIR, "Sixth workshop on Green Optical Communications (GOC)", in conjunction with IEEE ICTON 18th International Conference on Transparent Optical Networks, Jul. 10-14, 2016, Trento, Italy
 - TPC Member, "European Conference on Networks and Communications (EuCNC) 2016", June 27-30, 2016, Athens, Greece
 - TPC Member, "23rd International Conference on Telecommunication (ICT) 2016", May 16-18, 2016, Thessaloniki, Greece
 - TPC Member, "SIREN'16 - ICNC'16 Workshop (2016 International Workshop on Sustainability, Implementation and Resilience of Energy-Aware Networks)", Feb. 15-18, 2016, Kauai, Hawaii, USA
 - TPC Member, "Optical Networks and Systems Symposium (ONS)", IEEE Globecom 2016, Dec. 4-8, 2016, Washington, D.C., USA
 - TPC Member, "Optical Networks and Systems Symposium (ONS)", IEEE ICC 2016, May 23-27, 2016, Kuala Lumpur, Malaysia
 - TPC Member, "Selected Areas in Communications Symposium - Access Network & System (SAC-ANS)", IEEE ICC 2016, May 23-27, 2016, Kuala Lumpur, Malaysia
- 2015
 - PUBLICATION CHAIR, "23rd Annual IEEE Symposium on High-Performance Interconnects (HOT Interconnects 2015)", Aug. 26-28, Santa Clara, CA, USA

Professional Activities (continued)

- TPC CO-CHAIR, "Optical Networks and Systems Symposium (ONS)", IEEE ICC 2015, Jun. 8-12, 2015, London, UK
- TPC CO-CHAIR, "Fifth workshop on Green Optical Communications (GOC)", in conjunction with IEEE ICTON 17th International Conference on Transparent Optical Networks, Jul. 5-9, 2015, Budapest, Hungary
- PUBLICATION CHAIR, "19th International Conference on Optical Network Design and Modeling", May 11-14, 2015, Pisa, Italy
- TPC Member, "European Conference on Networks and Communications (EuCNC) 2015", June 29-July 2, 2015, Paris, France
- TPC Member, "Selected Areas in Communications Symposium - Access Network & System (SAC-ANS)", IEEE Globecom 2015, Dec. 6-10, 2015, San Diego, USA
- TPC Member, "Optical Networks and Systems Symposium (ONS)", IEEE Globecom 2015, Dec. 6-10, 2015, San Diego, USA
- TPC Member, "The Fourth IFIP Conference on Sustainable Internet and ICT for Sustainability, SustainIT 2015", Apr. 14-15, 2015, Madrid, Spain
- 2014
 - TPC Member, "Optical Networks and Systems Symposium (ONS)", IEEE Globecom 2014, Dec. 8-12, 2014, Austin, TX, USA
 - Steering Committee Member, "2nd Workshop on Green Broadband Access: energy efficient wireless and wired network solutions" in conjunction with IEEE Globecom 2014, Dec. 8-12, 2014, Austin, Texas, USA
 - PUBLICATION CHAIR, "22nd Annual IEEE Symposium on High-Performance Interconnects (HOT Interconnects 2014)", Aug. 26-27, Mountain View, CA, USA
 - TPC CO-CHAIR, "Fourth workshop on Green Optical Communications (GOC)", in conjunction with IEEE ICTON 16th International Conference on Transparent Optical Networks, Jul. 6-10, 2014, Graz, Austria
 - CO-CHAIR, WORKSHOP 1 "Optical Communication Energy Efficiency - A Looming Crisis?", in conjunction with IEEE/OSA OECC/ACOFT 2014, Jul. 6-10, 2014, Melbourne, Australia
 - TPC Member, IEEE "19th European Conference on Network and Optical Communications (NOC 2014)", Jun. 4-6, 2014, Milan, Italy
 - CHAIR, Workshop "Optical Access Network Virtualization: from Unbundling to Open Access", in conjunction with IEEE "19th European Conference on Network and Optical Communications (NOC 2014)", Jun. 4-6, 2014, Milan, Italy
 - TPC Member, "Optical Networks and Systems Symposium (ONS)", IEEE ICC 2014, June 10-14, 2014, Sidney, Australia
- 2013
 - TPC member, "Optical Networks and Systems Symposium (ONS)", IEEE Globecom 2013, Dec. 9-13, 2013, Atlanta, Georgia, USA
 - TPC member, "IEEE 22nd ITC Specialist Seminar on Energy Efficient and Green Networking (SSEEGN 2013)", Nov. 20-22, 2013, Christchurch, New Zealand.
 - INDUSTRY TRACK CO-CHAIR, SustainIT 2013 - The Third IFIP Conference on Sustainable Internet and ICT for Sustainability, Oct. 30-31, Palermo, Italy
 - TPC member, "The 24th Tyrrhenian International Workshop on Digital Communications", Sep. 23-25, 2013, Genoa, Italy

Professional Activities (continued)

- TPC member, IEEE 19th Asia-Pacific Conference on Communications (APCC 2013), Aug. 29-31, 2013, Bali Island, Indonesia
 - PUBLICATION CO-CHAIR, "21th Annual IEEE Symposium on High-Performance Interconnects (HOT Interconnects 2013)", Aug. 21-23, 2013, San Jose, CA, USA
 - TPC member, "Optical Networks and Systems Symposium (ONS)", IEEE ICC 2013, Jun. 9-13, 2013, Budapest, Hungary
 - STEERING COMMITTEE MEMBER, "Green Broadband Access: energy efficient wireless and wired network solution workshop", in conjunction with IEEE ICC 2013, Jun. 9-13, 2013, Budapest, Hungary
 - TPC CO-CHAIR, "Third workshop on Green Optical Communications (GOC)", in conjunction with IEEE ICTON 15th International Conference on Transparent Optical Networks Cartagena, Spain, Jun. 23-27, 2013
 - TPC member, 32nd IEEE International Conference on Computer Communications (INFOCOM 2013) (Demo-Poster session), April 14-19, 2013, Turin, Italy
- 2012
- TPC member, "Optical Networks and Systems Symposium (ONS)", IEEE Globecom 2012, Dec. 3-7, Anaheim, CA, USA
 - TPC member, "Second IFIP Conference on Sustainable Internet and ICT for Sustainability, SustainIT 2012", Oct. 4-5, 2012, Pisa, Italy
 - TPC member, IEEE 18th Asia-Pacific Conference on Communications (APCC 2012), Oct. 15-17, 2012, Jeju island, Korea
 - PUBLICATION CHAIR, "20th Annual IEEE Symposium on High-Performance Interconnects (HOT Interconnects 2012)", Aug. 22-24, 2012 Santa Clara, CA
 - TPC CO-CHAIR, "Second workshop on Green Optical Communications (GOC)", in conjunction with IEEE ICTON 2012, Jul. 2-5, 2012, Coventry, England
 - TPC member, "Optical Networks and Systems Symposium (ONS)", IEEE ICC 2012, Jun. 10-15, 2012, Ottawa, CA
 - TPC member, "New Trends in Optical Networks Survivability workshop", in conjunction with IEEE ICC 2012, Jun. 10-15, 2012, Ottawa, CA
- 2011
- TPC member, "Optical Networks and Systems Symposium (ONS)", IEEE Globecom 2011, 5-9 Dec., 2011, Houston, TX, USA
 - TPC member, "8th International Workshop on the Design of Reliable Communication Networks", IEEE DRCN 2011, Oct. 10-12, 2011, Krakow, Poland
 - PUBLICATION CHAIR, "19th Annual IEEE Symposium on High-Performance Interconnects (HOT Interconnects 2011)", Aug. 24-26, Santa Clara, CA, USA
 - TPC member, "First workshop on Green Optical Communications (GOC)", IEEE ICTON 2011, Jun. 26-30, Stockholm, Sweden
 - TPC CO-CHAIR, "Optical Networks and Systems Symposium (ONS)", IEEE ICC 2011, Jun. 5-9, 2011, Kyoto, Japan,
- 2010
- TPC member, "Optical Networks and Systems Symposium", IEEE Globecom 2010, Dec. 6-10, Miami, FL, USA
 - PUBLICATION CHAIR, "18th Annual IEEE Symposium on High-Performance Interconnects (HOT Interconnects 2010)", Aug. 18-20, Mountain View, CA, USA

Professional Activities (continued)

- TPC member, "Optical Networks and Systems Symposium (ONS)", IEEE ICC 2010, May 23-27, 2010, Cape Town, South Africa
- 2009
 - TPC member, "Optical Networks and Systems Symposium (ONS)", IEEE Globecom 2009, Nov. 30-Dec. 4, 2009, Honolulu, Hawaii, USA
 - TPC member, "Next Generation Networking and Internet Symposium (NGNI)", IEEE Globecom 2009, Nov. 30-Dec. 4, 2009, Honolulu, Hawaii, USA
 - TPC Member, "Second ITU-T Kaleidoscope Event: Innovations for Digital Inclusion", Aug. 31- Sep. 1, 2009, Mar del Plata, Argentina
 - PUBLICATION CHAIR, "17th Annual IEEE Symposium on High-Performance Interconnects (HOT Interconnects 2009)", Aug. 25-27, 2009, New York, USA
 - TPC member, "Second International Conference on Communication Theory, Reliability, and Quality of Service", CTRQ 2009, Jul. 20-25, 2009, Colmar, France
 - TPC member, "Optical Networks and Systems" Symposium, IEEE ICC 2009, Jun. 14-18, Dresden, Germany
- 2008
 - TPC member, "Optical Networks and Systems" Symposium, IEEE Globecom 2008, Nov. 30-Dec. 4, 2008, New Orleans, LA, USA
 - TPC member, "13th International Telecommunications Network Strategy and Planning Symposium — Networks 2008", Sep. 28-Oct. 2, 2008, Budapest, Hungary
 - TPC member, "The First International Workshop on Wireless Sensor and Ad-hoc Networks", WiSAN 2008 in conjunction with ICPP 2008, Sep. 10-12, 2008, Portland, OR, USA
 - PUBLICATION CHAIR, "16th Annual IEEE Symposium on High-Performance Interconnects (HOT Interconnects 2008)", Aug. 26-28, 2008 Stanford, CA, USA
 - TPC member, "International Conference on Communication Theory, Reliability, and Quality of Service", CTRQ 2008, Jun. 29-Jul. 5, 2008, Bucharest, Romania
 - TPC member, "Optical Networks and Systems" Symposium, IEEE ICC 2008, May 19-23, 2008, Beijing, China
- 2007
 - TPC member, "Optical Networks and Systems" Symposium, IEEE Globecom 2007, Nov. 26-30, 2007, Washington, DC, USA
 - PUBLICATION CHAIR, "15th Annual IEEE Symposium on High-Performance Interconnects (HOT Interconnects 2007)", Aug. 22-24, 2007, Stanford, CA, USA
 - TUTORIAL CHAIR, "15th Annual IEEE Symposium on High-Performance Interconnects (HOT Interconnects 2007)", Aug. 22-24, 2007, Stanford, CA, USA
 - TPC member, "Optical Networks and Systems" Symposium, IEEE ICC 2007, Jun. 24-28, 2007, Glasgow, Scotland
- 2006
 - PUBLICATION CO-CHAIR, "14th Annual IEEE Symposium on High-Performance Interconnects (HOT Interconnects 2006)", 23-25, 2006, Stanford, CA, USA
 - TUTORIAL CHAIR, "14th Annual IEEE Symposium on High-Performance Interconnects (HOT Interconnects 2006)", 23-25, 2006, Stanford, CA, USA
- 2004
 - TPC member, "Optical Communications, Networks, and System" Symposium, IEEE Globecom 2004, Nov. 29-Dec. 3, 2004, Dallas, TX, USA

Professional Activities (continued)

- 2003 - TPC member, "Optical Networking and Systems" Symposium, IEEE Globecom 2003, Dec. 1-5, 2003, San Francisco, USA
- May 2001 - Session Chair, IEEE Workshop on High Performance Switching and Routing(HPSR2001), May 29-31, 2001, Dallas, Texas, USA
- 2000 - Member of the Organization Committee, "Opticomm 2000", Oct. 22, 2000, Richardson, Texas, USA

Professional Activities (continued)

University Services — Coordination

- 2018-current - DIRECTOR (COORDINATORE) "PHD IN EMERGING DIGITAL TECHNOLOGIES (EDT)", Scuola Superiore di Studi Universitari e Perfezionamento Sant'Anna (elected on Oct. 1, 2018)
- 2016-current - Deputy Area Leader, Networks and Services Area (Area Leader Prof. Piero Catoldi), TeCIP Institute, Scuola Superiore Sant'Anna, Italy
- 2021 - Co-Coordinator of the Seasonal School "ARTIST - 5G/6G networks trAnsfoRming The dlgital SocieTy", Jan. 31-Feb. 4, 2022, Scuola Superiore Sant'Anna, Pisa
- 2019-current - Member of the "Collegio di Disciplina" della Scuola Superiore Sant'Anna
- 2020-current - Member of the Teacher Committee (Collegio dei Docenti) of the Ph.D. in Health Science, Technology and Management, Scuola Superiore Sant'Anna, Pisa, Italy
- 2013-current - Member of the Teacher Committee (Collegio dei Docenti) of the Ph.D. in Emerging Digital Technologies, Scuola Superiore Sant'Anna, Pisa, Italy
- Nov. 2016-
Jul. 2019 - Vice-president Corso di Laurea Magistrale in Informatica e Networking (Master of Science in Computer Science and Networking) (LM-18) Scuola Superiore Sant'Anna-Universita' di Pisa, Pisa, Italy
- 2013-2014 - Representative of the Industrial and Information Engineering Area Assistant Professors in the Academic Class of Experimental Sciences (Rappresentante dei Ricercatori del Settore di Ingegneria Industriale e dell'Informazione nel Consiglio di Classe Accademica di Scienze Sperimentali)
- 2010-2016 - KIC EIT-ICT Labs action line local coordinator
- 2008-2010 - Co-WP leader of the project BONE Workpackage 12 (Virtual Center of Excellence on Services and Applications)
- 2006-2008 - Member of the ePhoton/ONE+ "Core Networks" Virtual Department workpackage (WP-VD-C) Administration Board
- Member of the ePhoton/ONE+ "Optical networking for grids and e-science" Joint Project workpackage (WP-JP-G) Administration Board
- Co-responsible (together with Prof. Branko Mikac) for the course "Optical Network Resilience" of the ePhoton/ONE+ Teaching workpackage (WP-T)
- 2007-2008 - Member of the Organization Board of the "Third International Master program on Communication Networks Engineering (IMCNE)" of the Scuola Superiore Sant'Anna, Pisa, Italy
- 2006-2007 - Member of the Organization Board of the "Second International Master program on Communication Networks Engineering (IMCNE)" of the Scuola Superiore Sant'Anna, Pisa, Italy
- 2005-2006 - Member of the Organization Board of the "First International Master program on Communication Networks Engineering" of the Scuola Superiore Sant'Anna, Pisa, Italy
- 2005 - Member of the Organization Committee of the e-Photon/ONE "II Summer School: Optical switching technologies", Aug. 20-Sep. 2, 2005, Cesenatico-Pisa, Italy
- 2005 - Member of the Technical Programme Committee of the e-Photon/ONE "Winter School on Core Network Technologies", February 23-25, 2005, Aveiro, Portugal
- 2002-2005 - Member of the Technical Board of the project "Enabling platforms for high-performance computational grids oriented scalable virtual organizations (GRID.IT)", Italian Fund for Investment in Basic Research (FIRB), Italian Ministry of Research and University

Professional Activities (continued)

2001-2002 - UTD Optical Networking Advanced Research (OpNeAR) Lab seminar organizer, The University of Texas at Dallas, Richardson, USA

University Service — Graduation Committees

Sep. 30, 2021- Member of the Ph.D. thesis Committee of Nuria Molner Siurana, entitled "Routing optimization algorithms in integrated fronthaul/backhaul networks supporting multitenancy", Universidad Carlos III de Madrid

Dec. 10, 2020- President of the Ph.D. thesis of Committee of Gabriel Otero Perez, entitled "Design and Analysis of Ultra-low Latency Fronthaul and Backhaul Networks for 5G", Universidad Carlos III de Madrid

Nov. 18, 2019- Member of the Graduation (Ph.D.) Committee of Dr. Federico Civerchia and Dr. Francesco Giannone, Ph.D. EDT Scuola Superiore Sant'Anna, Pisa, Italy

Jan. 27, 2019- International expert of the Ph.D. thesis of Luca Cominardi, entitled "Enhanced Connectivity in Wireless Mobile Programmable Networks", Universidad Carlos III de Madrid

Apr. 24, 2018- External member of the Ph.D. defense and thesis examiner of Michele Chincoli, entitled "Smart Transmission Power Control for Dependable Wireless Sensor Networks", Technical University of Eindhoven (TUE), The Netherlands

Feb. 27, 2018- Opponent (Controrelatore), Master Thesis (Tesi di Laurea Magistrale) in Informatica e Networking, Patrik Rosini, entitled "WebRTC: energy-efficiency characterization for constrained devices", Università di Pisa

Jul. 18, 2016 - Examiner of the Ph.D. thesis of ABEYWICKRAMA, Gunaratne Palliyaguruge Sandu Padmapanie, entitled "Design of Energy-Efficient Next-Generation Telecommunications Networks", Department of Electrical and Electronic Engineering, The University of Melbourne, Melbourne, Australia

Oct. 10, 2014- Reading Committee member of the Ph.D. thesis of Abhishek Dixit, iMinds - Ghent University Department of Information Technology (INTEC), Ghent, Belgium

Jul. 24, 2014 - Examiner of the Ph.D. thesis of Gerson Rodriguez de los Santos entitled "Converged optical Ethernet technologies in the LAN, MAN and SAN: Novel architectures, performance analysis and energy efficiency", University Carlos III of Madrid (UC3M), Madrid, Spain

Jun. 23, 2014- Expert member of the Committee for the "Master Licentiate Exam - Information and Industrial Engineering Area" ("Esame di licenza Magistrale - Area di Ingegneria Industriale e dell'Informazione"), Scuola Superiore Sant'Anna, Pisa, Italy

Apr. 23, 2014- Examiner of the Ph.D. thesis of Jiayuan Wang entitled "Future High Capacity Backbone Networks", DTU Fotonik, Department of Photonics Engineering, Technical University of Denmark (DTU), Copenhagen, Denmark

Nov. 15, 2013- Opponent (Controrelatore) for the Ph.D. thesis of Cristina Emma Margherita Rottondi entitled "Privacy Preserving Data Collection in the Automatic Metering Infrastructure of Smart Grids", PhD School in Information Technology, Politecnico di Milano, Milano, Italy

Apr. 18, 2013- Examiner of the Ph.D. thesis of Jayasundara Chamil Lakshan entitled "Scalable deployment of video-on-demand services", Department of Electrical and Electronic Engineering, The University of Melbourne, Melbourne, Australia

Aug. 27, 2012- Member of the Committee for the final exam (thesis defense) of the International Master on Communication Networks Engineering (IMCNE), A.Y. 2010/12 and Master on Photonic NETWORKS Engineering (MAPNET) A.Y. 2010/12 of the Scuola Superiore Sant'Anna

Jul. 20, 2012 - Opponent (Controrelatore) for the thesis of Venkatraman Gopalakrishnan entitled "Packet Filtering Module for PFQ Packet Capturing Engine" for achieving the University of Pisa and Scuola Superiore Sant'Anna Laurea Magistrale in Computer Science and Networking (Master Degree in Computer Science and Networking) A.Y. 2011-2012

Professional Activities (continued)

- Jun. 25, 2012- Member of the Diploma di Licenza Magistrale Committee of the Scuola Superiore Sant'Anna (Summer session)
- May 31, 2012 - Opponent for the Licentiate proposal defense of Mozghan Mahloo entitled "Performance analysis of next generation optical access network options", KTH, Sweden
- May 28, 2012 - Member of the Committee for the Ph.D. defense of Amornrat Jirattigalachote, with a thesis entitled "Provisioning Strategies for Transparent Optical Networks Considering Transmission Quality, Security, and Energy Efficiency", KTH, Sweden
- Nov. 4, 2011 - Member of the Diploma di Licenza Committee of the Scuola Superiore Sant'Anna for the "Industrial and Information Engineering Department"
- Sep. 10, 2008- Member of the Committee for the evaluation of the "Project Work" of the students of the "Third International Master on Communication Networks Engineering" (A.A. 2007/2008) of the Scuola Superiore Sant'Anna, Pisa
- Apr. 8, 2008 - Member of the Committee for the evaluation of the "Project Work" of the students of the "Second International Master on Communication Networks Engineering" (A.A. 2006/2007) of the Scuola Superiore Sant'Anna, Pisa
- Dec. 14, 2006- Member of the Graduation (Ph.D.) Committee of Dr. Nicola Andriolli
- Dec. 13, 2006- Member of the Graduation Committee of the Second Graduation Session of the "First International Master program on Communication Networks Engineering (IMCNE)" of the Scuola Superiore Sant'Anna, Pisa, Italy
- Oct. 26, 2006- Member of the Graduation Committee of the First Graduation Session of the "First International Master program on Communication Networks Engineering (IMCNE)" of the Scuola Superiore Sant'Anna, Pisa, Italy
- Jun. 9, 2006 - Member of the Graduation (Ph.D.) Committee of Dr. Alessio Giorgetti
- Jun. 07, 2005- Member of the Diploma di Licenza Committee at the Scuola Superiore Sant'Anna

University Service — Recruitment Committees

- Jun. 2021 - Member of the Recruiting Committee for the Ph.D. EDT, XXXVII cycle, of the Scuola Superiore Sant'Anna, Pisa, Italy
- May 2021 - Member of the Committee for the recruitment for the CNIT call n. 49/2021: n.1 position "a tempo indeterminato" IV level of the Research Area at the CNIT National Laboratory of Photonic Networks in Pisa
- Feb. 2021 - Member of the Recruitment Committee of a Ricercatore a Tempo Determinato (RTD-A) comma 3, lettera a) art. 24 L. 240/2010 - per il Settore Concorsuale 09/F2 Telecomunicazioni, Settore Scientifico Disciplinare ING-INF/03 Telecomunicazioni, Politecnico di Torino, Italy
- Jul., 2019 - Member of the Recruiting Committee for the Ph.D. EDT, XXXV cycle, of the Scuola Superiore Sant'Anna, Pisa, Italy
- May 2018 - Member of the recruitment committee of an Associate Professor (professore universitario di ruolo di II fascia) per il Settore Concorsuale 09/F2, Settore Scientifico Disciplinare ING-INF/03, Politecnico di Torino, Italy
- Sep. 4, 2012 - Member of the selection committee of the PhD in Emerging Digital Technologies A.Y. 2012-2013 of the Scuola Superiore Sant'Anna
- Jun. 20, 2012- President of selection committee for the International Master on Communication Networks Engineering (IMCNE) A.Y. 2012/14 - IV ed.

Professional Activities (continued)

- Aug. 27, 2007- Member of the Recruiting Committee for the "Third International Master program on Communication Networks Engineering (IMCNE)" of the Scuola Superiore Sant'Anna, Pisa, Italy
- Sep. 19, 2006- Member of the Recruiting Committee for the "Second International Master program on Communication Networks Engineering (IMCNE)" of the Scuola Superiore Sant'Anna, Pisa, Italy
- Oct. 11, 2005- Member of the Recruiting Committee for the "First International Master program on Communication Networks Engineering (IMCNE)" of the Scuola Superiore Sant'Anna, Pisa, Italy
- Jan. 7, 2020 - Expert Member of the Committee for the assignment of a consultant position on "Systems and devices for telecommunications" ("Sistemi e dispositivi per telecomunicazioni")
- Oct. 2020 - Member of the Committee for the assignment of a Research Scholarship (Assegno di Ricerca) "Exploiting AI/ML techniques in zero touch network and service management" (SSD ING-INF/03 Telecomunications, SC 09/F2)
- Oct. 6, 2016 - Member of the Committee for the assignment of a Research Scholarship (Assegno di Ricerca) "Progettazione e validazione sperimentale di reti di telecomunicazione" (SSD ING-INF/03 Telecomunications, SC 09/F2)
- Aug. 8, 2016 - Member of the Committee for the assignment of a Research Scholarship (Assegno di Ricerca) "Reti dati ad alta velocità e alta affidabilità" (SSD ING-INF/03 Telecomunications, SC 09/F2)
- May 17, 2016- Member of the Committee for the assignment of a Research Scholarship (Assegno di Ricerca) "Tecniche di elaborazione ottica del segnale per comunicazioni e radaristica" (SSD ING-INF/03 Telecomunications, SC 09/F2)
- May 17, 2016- Member of the Committee for the assignment of a Research Scholarship (Assegno di Ricerca) "Reti di telecomunicazioni per ambienti civili ed industriali" (SSD ING-INF/03 Telecomunications, SC 09/F2)
- Apr. 20, 2016- Member of the Committee for the assignment of a Research Scholarship (Assegno di Ricerca) "Progettazione e realizzazione sperimentale di piano dati e di controllo per reti ottiche a griglia flessibile" (SSD ING-INF/03 Telecomunications, SC 09/F2)
- Jan. 27, 2016- Member of the Committee for the assignment of a Research Scholarship (Assegno di Ricerca) "Integrazione di sensoristica distribuita in sistemi di larga scala per applicazioni di data mining" (SSD ING-INF/03 Telecomunications, SC 09/F2)
- Dec. 9, 2015 - Member of the Committee for the assignment of a Research Scholarship (Assegno di Ricerca) "Urban Electronic LOGistics Smart Cities and Communities and Social Innovation - Access networks with coherent fiber systems" (SSD ING-INF/03 Telecomunications, SC 09/F2)
- Oct. 23, 2014- Member of the Committee for the assignment of a Research Scholarship (Assegno di Ricerca) "Monitoraggio di infrastrutture di circolazione" (SSD ING-INF/03 Telecomunications, SC 09/F2)
- Oct. 21, 2014- Member of the Committee for the assignment of a Research Scholarship (Assegno di Ricerca) "Sviluppo di un sistema di comunicazione per reti veicolari" (SSD ING-INF/03 Telecomunications, SC 09/F2)
- Oct. 22, 2014- Member of the Committee for the assignment of a Research Scholarship (Assegno di Ricerca) "Sistemi integrati di telecomunicazione" (SSD ING-INF/03 Telecomunications, SC 09/F2)
- Oct. 22, 2014- Member of the Committee for the assignment of a Research Scholarship (Assegno di Ricerca) "Reti radio e cablate per servizi di infomobilità e di controllo della circolazione veicolare e ferroviaria" (SSD ING-INF/03 Telecomunications, SC 09/F2)
- Sep. 30, 2014- Member of the Committee for the assignment of a Research Scholarship (Assegno di Ricerca) "URBELOG - Urban Electronic Logistics" (SSD ING-INF/03 Telecomunications, SC 09/F2)
- Oct. 25, 2013- President of the Committee for the assignment of a Research Scholarship (Assegno di Ricerca) "Sostenibilità energetica in ICT e tramite ICT (SOSTI)" (SSD ING-INF/03 Telecomunications, SC 09/F2)

Professional Activities (continued)

- Nov. 8, 2012 - Expert Member of the Committee for the Public Recruitment of Technicians of Category D in the data elaboration technical area, TeCIP Institute, under limited time position
- Sep. 24, 2012- President of the Committee for the assignment of a Research Scholarship (Assegno di Ricerca) "SSSUP 15 Nuove ONU per reti di accesso ottiche ad alta efficienza energetica (NOE)" (SSD ING-INF/03 Telecommunications - SC 09/F2 - Telecommunications) within the "Formare alla ricerca applicata e tecnologia" (FORTEC) program by Region of Tuscany and Scuola Superiore Sant'Anna
- Sep. 19, 2012- Expert Member of the Committee for the assignment of a Research Scholarship (Assegno di Ricerca) on "SSSUP 11 Gestione Intelligente di Veicoli Elettrici e Microgrid per la Mobilità Sostenibile (GEMMA)" (SSD ING-INF/03 Telecommunications - SC 09/F2 - Telecommunications) within the "Formare alla ricerca applicata e tecnologia" (FORTEC) program by Region of Tuscany and Scuola Superiore Sant'Anna
- Dec. 15, 2011- Expert Member of the Committee for the assignment of a Research Scholarship (Assegno di Ricerca) on "Networks and control plane for flexible optical networks" ("Soluzioni di rete e piano di controllo per reti ottiche flessibili") (ING-INF/03 Telecommunications)
- Nov. 2, 2011 - President of the Committee for the assignment of a Research Scholarship (Assegno di Ricerca) on "Service-oriented network architectures" ("Architetture di rete orientate ai servizi") (ING-INF/03 Telecommunications)
- Oct. 5, 2011 - Expert Member of the Committee for the assignment of Research Scholarships (Assegno di Ricerca) on "Study and design of optical interconnection networks with high energy efficiency" ("Studio e progettazioni di reti ottiche di interconnessione ad alta efficienza energetica") (ING-INF/03 Telecommunications)
- Apr. 29, 2011- Expert Member of the Committee for the assignment of a Research Scholarship (Assegno di Ricerca) on "Management and control of optical fiber and wireless networks" "Gestione e controllo di reti in fibra ottica e wireless") (ING-INF/03 Telecommunications)
- Nov. 15, 2010- Expert Member of the Committee for the assignment of Research Scholarship (Assegno di Ricerca) on "Advanced IP Network Architectures" ("Architetture avanzate per reti IP") (ING-INF/03 Telecommunications)
- Oct. 1, 2010 - Expert Member of the Committee for the assignment of Research Scholarship (Assegno di Ricerca) on "Development of simulation tools based on finite element method for the design of micro-ring resonators C-MOS compatible" ("Sviluppo di tools di simulazione, basati sul metodo degli elementi finiti, per il progetto di micro ring resonators in tecnologia C-MOS compatibile") (ING-INF/03 Telecommunications)
- Nov. 28, 2008- President of the the Committee for the assignment of Research Scholarship (Assegno di Ricerca) "Design and analysis of techniques for guaranteeing quality of service in distributed applications" ("Sviluppo ed analisi di tecniche per garantire la qualità del servizio in applicazioni distribuite") (ING-INF/03 Telecommunications)
- Nov. 22, 2007- Expert Member of the Committee for the assignment of two one-year Research Scholarships (Assegni di Ricerca) on "Photonic network and technologies for very high-speed optical systems" (ING-INF/03 Telecommunications)
- Nov. 21, 2007- Expert Member of the Committee for the Public Recruitment of a Technician of Category D in the data elaboration technical area under limited time position
- May 9, 2006 - Expert Member of the Committee for the Public Recruitment of a Technician of Category C under tenured position
- May 10, 2005- Expert Member of the Committee for the Public Recruitment of a Technician of Category C under 1 year contract, Scuola Superiore Sant'Anna, Pisa, Italy

Teaching

Graduate (PhD and Master)

- A.Y 2021-2022 - Teacher (titolare) of the course "Network Simulation", (3 CFU, 30 hours), Ph.D. EDT and Master Erasmus Mundus PIXNET, Scuola Superiore Sant'Anna, Pisa, Italy
- A.Y 2020-2021 - Teacher (titolare) of the course "Introduction to data acquisition and monitoring techniques", (1 CFU, 10 hours), Ph.D. in Health Science, Technology and Management, Scuola Superiore Sant'Anna, Pisa, Italy
- A.Y 2020-2021 - Teacher (titolare) of the course "Network Simulation", (3 CFU, 30 hours), Ph.D. EDT and Master Erasmus Mundus PIXNET, Scuola Superiore Sant'Anna, Pisa, Italy, (average course evaluation score by students: 1.8/5 (1 best - 5 worst))
- Teacher (titolare) of the course "Design of Metro, Access and Core networks", (4 CFU, 40 hours), Ph.D. EDT and Master Erasmus Mundus PIXNET, Scuola Superiore Sant'Anna, Pisa, Italy, (average course evaluation score by students: 1.5/5 (1 best - 5 worst))
- A.Y 2019-2020 - Teacher (titolare) of the course "Network Simulation", (3 CFU, 30 hours), Ph.D. EDT and Master Erasmus Mundus PIXNET, Scuola Superiore Sant'Anna, Pisa, Italy
- Teacher (titolare) of the course "Design of Metro, Access and Core networks", (4 CFU, 40 hours), Ph.D. EDT and Master Erasmus Mundus PIXNET, Scuola Superiore Sant'Anna, Pisa, Italy (average course evaluation score by students: 1.7/5 (1 best - 5 worst))
- A.Y 2018-2019 - Teacher (titolare) of the module "Network Simulation", (3 CFU, 30 hours), Ph.D. EDT and Master Erasmus Mundus PIXNET, Scuola Superiore Sant'Anna, Pisa, Italy (average course evaluation score by PIXNET students: 8.56/10 (10 best - 0 worst))
- Teacher (titolare) of the course "Design of Metro, Access and Core networks", (4 CFU, 32 hours), Master of Computer Science and Networking (Laurea Magistrale in Informatica e Networking), Ph.D. EDT, and Master Erasmus Mundus PIXNET, Scuola Superiore Sant'Anna-Pisa University, Pisa, Italy (average course evaluation score by PIXNET students: 7.64/10 (10 best - 0 worst))
- A.Y 2017-2018 - Teacher (titolare) of the course "Design of Metro, Access and Core networks", (4 CFU, 32 hours), Master of Computer Science and Networking (Laurea Magistrale in Informatica e Networking), Ph.D. EDT, and Master Erasmus Mundus PIXNET, Scuola Superiore Sant'Anna-Pisa University, Pisa, Italy
- Teacher (titolare) of the course "Network Simulation", (3 CFU, 30 hours), Ph.D. EDT and Master Erasmus Mundus PIXNET, Scuola Superiore Sant'Anna, Pisa, Italy
- A.Y 2016-2017 - Teacher (titolare) of the course "Design of Metro, Access and Core networks", (4 CFU, 32 hours), Master of Computer Science and Networking (Laurea Magistrale in Informatica e Networking), Scuola Superiore Sant'Anna-Pisa University, Pisa, Italy
- Teacher of the module "FPGAs for Communications Network Prototyping", (2 CFU, 16 hours), Master of Computer Science and Networking (Laurea Magistrale in Informatica e Networking), Scuola Superiore Sant'Anna-Pisa University, Pisa, Italy
- A.Y 2015-2016 - Teacher (titolare) of the course "Design of Metro, Access and Core networks", (4 CFU, 32 hours), Master of Computer Science and Networking (Laurea Magistrale in Informatica e Networking), Scuola Superiore Sant'Anna-Pisa University, Pisa, Italy
- Teacher of the module "FPGAs for Communications Network Prototyping", (2 CFU, 16 hours), Master of Computer Science and Networking (Laurea Magistrale in Informatica e Networking), Scuola Superiore Sant'Anna-Pisa University, Pisa, Italy
- Teacher (titolare) of the course "Network Simulation", (2 CFU, 20 hours), Ph.D. in Emerging Digital Technologies (EDT), Scuola Superiore Sant'Anna, Pisa, Italy

Teaching (continued)

- Teacher of the course “CSIT - FPGA for communication networks prototyping” (4 hours), in the Master “Digital Life & Smart Living”, a.a. 20152016 - ed. III
 - Teacher of the course “TIT - Smart Grid and sustainable mobility” (4 hours), in the Master “Digital Life & Smart Living”, a.a. 20152016 - ed. III
 - Teacher of the course “TIT - Energy Efficiency in Networks” (4 hours), in the Master “Digital Life & Smart Living”, a.a. 20152016 - ed. III
- A.Y. 2014-2015
- Teacher (titolare) of the course “Design of Metro, Access and Core networks”, (4 CFU, 32 hours), Master of Computer Science and Networking (Laurea Magistrale in Informatica e Networking), Scuola Superiore Sant’Anna-Pisa University, Pisa, Italy
 - Teacher of the course “Smart Grid and sustainable mobility” (4 hours), in the Master “Smart Solutions - Smart Communities”, a.a. 20142015 - ed. II
 - Teacher of the course “Energy Efficiency in Networks” (2 hours), in the Master “Smart Solutions - Smart Communities”, a.a. 20142015 - ed. II
 - Teacher of the course “Network Reliability” (2 hours), in the Master “Smart Solutions - Smart Communities”, a.a. 20142015 - ed. II
- A.Y. 2011-2012
- Teacher (titolare) of the course, “Network Management and Configuration” (“Gestione e Configurazione delle Reti”) (9 CFU, 72 hours), Master of Computer Science and Networking (Laurea Magistrale in Informatica e Networking), Scuola Superiore Sant’Anna-Pisa University, Pisa, Italy (course evaluation score by students: 3.7/4 (4=best))
- A.Y. 2011-2012
- Teacher (titolare) of the course, “Communications Networks”(40 hours) in the International Master on Communication Networks Engineering (IMCNE) (A.Y. 2011-2013) (course evaluation score by students: 8.000/10 (10=best)), MAster on Photonic NETworks Engineering (MAPNET) (A.Y. 2011-2013) (course evaluation score by students: 8.000/10 (10=best)), Graduate Program in Information Science and Technologies (GP-IST), Graduate Program in Information and Communication Technologies (GP-ICT)
- A.Y. 2010-2011
- Teacher of the module “Lab of Traffic Engineering (LabTE) and Lab of Network Software (LabNS)” (30 hours) of the course “Network Management and Configuration” (“Gestione e Configurazione delle Reti”), Master of Computer Science and Networking (Laurea Magistrale in Informatica e Networking), Scuola Superiore Sant’Anna-Pisa University, Pisa, Italy
- A.Y. 2009-2010
- Teacher (titolare) of the course “Laboratory of Traffic Engineering” (30 hours), “International Master on Communication Networks Engineering (IMCNE)” (A.Y. 2008-2010), Scuola Superiore Sant’Anna, Pisa, Italy (course evaluation score by students: 8.040/10 (10=best))
- A.Y. 2007-2008
- Teacher (titolare) of the course “Optical Internet” (20 hours) in the “International Master on Communication Networks Engineering (IMCNE)” (A.Y. 2007-2008), Scuola Superiore Sant’Anna, Pisa, Italy (average course evaluation score by students: 8.394/10 (10=best))
- A.Y. 2006-2007
- Teacher (titolare) of the course “Optical Internet” (24 hours) in the “International Master on Communication Networks Engineering (IMCNE)” (A.Y. 2006-2007), Scuola Superiore Sant’Anna, Pisa, Italy (average course evaluation score by students: 8.583/10 (10=best))
- A.Y. 2005-2006
- Teacher (titolare) of the course “Migration towards the Optical Internet” and “Migration towards the Optical Internet: Practice” (26 hours) in the “International Master on Communication Networks Engineering (IMCNE)” (A.Y. 2005-2006), Scuola Superiore Sant’Anna, Pisa, Italy

Pre-Graduate (Bachelor)

- A.Y. 2006-2007
- Teacher (titolare) of the subsidiary course “Network Resource Management” (1 CFU) at the Scuola Superiore Sant’Anna, Pisa, Italia

Teaching (continued)

- A.Y. 2005-2006 - Teacher (titolare) of the subsidiary course "The Migration toward the Optical Internet" ("Migrazione verso l'Internet Ottica") (3 CFU, 30 hours) at the Scuola Superiore Sant'Anna, Pisa, Italy
- A.Y. 2004-2005 - Teacher (titolare) of the subsidiary course "The Migration toward the Optical Internet" ("Migrazione verso l'Internet Ottica") (3 CFU, 30 hours) at the Scuola Superiore Sant'Anna, Pisa, Italy
- A.Y. 2002-2003 - Teacher (titolare) of the subsidiary course "The Migration toward the Optical Internet" ("Migrazione verso l'Internet Ottica") (3 CFU, 30 hours) at the Scuola Superiore Sant'Anna, Pisa, Italy
- While Post-doc - Collaborator of Prof. Andrea Fumagalli in the course EE6340-OT1 "Introduction to Telecommunications Networks", Spring 2002, "The University of Texas (UT) System".
- 2001 - Collaborator for the UTSystem Telecampus course EE6340 "Introduction to Telecommunications Networks", University of Texas at Dallas, TX, USA
- Aug. 2000-Dec. 2000 Teaching Assistant for the graduate course EE6340 "Introduction to Telecommunications Networks", University of Texas at Dallas, TX, USA

Research Mentorship and Student Supervision

Post-doc (Assegnisti di Ricerca)

- Dec. 1, 2020-current - Moises Felipe Mello da Silva, AdR, Scuola Superiore Sant'Anna, Pisa, Italy
- 2013-2016, 2017-2020 - Koteswararo Kondepu, AdR, Scuola Superiore Sant'Anna, Pisa, Italy

Research Fellows (Borsisti)

- Nov 1, 2020-Sep. 30. 2021 - Alessandro Pacini, Borsista, Scuola Superiore Sant'Anna, Pisa, Italy

Doctoral (Ph.D.) Students

- current - Emilio Paolini, Ph.D. student, Scuola Superiore Sant'Anna (Main Supervisor)
- current - Alessandro Pacini, Ph.D. student, Scuola Superiore Sant'Anna (Main Supervisor)
- current - Justine Cris Borromeo, Ph.D. student, Scuola Superiore Sant'Anna (Main Supervisor)
- graduation date: Nov. 28, 2019 - Francesco Giannone, Ph.D. student, Scuola Superiore Sant'Anna (Main Supervisor)
- graduation date: Jun. 2019 - Andrea Marotta, Ph.D. student, Universita' degli studi dell'Aquila (Co-supervisor)
- graduation date: Oct. 1, 2014 - Dung Pham Van, Ph.D., Scuola Superiore Sant'Anna (Main Supervisor)
- graduation date: Nov. 2009 - Nicola Sambo, Ph.D., Scuola Superiore Sant'Anna, "GMPLS Extensions for Transparent and Translucent Optical Networks" (Co-supervisor)
- graduation date: Feb. 2009 - Francesco Paolucci, Ph.D., Scuola Superiore Sant'Anna, "Network Services for Bandwidth-Greedy Applications" (Co-supervisor)
- graduation date: Dec. 14, 2006 - Nicola Andriolli, Ph.D. Scuola Superiore Sant'Anna, "Advanced Architectures and Protocols for Optical Networks" (Co-supervisor)
- graduation date: Jun. 9, 2006 - Alessio Giorgetti, Ph.D. Scuola Superiore Sant'Anna, "Reliability in Multi-Layer Networks" (Main Supervisor)

Master Students

- Sep. 9, 2021 - Mostafa Munira Binte, Erasmus Mundus Joint Master Degree Photonic Integrated Circuits, Sensors and NETWORKS (PIXNET), Scuola Superiore Sant'Anna, Pisa, Italy with a thesis entitled "Transmission of Industrial Protocol over 5G"
- June 25, 2021 - Alessandro Pacini, Master of Science on Computer Science and Networking, Scuola Superiore Sant'Anna-Università di Pisa, Pisa, Italy with a thesis entitled "A scalable and reliable Kafka-based monitoring architecture for Zero Touch networks"
- Dec. 04, 2020 - Ismael Abdulai, Master of Science on Computer Science and Networking, Scuola Superiore Sant'Anna-Università di Pisa, Pisa, Italy with a thesis entitled "Implementation and Performance Evaluation of An Emergency Vehicle Warning System"
- Jul. 26, 2019 - Daniel Melkamu Jifar, Master of Science on Computer Science and Networking, Scuola Superiore Sant'Anna-Università di Pisa, Pisa, Italy with a thesis entitled "Design and Performance Evaluation of Java-based Virtualized Network Resource Orchestrator"
- Apr. 28, 2017 - Yuliya Dzevik, Master of Science on Computer Science and Networking, Scuola Superiore Sant'Anna-Università di Pisa, Pisa, Italy with a thesis entitled "Impact of eNB functional splits on the 5G fronthaul performance: an experimental evaluation"
- Mar. 3, 2014 - Antonio Perfetto, student of the Master "Smart Solutions - Smart Communities", Scuola Superiore Sant'Anna-Telecom Italia, Pisa, Italy for the Internship at Telecom Italia, Business-Marketing Area on "Fixed broadband services for Business market"

Research Mentorship and Student Supervision (continued)

- graduation date: Aug. 27, 2012- Neelakandan Manihatty Bojan, MAsters on Photonic NETworks engineering (MAP-NET), Scuola Superiore Sant'Anna, Erasmus Mundus Programme, with a thesis entitled "Implementation of a testbed for evaluating energy efficiency in passive optical network" (Main Supervisor)
- graduation date: May 12, 2011- Michele Chincoli, Master, University of Pisa, with a thesis entitled "Methods for Improving Energy Efficiency in TDM PONs" (Main Supervisor)
- graduation date: Mar. 11, 2010- Talha Bin Fida, Master, KTH, Sweden, with a thesis entitled "Seamless Mobile IPv6 Based Mobility in Mobile WiMAX" (Main Supervisor)
- graduation date: Sep. 23, 2005- Lorenzo Rossi, Master, University of Pisa, "Integrazione di Tecniche di Ripristino a Livello di Rete e di Applicazione per Servizi Multimediali" ("Integration of network and application layer resilience techniques for multimedia services") (Main Supervisor)
- graduation date: Nov. 16, 2006- Domenico Ficara, Diploma, Scuola Superiore Sant'Anna, "A Web Services Based Implementation of a Distributed Topology Discovery Service" (Main Supervisor)
- Individual Instruction
- Ramkumar Ganapathysubramanian, The University of Texas at Dallas, Richardson, TX, USA
 - Venkat Peddigari, The University of Texas at Dallas, Richardson, TX, USA
 - Sandeep Darisala, The University of Texas at Dallas, Richardson, TX, USA
 - Parthasarathy Kothandaraman, The University of Texsa at Dallas, Richardson, TX, USA
 - The following papers have been published in collaboration with the individual instruction students:
 - S. Darisala, A. Fumagalli, P. Kothandaraman, M. Tacca, L. Valcarenghi, M. Ali, and D. Elie-Dit-Cosaque, "Multi-Failure Survivability in Optical Networks", in Proceedings of PS2003, Sep. 28-Oct. 2, 2003, Versailles, France
 - S. Darisala, A. Fumagalli, P. Kothandaraman, M. Tacca, L. Valcarenghi, M. Ali, and D. Elie-Dit-Cosaque, "On the Convergence of the Link-State Advertisement Protocol in Survivable WDM Mesh Networks", in Proceedings of ONDM 2003, Feb. 3-5, 2003, Budapest, Hungary
 - L. Valcarenghi, A. Fumagalli, R. Ganapathysubramanian, and V. Peddigari, "Preplanned Weighted Restoration in Highly Dynamic GMPLS Networks", Proceedings of OFC 2002, Mar. 17-22, 2002, Anaheim, CA, USA
 - P. Kothandaraman, L. Valcarenghi, A. Fumagalli, "Generalized Stochastic Preplanned Restoration Scheme", IEEE Emerging Technologies in Telecommunications (ETTC 2002), Sep. 24-26, 2002, Dallas, Texas, USA

Undergraduate Students

- graduation date: Feb. 24, 2017- Alberto Ando', Bachelor, Computer Science (Ingegneria Informatica), University of Pisa, "Valutazione delle prestazioni di protocolli e tecniche di scheduling collaborativo tra celle eNB in reti 5G" ("Performance evaluation of cooperative protocol and scheduling techniques between eNB in 5G networks") (Main Supervisor)
- graduation date: Dec. 19, 2008- Michele Chincoli, Bachelor, Telecommunications Engineering, University of Pisa, "Realizzazione e valutazione sperimentale di un servizio di esplorazione di rete a livello di router" ("Implementation and Experimental Evaluation of Router Level Topology Discovery Service") (Main Supervisor)

Research Mentorship and Student Supervision (continued)

graduation date: Nov. 16, 2006- Claudio Nani, Diploma Scuola Superiore Sant'Anna, "Ottimizzazione dell'Instradamento di Connessioni con Qualità del Servizio in Reti Integrate Wired e Wireless" ("Optimal Routing of QoS-guaranteed Connections in integrated Wired-Wireless Networks") (Co-supervisor)

graduation date: Jun. 5, 2005 - Luca Foschini, Diploma Scuola Superiore Sant'Anna, "Un approccio distribuito per scoprire la topologia di rete" ("A distributed approach to topology discovery") (Main Supervisor)

graduation date: Oct. 25, 2005- Pier Giorgio Raponi, Diploma Scuola Superiore Sant'Anna, "Assessment of GridFTP performance in connection-less and connection-oriented Metropolitan Area Networks" (Main Supervisor)

Participation as a speaker at congresses and conferences

National Conferences

- ONE INVITED PRESENTATION, 74 Congresso Nazionale SIAARTI, Intensive Care Anaesthesia Resuscitation Emergency and Pain — ICARE 2020, Oct. 2020, digital event

International Conferences

- ONE PAPER PRESENTATION, IEEE International Mediterranean Conference on Communications and Networking (IEEE Meditcom 2021), Sep. 7-10, 2021, Hybrid event
- ONE INVITED PAPER PRESENTATION, 25th International Conference on Optical Design and Modelling (ONDM 2021), Jun. 28-Jul. 1, 2021, Virtual Event
- ONE PAPER PRESENTATION, OFC 2021, Jun. 6-11, 2021
- ONE PRESENTATION, 2020 IEEE 5G World Forum, Workshop on 5G: From Theory to Practice (5GToP), Sep. 10-Nov. 2, 2020, Virtual Event
- ONE INVITED PRESENTATION, 21st International Conference on Transparent Optical Networks (ICTON 2019), July 9-13, 2019, Angers, France
- ONE DEMO PRESENTATION, European Conference on Optical Communication (ECOC), Rome, Italy, 23-27 Sept. 2018
- ONE PRESENTATION, IEEE Globecom 2017, Singapore, 4-8 December 2017
- ONE INVITED PRESENTATION, 19th International Conference on Transparent Optical Networks (ICTON 2017), July 2nd to 6th, 2017, Girona, Spain
- TEAM LEADER "Connected OFCity Challenge: Optical Innovations for Future Services in a Smart City Workshop", OFC 2017, Mar. 19-23, Los Angeles, CA
- ONE INVITED PRESENTATION 18th International Conference on Transparent Optical Networks ICTON 2016, July 10-14, 2016, Trento, Italy
- ONE PRESENTATION 2016 European Conference on Networks and Communications, EUCNC 2016, June 27-30, 2016, Athens, Greece
- ONE POSTER Optical Fiber communication Conference (OFC) 2016, Mar. 20-14, 2016, Anaheim, CA, USA
- ONE PRESENTATION "Optical Networks and Systems Symposium (ONS)", IEEE Globecom 2015, Dec. 6-10, 2015, San Diego, USA
- ONE POSTER 2014 European Conference on Optical Communication (ECOC), Sep. 21-25, 2014, Cannes, France
- ONE INVITED PRESENTATION 2015 International Conference on Optical Network Design and Modeling, ONDM 2015, May 11-14, 2015, Pisa, Italy
- ONE PRESENTATION IEEE Global Communications Conference 2014 (Globecom 2014), Dec. 8-12, 2014, Austin, TX, USA
- TWO INVITED PRESENTATIONS AND ONE PRESENTATION, IEEE/OSA The OptoElectronics and Communication Conference and the Australian Conference on Optical Fibre Technology (OECC/ACOFT) 2014, Jul. 6-10, 2014, Melbourne, Australia
- INVITED PRESENTATION: L. Valcarenghi, "Simulative and Experimental Evaluation of Cyclic Sleep with Service Based Variable Sleep Period (CSVP)", Workshop on Energy Efficient Optical Communications and Networking, ACP 2012, Guangzhou, China
- DEMO The Second IFIP Conference on Sustainable Internet and ICT for Sustainability - Sustain IT 2012, October 4-5, 2012, Pisa, Italy

Participation as a speaker at congresses and conferences (continued)

- ONE INVITED PRESENTATION and ONE PRESENTATION Asia Communications and Photonics Conference (ACP) 2012, Guangzhou 510064, China, Nov. 7-10, 2012
- INVITED PRESENTATION: L. Valcarenghi, "Energy Efficient Core Networks", ECOC 2010 GreenTouch Workshop, Turin, Italy
- ONE POSTER 36th European Conference and Exhibition on Optical Communication (ECOC), Sep. 19-23, 2010, Turin, Italy
- PUBLICATION CHAIR, "18th Annual IEEE Symposium on High-Performance Interconnects (HOT Interconnects 2010)", Aug. 18-20, 2010, Mountain View, CA, USA
- ONE PRESENTATION IEEE International Conference on Communications (ICC), May 23-27, 2010, Cape Town, South Africa
- THREE PRESENTATIONS Globecom 2009, Nov. 30 2009-Dec. 4 2009, Honolulu, HI
- ONE PRESENTATION Globecom 2007, 26-30 Novembre 2007, Washington, DC, USA
- ONE PRESENTATION Fourth International Conference on Broadband Communications, Networks and Systems (BROADNETS), Sep. 10-14, Raleigh, NC
- ONE INVITED PRESENTATION Broadnets 2006, Oct. 1-5, 2006, San Jose, CA
- ONE INVITED PRESENTATION 8th International Conference on Transparent Optical Networks (ICTON 2006), June 18-22, 2006 - Nottingham, United Kingdom
- TWO PRESENTATIONS IEEE Globecom 2005, Nov. 28-Dec. 2 2005, St. Louis, MO (USA)
- ONE POSTER 13th Annual IEEE Symposium on High Performance Interconnects, Aug. 17-19, 2005, Stanford University
- ONE INVITED PRESENTATION 7th International Conference on Transparent Optical Networks (ICTON 2005), Jul. 3-7, 2005, Barcelona, Spain
- ONE PRESENTATION 1st EuroNGI Conference on Next Generation Internet Networks - Traffic Engineering, Apr. 18-20, 2005, Rome, Italy
- ONE PRESENTATION First International Workshop on Networks for Grid Applications (GridNets 2004), Oct. 29, 2004, San Jose, CA, USA
- ONE PRESENTATION ONDM 2004, Feb. 1-4, 2004, Gent, Belgium
- TWO PRESENTATIONS ONDM 2003, Feb. 3-5, 2003, Budapest, Hungary
- ONE PRESENTATION OFC 2002, Mar. 17-22, 2002, Anaheim, CA
- ONE PRESENTATION IEEE Workshop on High Performance Switching and Routing (HPSR 2001), May 29-31, 2001, Dallas, TX
- ONE PRESENTATION All-Optical Networking 1999: Architecture, Control, and Management Issues, part of Photonic East, SPIE , vol. 3843, Sep. 19-21, 1999, Boston, MA
- ONE PRESENTATION Photonic East, Proceedings of the Society of Photo-Optical Instrumentation Engineers (SPIE), vol. 3531, Nov. 3-5, 1998, Boston, MA

Participation as a speaker at congresses and conferences (continued)

Invited Lectures

- Organizer of the "5G for mobile health" demonstration, Internet Festival 2021, Oct. 9-10, 2021, Pisa Italy
- L. Valcarengi, "5G Private Networks: Overview and Potential Applications in the Military Sector", Seafuture, Maritime Cyber Resilience and 5G Communication Impact, Sep. 28-Oct. 1, 2021, La Spezia, Italy
- Organizer of the "Star Trek (5G)SOSIA: una app permette ai partecipanti di trasformarsi nel medico di Star Trek.", La notte dei ricercatori, BRIGHT 2021, Sep. 24, 2021
- L. Valcarengi, "5G Private Networks Overview and Potential Applications in the Military Sector", Seafuture, Maritime Cyber Resilience and 5G Communication Impact, Feb. 18, 2021, Online Event
- Organizer of the "5G Challenge", La notte dei ricercatori, BRIGHT 2019, Sep. 27, 2019
- Organizer of the "5G Challenge", La notte dei ricercatori, BRIGHT 2019, Sep. 28, 2018
- L. Valcarengi, "Sustainable Passive Optical Networks: from Theory to Practice", Jul. 2, 2014, The University of Melbourne, Melbourne, Australia
- L. Valcarengi, "In viaggio seguendo i dati: da casa a Facebook" ("Traveling with the data: from home to Facebook", Sant'Anna Science Café, Jun. 12, 2014, Scuola Superiore Sant'Anna, Pisa, Italy
- L. Valcarengi, "Intervento T-Tour_Web Science Journalist-2", Internet Festival, Jun. 9, 2014, Pisa, Italy
- L. Valcarengi, "Energy Efficiency in Passive Optical Networks", Aug. 19, 2013, Mitsubishi Electric Corporation, Ofuna, Japan
- L. Valcarengi, "Energy Efficiency in Passive Optical Networks", May 8, 2013, Osaka University, Osaka, Japan
- L. Valcarengi, "Simulative and Experimental Evaluation of Cyclic Sleep with Service Based Variable Sleep Period (CSVP)", Workshop on Energy Efficient Optical Communications and Networking, ACP 2012, Nov. 7, 2012 Guangzhou, China
- L. Valcarengi, "Energy-Efficient PONs with Service Delay Guarantees", Workshop on Power Consumption in Access Networks, May 28, 2012, KTH, Stockholm
- L. Valcarengi, "Solutions for Energy-Efficient Passive Optical Networks", ITU-T SG15 Meeting, Dec. 13, 2011, Geneva, Suisse
- L. Valcarengi, "Improving Energy Efficiency in Optical Access Networks", STRONGEST "Green Telecommunications Workshop", Oct. 18, 2011, Pisa, Italy
- L. Valcarengi, "Reducing Energy Consumption in Optical Access Networks", ITU-T Green Standards Week, Sep. 5-9, 2011, Rome, Italy
- L. Valcarengi, "Energy Efficient Core Networks", ECOC 2010 GreenTouch Workshop Sep. 21, 2010, Turin, Italy
- L. Valcarengi, "Monitoring and Resilience in the Global Grid", Winter School of the Network of Excellence (NoE) e-Photon/ONe on "Optical Grid and Optical Network Resilience", September 4-6, 2006, Zagreb, Croatia
- L. Valcarengi, "Networks Resilience in GMPLS Based Networks", Winter School of the Network of Excellence (NoE) e-Photon/ONe on "Core Network Technologies", February 23-25, 2005, Aveiro, Portugal
- B. Martini, F. Baroncelli, F. Cugini, L. Valcarengi, and P. Castoldi, "Optical networking Advanced architectures and protocols", Future trends in Network Restoration/Resilience in All-Optical Networks, Pre-Seminar Tutorial Marconi, May 6, 2004, Coventry, UK

Participation as a speaker at congresses and conferences (continued)

- N. Andriolli, F. Baroncelli, B. Martini, P. Castoldi, F. Cugini, M. Ghizzi, A. Giorgetti, Ramesh Kumar Manickam, P. T. Kulkarni, and L. Valcarengi, "New concepts, research tools and protocol extensions for optical switching", Indo-Italian One-day Workshop on Photonic Technologies, Networking and Applications Indian Institute of Technology (IIT), Mar. 29, 2004 Kharagpur, India
- L. Valcarengi, "Provisioning and restoration in grooming-capable optical networks", Indo Italian One-day Workshop on Photonic Technologies, Networking and Applications Indian Institute of Technology (IIT), Mar. 29, 2004, Kharagpur, India
- L. Valcarengi, "Optical Networks: Research Directions and Proposed Solutions", Feb. 6, 2003, Budapest University of Technology and Economics, Budapest, Hungary
- L. Valcarengi, "GMPLS based intelligent optical networks and their interworking with IP clients", 3rd Hungarian WDM Workshop, Apr. 8, 2003, Budapest, Hungary

Panels

- 5G expert panelist in the workshop "Economia e impresa: prove di futuro", Internet Festival 2019, Oct. 11, 2019, Pisa, Italy
- Organizer workshop "Internet nell'era del 5G", Internet Festival, Oct. 12, 2018, Pisa, Italy
- Panel co-organizer and moderator, "Sustainability and ICT: where we are, where we are heading ?", Industrial Track, SustainIT 2013, Oct. 30, 2013, Palermo, Italy
- Panelist at "Workshop 3: Research directions for green networks", PS 2012, Sep. 11, 2012, Ajaccio, France
- Panelist at "Telecom and Energy forum", PS 2012, Sep. 14, 2012, Ajaccio, France
- Panelist at "International Workshop on Sustainable Internet and Internet for Sustainability — Sustainet 2011", Jun. 20, 2011, Lucca, Italy
- Panelist at the "Performance and routing in optical networks" Workshop, part of Photonic Switching 2003 (PS 2003), Sep. 28 - Oct. 2, 2003, Versailles, France

Tutorials

- "Quality of Service in Global Grid Computing", Tutorial 2, IEEE HOT Interconnects 13, HOT13, Aug. 17-19, 2005, Stanford University, Stanford, CA
- "Resilient Network Infrastructures for Global Grid Computing", Tutorial 2, HOTI 12, Aug. 27, 2004, Stanford, CA

List of Publications

Theses

- 2001 - L. Valcarengi, "IP-over-WDM Survivable Networks", *Ph. D. dissertation*, The University of Texas Dallas, Dec. 2001
- 1999 - L. Valcarengi, "Optical Network Design Optimization Based on Simulated Annealing", *M.S.E.E. thesis*, The University of Texas at Dallas, May 1999
- 1997 - L. Valcarengi, "Optical Amplifier Placement in WDM Networks", *Laurea thesis*, Politecnico di Torino, Oct. 1997

Book Chapters

- BC1 - Jorge Martín Pérez, Lina Magoula, Kiril Antevski, Carlos Guimaraes, J. Baranda, Carla Fabiana Chiasserini, Andrea Sgambelluri, Chrysa Papagianni, Andres Garcia-Saavedra, R. Martínez, Francesco Paolucci, Sokratis Barmponakis, L. Valcarengi, Claudio Ettore Casetti, Xi Li, C. J. Bernardos, Danny De Vleeschauwer, Koen De Schepper, Panagiotis Kontopoulos, Nikolaos Koursioupas, Corrado Puligheddu, J. Manges-Bafalluy, Engin Zeydan, "Self-managed 5G Networks", chapter in "Communication Networks and Service Management in the Era of Artificial Intelligence and Machine Learning", Nur Zincir-Heywood, Marco Mellia, Yixin Diao (Eds.), IEEE Press Series on Networks and Service Management, to be published Sep. 2021, John Wiley and Sons Ltd
- BC2 - J.C. Borromeo, K. Kondepu, L. Valcarengi, "5G Radio Access Network Virtualization", chapter in "CNIT Technical Report-06:Network Programmability: a (r)evolutionary approach", G. Bianchi, W. Cerroni, S. Palazzo (Eds.), ISBN: 978-88-94982-42-8, Nov. 2020, Texmat
- BC3 - J. Prat and L. Valcarengi, "Emerging PONs", chapter in "Springer Handbook of Optical Networks", B. Mukherjee, I. Tomkos, M. Tornatore, P. Winzer, Y. Zhao (Eds.), ISBN: 978-3-030-16249-8, eISBN: 978-3-030-16250-4, DOI: 10.1007/978-3-030-16250-4, 2020, Publisher Springer International Publishing
- BC4 - A. G. Cervero, M. Chincoli, L. Dittmann, A. Fischer, A. E. Garcia, J. Galàn-Jiménez, L. Lefèvre, H. de Meer, T. Monteil, P. Monti, A.-C. Orgerie, L.-F. Pau, C. Phillips, S. Ricciardi, R. Sharrock, P. Stolf, T. Trinh, and L. Valcarengi, "Green Wired Networks", chapter in "Large-Scale Distributed Systems and Energy Efficiency: A Holistic View", J.-M. Pierson (Ed.), John Wiley & Sons Inc., Mar. 30, 2015, 111 River Street, Hoboken, NJ, 07030, USA, ISBN: 9781118864630
- BC5 - R. Nejabati, J. Aracil, P. Castoldi, M. De Leenheer, D. Simeonidou, L. Valcarengi, G. Zervas, J. Wu, "Advanced Optical Burst Switched Network Concepts", chapter in "Enabling Optical Internet with Advanced Network Technologies", J. Aracil and F. Callegati Eds., pp. 131-154, 2009, Springer-Verlag London Ltd, 236 Gray's Inn Road Floor 6, London WC1X 8HB, UK, ISBN: 9781848822788, DOI: 10.1007/978-1-84882-278-8
- BC6 - I. Cerutti, L. Valcarengi, P. Castoldi, D. Marabissi, F. Meucci, L. Pierucci, E. Del Re, L. S. Ronga, R. Tka, F. Kamoun, "IEEE 802.16: Enhanced Modes of Operation and Integration with Wired MANs", chapter in "Current Technology Developments of WiMax Systems", Ma Maode (Ed.), pp. 265-300, Jan. 2009, Springer Science+Business Media B.V., Van Godewijckstraat 30 3311 GX Dordrecht, Netherlands, ISBN: 9781402092992, DOI: 10.1007/978-1-4020-9300-5
- BC7 - A. Fumagalli, J. Aracil, and L. Valcarengi, "The Future Optical Internet: Integration of Optical and IP Technologies", chapter in "Managing IP Networks: Challenges and Opportunities", Salah Aidarous and Tom Plevyak (Eds.), pp. 287-334, Wiley-IEEE Press, Sep. 2003, 111 River Street, Hoboken, NJ, USA, ISBN: 0471392995, DOI: 10.1002/0471722987.index
- BC8 - I. Chlamtac, A. Fumagalli, and L. Valcarengi, "Use of Computational Intelligence Techniques for Designing Optical Networks", chapter in "Computational Intelligence in Telecommunications Networks", W. Pedrycz and A. Vasilakos (Eds.), pp. 407-432, CRC Press LLC, Sep. 2000, Boca Raton, FL, USA, ISBN: 084931075X, DOI: 10.1201/9781420040951.ch16

International Peer-Reviewed Journal Papers

- J1 - A. Giorgetti, D. Scano and L. Valcarengi, "Guaranteeing Slice Performance Isolation with SDN," in IEEE Communications Letters, doi: 10.1109/LCOMM.2021.3113175.

List of Publications (continued)

- J2 - X. Li, C.F. Chiasserini, J. Mangues-Bafalluy, J. Baranda, G. Landi, B. Martini, X. Costa-Perez, C. Puligheddu, L. Valcarenghi, "Automated Service Provisioning and Hierarchical SLA Management in 5G Systems," in *IEEE Transactions on Network and Service Management*, doi: 10.1109/TNSM.2021.3102890.
- J3 - A. Sgambelluri, A. Pacini, F. Paolucci, P. Castoldi, and L. Valcarenghi, "Reliable and scalable Kafka-based framework for optical network telemetry," *J. Opt. Commun. Netw.* vol. 13, no. 10, E42-E52 (2021), <https://doi.org/10.1364/JOCN.424639>
- J4 - D. Scano, F. Paolucci, K. Kondepu, A. Sgambelluri, L. Valcarenghi, and F. Cugini, "Extending P4 in-band telemetry to user equipment for latency- and localization-aware autonomous networking with AI forecasting," *J. Opt. Commun. Netw.* vol. 13, no. 9, D103-D114 (Sep. 1, 2021), <https://doi.org/10.1364/JOCN.425891>
- J5 - S. Ramanathan, K. Kondepu, M. Razo, M. Tacca, L. Valcarenghi and A. Fumagalli, "Live Migration of Virtual Machine and Container Based Mobile Core Network Components: A Comprehensive Study," in *IEEE Access*, vol. 9, pp. 105082-105100, Jul 26, 2021, doi: 10.1109/ACCESS.2021.3099370.
- J6 - F. Giannone, P. A. Frangoudis, A. Ksentini, and L. Valcarenghi, "Orchestrating heterogeneous MEC-based applications for connected vehicles," in *Elsevier Computer Networks*, Volume 180, 24 October 2020, <https://doi.org/10.1016/j.comnet.2020.107402>
- J7 - F. Civerchia, M. Pelcat, L. Maggiani, K. Kondepu, P. Castoldi and L. Valcarenghi, "Is OpenCL Driven Reconfigurable Hardware Suitable for Virtualising 5G Infrastructure?," in *IEEE Transactions on Network and Service Management*, vol. 17, no. 2, pp. 849-863, June 2020, doi: 10.1109/TNSM.2020.2964392.
- J8 - A. Marotta, D. Cassioli, C. Antonelli, K. Kondepu and L. Valcarenghi, "Network Solutions for CoMP Coordinated Scheduling," in *IEEE Access*, vol. 7, pp. 176624-176633, 2019. doi: 10.1109/ACCESS.2019.2957940
- J9 - A. Marotta, D. Cassioli, K. Kondepu, C. Antonelli, and L. Valcarenghi, "Exploiting flexible functional split in converged software defined access networks," in *IEEE/OSA Journal of Optical Communications and Networking*, vol. 11, no. 11, pp. 536-546, November 2019, doi: 10.1364/JOCN.11.000536.
- J10 - K. Kondepu, A. Sgambelluri, F. Cugini, P. Castoldi, R. Aparicio Morenilla, D. Larrabeiti, B. Vermeulen, L. Valcarenghi, "Performance evaluation of SDN-controlled green mobile fronthaul using a federation of experimental network testbeds", *PHOTONIC NETWORK COMMUNICATIONS*, vol. 37, p. 399-408, 15 June 2019, ISSN: 1387-974X, doi: 10.1007/s11107-018-00822-y
- J11 - S. Ramanathan, M. Tacca, M. Razo, B. Mirkhazadeh, K. Kondepu, F. Giannone, L. Valcarenghi, A. Fumagalli, "A programmable optical network testbed in support of C-RAN: a reliability study", *PHOTONIC NETWORK COMMUNICATIONS*, vol. 37, p. 311-321, 15 June 2019, ISSN: 1387-974X, doi: 10.1007/s11107-018-00825-9
- J12 - F. Giannone, K. Kondepu, H. Gupta, F. Civerchia, P. Castoldi, A. Franklin, L. Valcarenghi, "Impact of Virtualization Technologies on Virtualized RAN Midhaul Latency Budget: A Quantitative Experimental Evaluation," in *IEEE Communications Letters*, vol. 23, no. 4, pp. 604-607, April 2019, doi: 10.1109/LCOMM.2019.2899308.
- J13 - D. Lavery, M. Ruffini, L. Valcarenghi, N. Yoshimoto, T. Pfeiffer, D. Hood, J. Zhang, D. King, H. Roberts, R. Yadav, Y. Rajesh, N. Sambo, S. Fichera, M. Carrozzino, F. Tecchia, M. Tacca, E. Wong, N. Cheng, Y. Yoshida, D. Khotimsky, "Networks for Future Services in a Smart City: Lessons Learned from the Connected OFCity Challenge 2017", in *IEEE Communications Magazine*, vol. 56, no. 8, pp. 138-144, August 2018, doi: 10.1109/MCOM.2018.1701084.
- J14 - K. Kondepu, A. Sgambelluri, N. Sambo, F. Giannone, P. Castoldi, L. Valcarenghi, "Orchestrating Lightpath Recovery and Flexible Functional Split to Preserve Virtualized RAN Connectivity", in *IEEE/OSA Journal of Optical Communications and Networking*, vol. 10, no. 11, pp. 843-851, Nov. 2018, doi: 10.1364/JOCN.10.000843.
- J15 - K. Kondepu, A. Sgambelluri, L. Valcarenghi, F. Cugini, P. Castoldi, "Exploiting SDN for Integrating Green TWDM-PONs and Metro Networks Preserving End-to-End Delay", in *IEEE/OSA Journal of Optical Communications and Networking*, vol. 9, no. 1, pp. 67-74, Jan. 2017, doi: 10.1364/JOCN.9.000067.

List of Publications (continued)

- J16 - L. Valcarenghi, P. Castoldi, K. Kondepu, "Time-Versus Size-Based CPRI in Ethernet Encapsulation for Next Generation Reconfigurable Fronthaul", in *IEEE/OSA Journal of Optical Communications and Networking*, vol. 9, no. 9, pp. D64-D73, Sept. 2017, doi: 10.1364/JOCN.9.000D64.
- J17 - D. Chitimalla, K. Kondepu, L. Valcarenghi, M. Tornatore, B. Mukherjee, Biswanath, "5G fronthaul-latency and jitter studies of CPRI over ethernet", in *IEEE/OSA Journal of Optical Communications and Networking*, vol. 9, no. 2, pp. 172-182, Feb. 2017, doi: 10.1364/JOCN.9.000172.
- J18 - R. Tucker, M. Ruffini, L. Valcarenghi, D. R. Campelo, D. Simeonidou, Du Liang, M.-C. Marinescu, C. Middleton, Yin Shuang, T. Forde, K. Bourg, Dai Eugene, E. Harstead, P. Chanclou, H. Roberts, V. Jungnickel, S. Figuerola, T. Takahara, R. Yadav, P. Vetter, D. A. Khotimsky, Jun Shan Wey, "Connected OFCity: Technology innovations for a smart city project" [Invited]. in *IEEE/OSA Journal of Optical Communications and Networking*, vol. 9, no. 2, pp. A245-A255, Feb. 2017, doi: 10.1364/JOCN.9.00A245.
- J19 - L. Valcarenghi, K. Kondepu, P. Castoldi, "Delay fairness in reconfigurable and energy efficient TWDM PON", *Computer Networks*, Volume 110, 9 December 2016, Pages 223-231, doi: 10.1016/j.comnet.2016.09.002
- J20 - D.P. Van, B.P. Rimal, M. Maier, L. Valcarenghi, "ECO-FiWi: An Energy Conservation Scheme for Integrated Fiber-Wireless Access Networks", in *IEEE Transactions on Wireless Communications*, vol. 15, no. 6, pp. 3979-3994, June 2016, doi: 10.1109/TWC.2016.2531694.
- J21 - D.P. Van, B.P. Rimal, M. Maier, L. Valcarenghi, "Design, analysis, and hardware emulation of a novel energy conservation scheme for sensor enhanced FiWi networks (ECO-SFiWi)", in *IEEE Journal on Selected Areas in Communications*, vol. 34, no. 5, pp. 1645-1662, May 2016, doi: 10.1109/JSAC.2016.2545380.
- J22 - Matteo Fiorani, Björn Skubic, Jonas Mårtensson, L. Valcarenghi, Piero Castoldi, Lena Wosinska, Paolo Monti, "On the design of 5G transport networks", December 2015, *Photonic network communications* 30 (3), 403-415, doi: 10.1007/s11107-015-0553-8
- J23 - M. P. Imali Dias, D. P. Van, L. Valcarenghi and E. Wong, "Energy-efficient framework for time and wavelength division multiplexed passive optical networks," in *IEEE/OSA Journal of Optical Communications and Networking*, vol. 7, no. 6, pp. 496-504, 1 June 2015, doi: 10.1364/JOCN.7.000496.
- J24 - K. Kondepu, L. Valcarenghi, D.P. Van, P. Castoldi, "Trading energy savings and network performance in reconfigurable TWDM-PONs", in *IEEE/OSA Journal of Optical Communications and Networking*, vol. 7, no. 5, pp. 470-471, May 2015, doi: 10.1364/JOCN.7.000470.
- J25 - D.P. Van, L. Valcarenghi, M.P.I. Dias, K. Kondepu, P. Castoldi, E. Wong, "Energy-saving framework for passive optical networks with ONU sleep/doze mode", *Optics express* 23 (3), A1-A14, 2015, doi: 10.1364/OE.23.0000A1
- J26 - R. Gaudio, R. Giuliano, F. Mazzenga, L. Valcarenghi, and F. Vatalaro, "Unbundling in Current Broadband and Next-Generation Ultra-Broadband Access Networks", [INVITED PAPER], special issue on "Optical Communications for Future Applications", *Fiber and Integrated Optics*, ISSN: 0146-8030 (Print), 1096-4681 (Online), Taylor & Francis, vol. 33, no. 3, pp. 129-148, 2014
- J27 - D. Pham Van, L. Valcarenghi, M. Chincoli, P. Castoldi, "Experimental evaluation of a sleep-aware dynamic bandwidth allocation in a multi-ONU 10G-EPON testbed", Special issue on "Passive optical network (PON) supported networking", *Elsevier Optical Switching and Networking (OSN)*, ISSN: 1573-4277, Elsevier Science BV, PO BOX 211, 1000 AE Amsterdam, Netherlands, available on-line Jan. 25, 2014, DOI: 10.1016/j.osn.2014.01.006
- J28 - F. Zanini, L. Valcarenghi, Dung Pham Van, M. Chincoli, P. Castoldi, "Introducing cognition in TDM PONs with cooperative cyclic sleep through runtime sleep time determination", vol. 11, Part A, Jan. 2014, pp. 113-118, *Elsevier Optical Switching and Networking (OSN)*, ISSN: 1573-4277, Elsevier Science BV, PO BOX 211, 1000 AE Amsterdam, Netherlands, DOI: 10.1016/j.osn.2013.08.007
- J29 - F. Paolucci, I. Cerutti, F. Cugini, L. Valcarenghi, P. Castoldi, "Optimal K-survivable backward-recursive path computation (BRPC) in multi-domain PCE-based networks", *Springer Photonic Network Communications*, Aug. 2013, vol. 26, no. 1, pp 1-12, ISSN: 1387-974X (Print) 1572-8188 (Online), Springer Science+Business Media LLC, 233 Spring Street, New York, NY 10013-1578 USA, DOI 10.1007/s11107-013-0403-5

List of Publications (continued)

- J30 - A. Giorgetti, F. Cugini, L. Valcarenghi, F. Paolucci, A. Pistone, P. Castoldi, "Performance Analysis of Media Redundancy Protocol (MRP)", *IEEE TRANSACTIONS ON INDUSTRIAL INFORMATICS*, vol.9, no.1, Feb. 2013, pp.218-227, ISSN: 1551-3203, IEEE, 445 Hoes Lane, Piscataway, NJ 08855-4141, DOI: 10.1109/TII.2012.2186584
- J31 - R. Bruno, L. Valcarenghi, M. Gharbaoui and B. Martini, "Smart Management of Renewable Energy for Green Transport", "Special theme: Smart Energy Systems", *ERCIM News* no. 92, January 2013, ISSN: 0926-4981, ERCIM EEIG, B.P. 93, F-06902 Sophia-Antipolis Cedex, France
- J32 - L. Valcarenghi, I. Cerutti, P. Castoldi, "Energy Efficient Multicasting in TDMA PONs", *IOS Press Journal of High Speed Networks*, vol. 18, no. 4 / 2012, pp. 213-222, ISSN: 0926-6801 (Print) 1875-8940 (Online), IOS Press, Nieuwe Hemweg 6B 1013 BG, Amsterdam, The Netherlands, DOI: 10.3233/JHS-130461
- J33 - L. Valcarenghi, D. Pham Van, P.G. Raponi, P. Castoldi, D. R. Campelo, S.-W. Wong, S.-H. Yen, L. Kazovsky, S. Yamashita, "Energy Efficiency in Passive Optical Networks: Where, When, and How?", *IEEE Network*, vol. 26, no. 6, Nov. 2012, pp. 61-68, ISSN: 0890-8044, IEEE, 445 Hoes Lane, Piscataway, NJ 08855-4141, DOI: 10.1109/MNET.2012.6375895
- J34 - F. Paolucci, A. Giorgetti, N. Sambo, L. Valcarenghi, M. Maier, P. Castoldi, "Enabling transparent lambda services between metro and core networks", *Photonic Network Communications*, vol. 23, no. 2, pp. 137-147, April 1, 2012, ISSN: 1387-974X (Print), 1572-8188 (Online), Springer Science+Business Media LLC, 233 Spring Street, New York, NY 10013-1578 USA, DOI: 10.1007/s11107-011-0344-9, (ISI Impact Factor [2012]: 0.448) (Citations: ISI(1), Scopus(1), Scholar(1); accessed Jun. 24, 2014)
- J35 - P. Castoldi, N. Sambo, F. Cugini, L. Valcarenghi, "QoT-aware Lightpath Set Up in GMPLS-controlled WDM Networks: a survey", *Elsevier Optical Switching and Networking*, vol.8, no.4, Dec. 2011, pp.275-374, ISSN: 1573-4277, Elsevier B.V., Radarweg 29, Amsterdam 1043 NX, The Netherlands, DOI: 10.1016/j.osn.2011.06.005
- J36 - F. Paolucci, M. Gharbaoui, A. Giorgetti, F. Cugini, B. Martini, L. Valcarenghi, P. Castoldi, "Preserving Confidentiality in PCE-based Multi-domain Networks," *IEEE/OSA Journal of Optical Communications and Networking (JOCN)*, vol. 3, no. 5, May 2011, pp.465-474, ISSN: 1943-0620, Optical Society of America, 2010 Massachusetts Avenue, N.W., Washington, D.C. 20036-1023, DOI: 10.1364/JOCN.3.000465
- J37 - N. Sambo, Y. Pointurier, F. Cugini, L. Valcarenghi, P. Castoldi, I. Tomkos, "Lightpath Establishment Assisted by Offline QoT Estimation in Transparent Optical Networks," *IEEE/OSA Journal of Optical Communications and Networking (JOCN)*, vol. 2, no. 11, Nov. 2010, pp.928-937, ISSN: 1943-0620, Optical Society of America, 2010 Massachusetts Avenue, N.W., Washington, D.C. 20036-1023, DOI: 10.1364/JOCN.2.000928
- J38 - F. Cugini, S. Xu, H. Harai, F. Paolucci, L. Valcarenghi, P. Castoldi, "Optical Grid Networking Exploiting Path Computation Element (PCE) Architecture", in *International Journal of Communications Networks and Distributed Systems*, vol. 5, no.3, pp.246-262, Sep. 1, 2010, ISSN: 1754-3924 (Online) 1754-3916 (Print), Inderscience Publishers, World Trade Center Building II 29, route de Pre-Bois Case Postale 856 CH-1215 Geneve 15, Switzerland, DOI: 10.1504/IJCND.2010.034947
- J39 - F. Paolucci, F. Cugini, P. Iovanna, G. Bottari, L. Valcarenghi, P. Castoldi, "Delay-Bandwidth-Aware Metric Abstraction Schemes for OIF E-NNI Multidomain Traffic Engineering," *IEEE/OSA Journal of Optical Communications and Networking (JOCN)*, vol. 2, no. 10, pp.782-792, October 2010, ISSN: 1943-0620, Optical Society of America, 2010 Massachusetts Avenue, N.W., Washington, D.C. 20036-1023, DOI: 10.1364/JOCN.2.000782
- J40 - N. Sambo, N. Andriolli, A. Giorgetti, L. Valcarenghi, I. Cerutti, P. Castoldi, F. Cugini, "GMPLS-controlled dynamic translucent optical networks," in *IEEE Network*, vol. 23, no. 3, May-June 2009, pp.34-40, ISSN: 0890-8044, IEEE, 445 Hoes Lane, Piscataway, NJ, 08855, USA, DOI: 10.1109/MNET.2009.4939261
- J41 - L. Valcarenghi, F. Paolucci, F. Cugini, P. Castoldi, "A recursive distributed topology discovery service for grid clients," *IEEE Communications Letters*, vol. 13, no. 7, July 2009, pp. 549-551, ISSN: 1089-7798, IEEE, 445 Hoes Lane, Piscataway, NJ, 08855, USA, DOI: 10.1109/LCOMM.2009.090651
- J42 - N. Sambo, A. Giorgetti, F. Cugini, N. Andriolli, L. Valcarenghi, P. Castoldi, "Accounting for Shared Regenerators in GMPLS-controlled Translucent Optical Networks", in *IEEE/OSA Journal Of Lightwave Technology (JLT)*, vol. 27, no. 19, Oct. 1, 2009, pp. 4338-4347, ISSN: 0733-8724, IEEE, 445 Hoes Lane, Piscataway, NJ, 08855, USA, DOI: 10.1109/JLT.2009.2023812

List of Publications (continued)

- J43 - F. Cugini, N. Sambo, N. Andriolli, A. Giorgetti, L. Valcarenghi, P. Castoldi, E. Le Rouzic, J. Poirrier, "Enhancing GMPLS Signaling Protocol for Encompassing Quality of Transmission (QoT) in All-Optical Networks", in *IEEE/OSA Journal of Lightwave Technology (JLT)*, vol. 26, no. 19, Oct. 1, 2008, pp.3318-3328, ISSN: 0733-8724, IEEE, 445 Hoes Lane, Piscataway, NJ, 08855, USA, DOI: 10.1109/JLT.2008.925674
- J44 - P. Castoldi, N. Andriolli, L. Valcarenghi, "Multi-class Lightpath Provisioning based on Separate Wavelength Pools", in *Fiber and Integrated Optics*, vol. 27, no. 4, Jul. 2008, pp. 293-300, ISSN: 1096-4681 (Online) 0146-8030 (Print), Taylor & Francis, DOI: 10.1080/01468030802192591
- J45 - N. Sambo, N. Andriolli, A. Giorgetti, F. Cugini, L. Valcarenghi, and P. Castoldi, "Distributing Shared Regenerator Information in GMPLS-Controlled Translucent Networks", in *IEEE Communications Letters*, vol. 12, no. 6, Jun. 2008, pp. 462-464, ISSN: 1089-7798, IEEE, 445 Hoes Lane, Piscataway, NJ, 08855, USA, DOI: 10.1109/LCOMM.2008.080258, (ISI Impact Factor [2008]: 1.232) (Citations: ISI(5), Scopus(9), Scholar(9); accessed Jun. 24, 2014)
- J46 - L. Valcarenghi, F. Cugini, F. Paolucci, P. Castoldi, "Quality-of-Service-Aware Fault Tolerance for Grid-Enabled Applications", in *Optical Switching and Networking (OSN)*, Special Issue on "Advances in IP-Optical Networking for IP Quad-play Traffic and Services", vol. 5, no. 2-3, Jun. 2008, pp. 150-158, ISSN: 1573-4277, Elsevier Science BV, PO BOX 211, 1000 AE Amsterdam, Netherlands, DOI: 10.1016/j.osn.2008.01.004
- J47 - N. Andriolli, A. Giorgetti, L. Valcarenghi, P. Castoldi, "Idle Protection Capacity Reuse in Multiclass Optical Networks", in *IEEE/OSA Journal of Lightwave Technology (JLT)*, vol. 25, no. 5, May 2007, pp. 1152-1162, ISSN: 0733-8724, IEEE, 445 Hoes Lane, Piscataway, NJ, 08855, USA, DOI: 10.1109/JLT.2007.893928, (ISI Impact Factor [2007]: 2.196)
- J48 - R. Martinez, C. Pinart, F. Cugini, N. Andriolli, L. Valcarenghi, P. Castoldi, L. Wosinska, J. Comellas, G. Junyent, "Challenges and requirements for introducing impairment-awareness into the management and control planes of ASON/GMPLS WDM networks", in *IEEE Communications Magazine*, Feature Topic on "Advances in Control and Management of Connection-Oriented Networks", vol. 44, no. 12, Dec. 2006, pp. 76-85, ISSN: 0163-6804, IEEE, 445 Hoes Lane, Piscataway, NJ, 08855, USA, DOI: 10.1109/MCOM.2006.273103
- J49 - N. Andriolli, J. Buron, S. Ruepp, F. Cugini, L. Valcarenghi, P. Castoldi, "Label preference schemes in GMPLS controlled networks", in *IEEE Communications Letters*, vol. 10, no. 12, Dec. 2006, pp. 849-851, ISSN: 1089-7798, IEEE, 445 Hoes Lane, Piscataway, NJ, 08855, USA, DOI: 10.1109/LCOMM.2006.061034, (ISI Impact Factor [2007]: 0.869)
- J50 - L. Valcarenghi, L. Foschini, F. Paolucci, P. Castoldi, and F. Cugini, "Topology Discovery Services for Monitoring the Global Grid", in *IEEE Communications Magazine*, Feature Topic "An Optical Control Plane for the Grid Community: Opportunities, Challenges and the Vision", vol. 44, no.3, Mar. 2006, pp. 110-117, ISSN: 0163-6804, IEEE, 445 Hoes Lane, Piscataway, NJ, 08855, USA, DOI: 10.1109/MCOM.2006.1607873
- J51 - N. Andriolli, L. Valcarenghi, and P. Castoldi, "Impact of Node Switching Capabilities on the Performance of Wavelength Routed Networks", in *European Transactions on Telecommunications*, vol. 17, n. 1, Jan./Feb. 2006, pp. 77-91, ISSN: 1541-8251 (Online) 1124-318X (Print), John Wiley and Sons LTD, The Atrium, Southern Gate, Chichester, PO19 8SQ, West Sussex, England, DOI: 10.1002/ett.1039
- J52 - F. Cugini, L. Valcarenghi, P. Castoldi, M. Guglielmucci, "Low-cost Resilience Schemes for the Optical Ethernet", in *OSA Journal of Optical Networking*, Special Issue on "Optical Ethernet", vol. 4, n. 12, Dec. 2005, pp. 829-837, ISSN: 1536-5379, OSA, 2010 Massachusetts Ave NW, Washington, D.C., 20036, DOI: 10.1364/JON.4.000829
- J53 - A. Giorgetti, L. Valcarenghi, and P. Castoldi, "Single-Layer versus Multilayer Preplanned Lightpath Restoration", in *IEEE/OSA Journal of Lightwave Technology (JLT)*, Special Issue on "Optical Networks", vol. 23, no. 10, Oct. 2005, pp. 3206-3218, ISSN: 0733-8724, IEEE, 445 Hoes Lane, Piscataway, NJ, 08855, USA, DOI: 10.1109/JLT.2005.856156
- J54 - L. Valcarenghi and A. Fumagalli, "Implementing Stochastic Preplanned Restoration with Proportional Weighted Path Choice in IP/GMPLS/WDM Networks", in *Photonic Network Communications (PNET) — Special Issue on "Routing, Protection, and Restoration Strategies and Algorithms for WDM Optical Networks"*, vol. 4, no. 3/4, Jul./Dec. 2002, pp. 285-295, ISSN: 1572-8188 (Online), 1387-974X (Print), Kluwer Academic Publishers, AH Dordrecht, The Netherlands, DOI: 10.1023/A:1016055712205

List of Publications (continued)

- J55 - G. Boggio, M. Burzio, N. Portinaro, J. Cai, I. Cerutti, A. Fumagalli, M. Tacca, L. Valcarenghi, A. Carena, and R. Gaudino, "NetworkDesigner - Artifex - OptSim: a Suite of Integrated Software Tools for Synthesis and Analysis of High Speed Networks", *Optical Networks Magazine*, vol. 2, no. 5, Sep./Oct. 2001, pp. 27-41, ISSN: 1572-8161 (Online) 1388-6916 (Print), SPIE/Kluwer Academic Publishers, Bellingham, WA, USA
- J56 - A. Fumagalli and L. Valcarenghi, "IP Restoration vs. WDM Protection: Is There an Optimal Choice?", *IEEE Network*, Special Issue on "Optical Communication Networks", vol. 14, no. 6, Nov./Dec. 2000, pp. 34-41, ISSN: 0890-8044, IEEE, 445 Hoes Lane, Piscataway, NJ, 08855, USA, DOI: 10.1109/65.885668
- J57 - C. Blaizot, I. Cerutti, A. Fumagalli, M. Tacca, L. Valcarenghi, R. Jagannathan, A. Lardies, F. Masetti, and M. Garnot, "Design and Planning of Transport Networks Based on SDH/SONET and WDM Optical Networks: Methods, Tools and Applications", *Optical Networks Magazine*, vol. 1, no. 3, Jul. 2000, pp. 55-65, ISSN: 1572-8161 (Online) 1388-6916 (Print), SPIE/Baltzer Science Publishers, Bellingham, WA, USA
- J58 - D. Montgomery, R. Brooks, M. Tacca, I. Cerutti, and L. Valcarenghi, "CAD Tools in Optical Network Design", *Optical Networks Magazine*, vol. 1, no. 2, Apr. 2000, pp. 59-74, ISSN: 1572-8161 (Online) 1388-6916 (Print) SPIE/Baltzer Science Publishers, Bellingham, WA, USA

National Peer-Reviewed Journal Papers

- NJ1 - P. Castoldi, L. Valcarenghi, I. Cerutti, "Efficienza Energetica nelle Reti a Larga Banda (Energy Efficiency in Broadband Networks)", *La Comunicazione, Note, Recensioni e Notizie*, no. 2010-2011, vol.57, Pubblicazione dell'Istituto Superiore delle Comunicazioni e delle Tecnologie dell'Informazione
- NJ2 - P. Castoldi, I. Cerutti, and L. Valcarenghi, "Modalità di impiego dello standard IEEE 802.16 (WiMax)", *I Quaderni di Telema*, vol. 24, no. 8, Oct. 2006, Media Duemila, pp. 67-68, ISSN: 0393-0599 [Italian]

International Peer-Reviewed Conference Papers

- C1 - J.C. Borromeo, K. Kondepu, N. Andriolli, and L. Valcarenghi, "Experimental Evaluation of 5G vRAN Function Implementation in an Accelerated Edge Cloud", *ECOC 2021*, Sep. 13-16, 2021, Bordeaux, France
- C2 - L. Valcarenghi, A. Pacini, J. C. Borromeo, S. Fichera, M. Gagliardi, D. Amram, and V. Lionetti, "A Framework to Support Social Distancing Management based on 5G and Accelerated Edge Cloud", *IEEE International Mediterranean Conference on Communications and Networking (IEEE Meditcom) 2021*, Sep. 7-10, 2021, Athens, Greece.
- C3 - L. Valcarenghi, A. Pacini, A. Sgambelluri and F. Paolucci, "A Scalable Telemetry Framework for Zero Touch Optical Network Management," (INVITED) *2021 International Conference on Optical Network Design and Modeling (ONDM)*, Jun. 28-Jul. 1, 2021, Gothernburg, Sweden (Online), pp. 1-6, doi: 10.23919/ONDM51796.2021.9492488.
- C4 - S. Ramanathan, K. Kondepu, Tianliang Zhang, B. Mirkanzadeh, M. Razo, M. Tacca, L. Valcarenghi, A. Fumagalli, "Orchestrating Virtualized Core Network Migration in OpenROADM SDN-Enabled Network," *2021 International Conference on Optical Network Design and Modeling (ONDM)*, Jun. 28-Jul. 1, 2021, pp. 1-6, doi: 10.23919/ONDM51796.2021.9492500.
- C5 - Chia-Yu Chang, M. A. Jiménez, M. Gharbaoui, J. Sacido, F. Ubaldi, C. Papagianni, A. Zabala, L. Valcarenghi, D. Scano, K. Tomakh, A. Giorgetti, A. Boddi, K. De Schepper, "Slice Isolation for 5G Transport Networks", *IEEE International Conference on Network Softwarization (Netsoft 2021)*, Jun. 28-Jul. 2, 2021, Virtual Conference
- C6 - J. C. Borromeo, K. Kondepu, S. Fichera, P. Castoldi, L. Valcarenghi, "Experimental Demonstration of Scalable and Low Latency Crowd Management Enabled by 5G and AI in an Accelerated Edge Cloud", *OFC 2021*, Jun. 6-11, 2021, Virtual Conference
- C7 - D. De Vleeschauwer, J. Baranda, J. Manges-Bafalluy, C. F. Chiasserini, M. Malinverno, C. Puligheddu, L. Magoula, J. Martín-Pérez, S. Barmponakis, K. Kondepu, L. Valcarenghi, Xi Li, C. Papagianni, A. Garcia-Saavedra, "5Growth Data-Driven AI-Based Scaling", *2021 Joint EuCNC & 6G Summit*, June 8-11, 2021, Online Conference

List of Publications (continued)

- C8 - V. A. Cunha, N. Maroulis, C. Papagianni, J. Sacido, M. A. Jimenez, F. Ubaldi, M. Gharbaoui, Chia-Yu Chang, N. Koursiumpas, K. Tomakh, D. Corujo, J. P. Barraca, S. Barmounakis, D. Kucherenko, A. Giorgetti, A. Boddi, L. Valcarengi, O. Kolodiaznyi, A. Zabala, J. X. Salvat, A. Garcia-Saavedra, "5Growth: Secure and Reliable Network Slicing for Verticals", 2021 Joint EuCNC & 6G Summit, June 8-11, 2021, Online Conference
- C9 - F. Paolucci, D. Scano, F. Cugini, A. Sgambelluri, L. Valcarengi, C. Cavazzoni, G. Ferraris, P. Castoldi, "User Plane Function Offloading in P4 switches for enhanced 5G Mobile Edge Computing", 17th International Conference on the Design of Reliable Communication Networks (DRCN 2021), Apr. 19-22, 2021, Online Conference
- C10 - F. Civerchia, K. Kondepu, J. C. Borromeo, N. Sambo, P. Castoldi and L. Valcarengi, "A Fast and Low Capacity Virtual RAN Recovery based on PDCP Split and Optical Fronthaul Traffic Filtering," 2020 IEEE 3rd 5G World Forum (5GWF), Bangalore, India, 2020, pp. 430-435, doi: 10.1109/5GWF49715.2020.9221182.
- C11 - D. Scano, L. Valcarengi, K. Kondepu, P. Castoldi and A. Giorgetti, "Network Slicing in SDN Networks," 2020 22nd International Conference on Transparent Optical Networks (ICTON), Bari, Italy, 2020, pp. 1-4, doi: 10.1109/ICTON51198.2020.9203184.
- C12 - J. C. Borromeo, K. Kondepu, N. Andriolli and L. Valcarengi, "An Overview of Hardware Acceleration Techniques for 5G Functions," 2020 22nd International Conference on Transparent Optical Networks (ICTON), Bari, Italy, 2020, pp. 1-4, doi: 10.1109/ICTON51198.2020.9203242.
- C13 - J. Baranda, J. Manges-Bafalluy, L. Vettori, R. Martínez, G. Avino, C. F. Chiasserini, C. Puligheddu, C. Casetti, J. Brenes, G. Landi, K. Kondepu, F. Paolucci, S. Fichera, L. Valcarengi, "Arbitrating Network Services in 5G Networks for Automotive Vertical Industry," IEEE INFOCOM 2020 - IEEE Conference on Computer Communications Workshops (INFOCOM WKSHPS), Toronto, ON, Canada, 2020, pp. 1318-1319, doi: 10.1109/INFOCOMWKSHPS50562.2020.9162679.
- C14 - N. Sambo, A. Giorgetti, A. Sgambelluri, P. Castoldi, and L. Valcarengi, Proceedings Optical Network Design and Modeling: 23rd IFIP WG 6. 10 International Conference, ONDM 2019, Athens, Greece, May 13-16, 2019
- C15 - F. Civerchia, F. Giannone, K. Kondepu, P. Castoldi, L. Valcarengi, A. Bragagnini, F. Gatti, A. Napolitano, Justine Cris Borromeo, "Remote Control of a Robot Rover Combining 5G, AI, and GPU Image Processing at the Edge," 2020 Optical Fiber Communications Conference and Exhibition (OFC), San Diego, CA, USA, 2020, pp. 1-3.
- C16 - S. Ramanathan, K. Kondepu, B. Mirkhanzadeh, T. Zhang, M. Razo, M. Tacca, L. Valcarengi, A. Fumagalli, "Experimental Demonstration of Live Migration Impact on Virtualized 5G Network using Federated Testbeds," 2019 IEEE Conference on Network Function Virtualization and Software Defined Networks (NFV-SDN), Dallas, TX, USA, 2019, pp. 1-2, doi: 10.1109/NFV-SDN47374.2019.9040099.
- C17 - K. Kondepu, S. Ramanathan, M. Tacca, M. Razo, B. Mirkhanzadeh, F. Giannone, L. Valcarengi, A. Fumagalli, "Experimental Demonstration of a Packet-based Protection for Seamlessly Recovering from a Multi-layer Metro Network Fronthaul Failure," IEEE INFOCOM 2019 - IEEE Conference on Computer Communications Workshops (INFOCOM WKSHPS), Paris, France, 2019, pp. 906-908, doi: 10.1109/INFOCOMW.2019.8845112.
- C18 - S. Ramanathan, K. Kondepu, B. Mirkhanzadeh, M. Razo, M. Tacca, L. Valcarengi, A. Fumagalli, "Performance Evaluation of Two Service Recovery Strategies in Cloud-Native Radio Access Networks," 2019 21st International Conference on Transparent Optical Networks (ICTON), Angers, France, 2019, pp. 1-5, doi: 10.1109/ICTON.2019.8840540.
- C19 - F. Civerchia, K. Kondepu, F. Giannone, N. Sambo, P. Castoldi and L. Valcarengi, "Exploiting PDCP Filtering for Implementing Capacity Efficient Virtual RAN Recovery," 2019 21st International Conference on Transparent Optical Networks (ICTON), Angers, France, 2019, pp. 1-4.
- C20 - S. Ramanathan, Koteswararao Kondepu, Behzad Mirkhanzadeh, Miguel Razo, Marco Tacca, L. Valcarengi, Andrea Fumagalli, "Performance Evaluation of Two Service Recovery Strategies in Cloud-Native Radio Access Networks," 2019 21st International Conference on Transparent Optical Networks (ICTON), Angers, France, 2019, pp. 1-5.

List of Publications (continued)

- C21 - F. Civerchia, M. Pelcat, P. Castoldi and L. Valcarengi, "Exploiting Programmable and Reconfigurable Hardware in 5G," 2019 IEEE Photonics Society Summer Topical Meeting Series (SUM), Ft. Lauderdale, FL, USA, 2019, pp. 1-1.
- C22 - A. Napolitano, G. Cecchetti, F. Giannone, A.L. Ruscelli, F. Civerchia, K. Kondepu, L. Valcarengi, P. Castoldi, "Implementation of a MEC-based Vulnerable Road User Warning System," 2019 AEIT International Conference of Electrical and Electronic Technologies for Automotive (AEIT AUTOMOTIVE), Torino, Italy, 2019, pp. 1-6.
- C23 - Giada Landi, Pietro Giardina, Marco Capitani, Koteswararao Kondepu, L. Valcarengi, and Giuseppe Avino. 2019. Provisioning and automated scaling of network slices for virtual Content Delivery Networks in 5G infrastructures. In Proceedings of the Twentieth ACM International Symposium on Mobile Ad Hoc Networking and Computing (Mobihoc '19). Association for Computing Machinery, New York, NY, USA, 397–398.
- C24 - F. Civerchia, P. Castoldi, L. Valcarengi and M. Pelcat, "Exploiting reconfigurable computing in 5G: a case study of latency critical function: Invited Paper," 2019 IEEE 20th International Conference on High Performance Switching and Routing (HPSR), Xi'An, China, 2019, pp. 1-6.
- C25 - K. Kondepu, S. Ramanathan, M. Tacca, M. Razo, B. Mirkhanzadeh, F. Giannone, L. Valcarengi, A. Fumagalli, "Experimental Demonstration of a Packet-based Protection for Seamlessly Recovering from a Multi-layer Metro Network Fronthaul Failure," IEEE INFOCOM 2019 - IEEE Conference on Computer Communications Workshops (INFOCOM WKSHPS), Paris, France, 2019, pp. 906-908.
- C26 - K. Kondepu, F. Giannone, S. Vural, B. Riemer, P. Castoldi and L. Valcarengi, "Experimental Demonstration of 5G Virtual EPC Recovery in Federated Testbeds," 2019 IFIP/IEEE Symposium on Integrated Network and Service Management (IM), Arlington, VA, USA, 2019, pp. 712-713.
- C27 - A. Sgambelluri, M. Capitani, S. Fichera, K. Kondepu, A. Giorgetti, F. Giannone, B. Martini, F. Ubaldi, P. Iovanna, G. Landi, L. Valcarengi, "Experimental Demonstration of a 5G Network Slice Deployment Exploiting Edge or Cloud Data-Centers," 2019 Optical Fiber Communications Conference and Exhibition (OFC), San Diego, CA, USA, 2019, pp. 1-3.
- C28 - L. Valcarengi, B. Martini, K. Antevski, C. J. Bernardos, G. Landi, M. Capitani, J. Manges-Bafalluy, R. Martinez, J. Baranda, I. Pascual, A. Ksentini, C. F. Chiasserini, F. Malandrino, Xi Li, D. Andrushko, and Konstantin Tomakh. 2018. A Framework for Orchestration and Federation of 5G Services in a Multi-Domain Scenario. In Proceedings of the Workshop on Experimentation and Measurements in 5G (EM-5G'18). Association for Computing Machinery, New York, NY, USA, 19–24.
- C29 - N. Sambo, L. Valcarengi, P. Iovanna, G. Imbarlina, F. Ubaldi, T. Pepe, A. Garcia-Saavedra, G. Landi, I. Pascual, R. Martinez, J. Manges-Bafalluy, C. Vitale, C. Chiasserini, A. Ksentini, F. Klammer, C. Turyagyenda, "Mobile Transport and Computing Platform for 5G Verticals: Resource Abstraction and Implementation," 2018 IEEE Conference on Network Function Virtualization and Software Defined Networks (NFV-SDN), Verona, Italy, 2018, pp. 1-6. doi: 10.1109/NFV-SDN.2018.8725613
- C30 - U. Bucci, A. Marotta, K. Kondepu, C. Antonelli, L. Valcarengi and D. Cassioli, "Experimental Demonstration of Flexible TDM-PON Fronthauling," 2018 Asia Communications and Photonics Conference (ACP), Hangzhou, 2018, pp. 1-3.
- C31 - S. Doddikrinda, A. Marotta, D. Cassioli, C. Antonelli, K. Kondepu and L. Valcarengi, "Exploiting Core-Switching to Minimize Fronthaul Degradation using Multicore Fiber," 2018 Asia Communications and Photonics Conference (ACP), Hangzhou, 2018, pp. 1-3.
- C32 - M. Capitani, F. Giannone, S. Fichera, A. Sgambelluri, K. Kondepu, E. Kraja, B. Martini, G. Landi, L. Valcarengi, "Experimental Demonstration of a 5G Network Slice Deployment Through the 5G-Transformer Architecture," 2018 European Conference on Optical Communication (ECOC), Rome, 2018, pp. 1-3.
- C33 - A. Sgambelluri, F. Paolucci, P. Castoldi, N. Sambo, P. Iovanna, G. Imbarlina, T. Pepe, L. Valcarengi, "Provisioning RAN as a Service (RANaaS) Connectivity in an Optical Metro Network Through NETCONF and YANG," 2018 European Conference on Optical Communication (ECOC), Rome, 2018, pp. 1-3.

List of Publications (continued)

- C34 - A. Napolitano, F. Giannone, F. Civerchia, K. Kondepu, G. Cecchetti, A. Ruscelli, L. Valcarengi, P. Castoldi, "Italian 5G Trials: A Vertical View," 2018 IEEE 4th International Forum on Research and Technology for Society and Industry (RTSI), Palermo, 2018, pp. 1-5.
- C35 - A. Napolitano, A. Giorgetti, K. Kondepu, L. Valcarengi and P. Castoldi, "Network Slicing: an Overview," 2018 IEEE 4th International Forum on Research and Technology for Society and Industry (RTSI), Palermo, 2018, pp. 1-4.
- C36 - F. Civerchia, K. Kondepu, F. Giannone, S. Doddikrinda, P. Castoldi and L. Valcarengi, "Encapsulation Techniques and Traffic Characterisation of an Ethernet-Based 5G Fronthaul," 2018 20th International Conference on Transparent Optical Networks (ICTON), Bucharest, 2018, pp. 1-5.
- C37 - F. Ponzini, K. Kondepu, F. Giannone, P. Castoldi and L. Valcarengi, "Optical Access Network Solutions for 5G Fronthaul," 2018 20th International Conference on Transparent Optical Networks (ICTON), Bucharest, 2018, pp. 1-5.
- C38 - A. Marotta, D. Cassioli, K. Kondepu, C. Antonelli and L. Valcarengi, "Efficient Management of Flexible Functional Split through Software Defined 5G Converged Access," 2018 IEEE International Conference on Communications (ICC), Kansas City, MO, 2018, pp. 1-6.
- C39 - Xi Li, J. Mangués-Bafalluy, I. Pascual, G. Landi, F. Moscatelli, K. Antevski, C. J. Bernardos, L. Valcarengi, B. Martini, C.F. Chiasserini, C. Casetti, D. Andrushko, N. A. Serrano, A. Ksentini, "Service orchestration and federation for verticals," 2018 IEEE Wireless Communications and Networking Conference Workshops (WCNCW), Barcelona, 2018, pp. 260-265.
- C40 - P. Iovanna, T. Pepe, C. Guerrero, F. Moscatelli, A. Ksentini, C.-F. Chiasserini, C. Casetti, J. Mangués-Bafalluy, L. Valcarengi, B. Martini, Xi Li, G. Zennaro, "5G mobile transport and computing platform for verticals," 2018 IEEE Wireless Communications and Networking Conference Workshops (WCNCW), Barcelona, 2018, pp. 266-271.
- C41 - A. Marotta, K. Kondepu, D. Cassioli, C. Antonelli, L. Correia, and L. Valcarengi, "Software Defined 5G Converged Access as a viable Techno-Economic Solution," in Optical Fiber Communication Conference, OSA Technical Digest (online) (Optical Society of America, 2018), paper Th1B.2.
- C42 - K. Kondepu, N. Sambo, F. Giannone, P. Castoldi and L. Valcarengi, "Orchestrating Lightpath Adaptation and Flexible Functional Split to Recover Virtualized RAN Connectivity," 2018 Optical Fiber Communications Conference and Exposition (OFC), San Diego, CA, 2018, pp. 1-3.
- C43 - F. Giannone, H. Gupta, K. Kondepu, D. Manicone, A. Franklin, P. Castoldi, L. Valcarengi, "Impact of RAN Virtualization on Fronthaul Latency Budget: An Experimental Evaluation," 2017 IEEE Globecom Workshops (GC Wkshps), Singapore, 2017, pp. 1-5.
- C44 - A. Marotta, K. Kondepu, S. Doddikrinda, D. Cassioli, C. Antonelli, L.M. Correia, L. Valcarengi, "Software Defined 5G Converged Mobile Access Networks: Energy Efficiency Considerations," 2017 Asia Communications and Photonics Conference (ACP), Guangzhou, China, 2017, pp. 1-3.
- C45 - K. Kondepu, A. Giorgetti, F. Giannone, A. Marotta, F. Cugini, P. Castoldi, L. Valcarengi, "SDN-Enabled Latency-Guaranteed Dual Connectivity in 5G RAN," 2017 Asia Communications and Photonics Conference (ACP), Guangzhou, China, 2017, pp. 1-3.
- C46 - H. Gupta, D. Manicone, F. Giannone, K. Kondepu, A. Franklin, P. Castoldi, L. Valcarengi, "How much is fronthaul latency budget impacted by RAN virtualisation?," 2017 IEEE Conference on Network Function Virtualization and Software Defined Networks (NFV-SDN), Berlin, 2017, pp. 315-320.
- C47 - L. Valcarengi, F. Giannone, D. Manicone and P. Castoldi, "Virtualized eNB latency limits," 2017 19th International Conference on Transparent Optical Networks (ICTON), Girona, 2017, pp. 1-4.
- C48 - A. Marotta, K. Kondepu, F. Giannone, D. Cassioli, C. Antonelli, L. Valcarengi, P. Castoldi, "Impact of CoMP VNF placement on 5G Coordinated Scheduling performance," 2017 European Conference on Networks and Communications (EuCNC), Oulu, 2017, pp. 1-6.

List of Publications (continued)

- C49 - A. Marotta, F. Giannone, K. Kondepu, D. Cassioli, C. Antonelli, L. Valcarenghi, P. Castoldi, "Reducing CoMP control message delay in PON backhauled 5G networks," *European Wireless 2017*; 23th European Wireless Conference, Dresden, Germany, 2017, pp. 1-5.
- C50 - A. Marotta, K. Kondepu, F. Giannone, S. Doddikrinda, D. Cassioli, C. Antonelli, L. Valcarenghi, P. Castoldi, "Performance evaluation of CoMP coordinated scheduling over different backhaul infrastructures: A real use case scenario," 2016 IEEE International Conference on the Science of Electrical Engineering (ICSEE), Eilat, 2016, pp. 1-5.
- C51 - L. Valcarenghi, K. Kondepu, P. Castoldi, "Impact of Radio over Ethernet Time-based Encapsulation on Fronthaul Performance", *Asia Communications and Photonics Conference, AF3E*. 4, 2016
- C52 - S.M. Posada, G. Maier, F. Giannone, L. Valcarenghi, A. Marotta, C. Antonelli, "Comparison of multi-operator PON technologies beyond NG-PON2: A real greenfield case-study", 2016 18th International Conference on Transparent Optical Networks (ICTON)
- C53 - L. Valcarenghi, K. Kondepu, F. Giannone, P. Castoldi, "Requirements for 5G fronthaul", 2016 18th International Conference on Transparent Optical Networks (ICTON)
- C54 - L. Valcarenghi, K. Kondepu, A. Sgambelluri, F. Cugini, P. Castoldi, R. Aparicio Morenilla, D. Larrabeiti, B. Vermeulen, "SDN-controlled energy-efficient mobile fronthaul: An experimental evaluation in federated testbeds", 2016 European Conference on Networks and Communications (EuCNC), 2016
- C55 - L. Valcarenghi, K. Kondepu, P. Castoldi, "Analytical and experimental evaluation of CPRI over Ethernet dynamic rate reconfiguration", 2016 IEEE International Conference on Communications (ICC)
- C56 - K. Kondepu, L. Valcarenghi, P. Castoldi, "Reconfiguration triggering optimization in TWDM PONs with fluctuating load", *Optical Fiber Communication Conference, W2A.67*, 2016
- C57 - D. Chitimalla, K. Kondepu, L. Valcarenghi, B. Mukherjee, "Reconfigurable and efficient fronthaul of 5G systems", *IEEE Advanced Networks and Telecommunications Systems (ANTS)*, 2015
- C58 - K. Kondepu, L. Valcarenghi, P. Castoldi, "Balancing the impact of ONU tuning overhead in reconfigurable TWDM-PONs: An FPGA-based evaluation", *IEEE Global Communications Conference (GLOBECOM)*, 2015
- C59 - L. Valcarenghi, K. Kondepu, P. Castoldi, "Optimizing Reconfiguration Triggering upon Load Fluctuations in Energy-Efficient TWDM PONs", *IEEE Global Communications Conference (GLOBECOM)*, 2015
- C60 - P. Castoldi, L. Valcarenghi, F. Cugini, F. Cavaliere, P. Iovanna, "What Role for Photonics in Xhaul Networks of 5G systems?", *Asia Communications and Photonics Conference, AS3G.2*, 2015
- C61 - L. Valcarenghi, K. Kondepu, P. Castoldi, "Reducing Delay Penalties in Energy-Efficient TWDM PON through Reconfiguration Threshold Adaptation", *Asia Communications and Photonics Conference, ASu1G.3*, 2015
- C62 - L. Valcarenghi, K. Kondepu, A. Sgambelluri, F. Cugini, P. Castoldi, G. Rodriguez de los Santos, R. Aparicio Morenilla, D. Larrabeiti Lopez, "Experimenting the integration of green optical access and metro networks based on SDN", 17th International Conference on Transparent Optical Networks (ICTON), 2015
- C63 - M.P.I. Dias, E. Wong, D.P. Van, L. Valcarenghi, "Offline energy-efficient dynamic wavelength and bandwidth allocation algorithm for TWDM-PONs", *IEEE International Conference on Communications (ICC)*, 2015
- C64 - K. Kondepu, L. Valcarenghi, P. Castoldi, "Dynamic wavelength and bandwidth allocation versus OSU-ONU cyclic sleep in TWDM-PONs: an experimental evaluation", *International Conference on Optical Network Design and Modeling (ONDM)*, 2015
- C65 - L. Valcarenghi, "Where do we stand and where are we heading in making NG-PONs more energy efficient?", *International Conference on Optical Network Design and Modeling (ONDM)*, 2015

List of Publications (continued)

- C66 - K. Kondepu, A. Sgambelluri, L. Valcarengi, F. Cugini, P. Castoldi, "An SDN-based integration of green TWDM-PONs and metro networks preserving end-to-end delay", Optical Fiber Communications Conference and Exhibition (OFC), 2015, 1-3
- C67 - Matteo Fiorani, Paolo Monti, Björn Skubic, Jonas Mårtensson, L. Valcarengi, Piero Castoldi, Lena Wosinska, "Challenges for 5G transport networks", IEEE Advanced Networks and Telecommunications Systems (ANTS), 2014
- C68 - D.P. Van, M.P.I. Dias, K. Kondepu, P. Castoldi, E. Wong, L. Valcarengi, "Advanced sleep-aware dynamic bandwidth allocation for 10G-EPONs", IEEE Global Communications Conference (GLOBECOM), 2014
- C69 - M. Gharbaoui, R. Bruno, B. Martini, L. Valcarengi, M. Conti, P. Castoldi, "Assessing the effect of introducing adaptive charging stations in public EV charging infrastructures", International Conference on Connected Vehicles and Expo (ICCVE), 2014
- C70 - K. Kondepu, L. Valcarengi, D. Pham Van, P. Castoldi, "Impact of ONU Tuning Time in TWDM-PON with Dynamic Wavelength and Bandwidth Allocation: An FPGA-based Evaluation", (to appear) ECOC 2014, Sep. 21-25, 2014, Cannes, France
- C71 - L. Valcarengi, "Energy-Efficient Optical Access Networks and Subsystems", IEEE/OSA Optoelectronics and Communications Conference/Australian Conference on Optical Fibre Technology (OECC/ACOFT) 2014, Jul. 6-10, 2014, Melbourne, Australia [INVITED PAPER],
- C72 - F. Scotti, F. Laghezza, P. Ghelfi, L. Valcarengi, A. Bogoni, "Wireless Communications based on Photonics-Assisted Multiband RF Transceiver", IEEE/OSA Optoelectronics and Communications Conference/Australian Conference on Optical Fibre Technology (OECC/ACOFT) 2014, Jul. 6-10, 2014, Melbourne, Australia, [INVITED PAPER]
- C73 - M. Pubuduni Imali Dias, D. Pham Van, L. Valcarengi, E. Wong, "Energy-Efficient Dynamic Wavelength and Bandwidth Allocation Algorithm for TWDM-PONs with Tunable VCSEL ONUs", IEEE/OSA Optoelectronics and Communications Conference/Australian Conference on Optical Fibre Technology (OECC/ACOFT) 2014, Jul. 6-10, 2014, Melbourne, Australia
- C74 - D. Pham Van, M. Pubuduni Imali Dias, K. Kondepu, L. Valcarengi, P. Castoldi, E. Wong, "Energy-Efficient Dynamic Bandwidth Allocation for Long-Reach Passive Optical Networks", IEEE/OSA Optoelectronics and Communications Conference/Australian Conference on Optical Fibre Technology (OECC/ACOFT) 2014, Jul. 6-10, 2014, Melbourne, Australia
- C75 - L. Valcarengi and P. Castoldi, "TWDM PON: How Much Energy Can We Really Save ?", IEEE ICTON 2014, Jul. 6-10, 2014, Graz, Austria [INVITED PAPER]
- C76 - A. Sgambelluri, F. Paolucci, F. Cugini, L. Valcarengi, P. Castoldi, "Generalized SDN control for access/metro/core integration in the framework of the interface to the Routing System (I2RS)", IEEE Globecom Workshop on Software-Defined Networking (SDN) on Optics, pp.1216-1220, Dec. 9-13, 2013, Atlanta, GA, USA, doi: 10.1109/GLOCOMW.2013.6825159
- C77 - M. Gharbaoui, B. Martini, R. Bruno, L. Valcarengi, M. Conti, P. Castoldi, "Policies for Efficient Usage of an EV Charging Infrastructure Deployed in City Parking Facilities", IEEE 13th International Conference on ITS Telecommunications (ITST), pp.384-389, Nov. 5-7, 2013, Tampere, Finland, doi: 10.1109/ITST.2013.6685577
- C78 - L. Valcarengi, Y. Yoshida, A. Maruta, P. Castoldi, K. Kitayama, "Impact of Energy Efficient Schemes on Virtualized TWDM PONs", IEEE/OSA Asia Communications and Photonics Conference (ACP) 2013, Nov. 12-15, 2013, Beijing, China [INVITED PAPER]
- C79 - Dung Pham Van, L. Valcarengi, M. Chincoli, P. Castoldi, "Full FPGA-based Implementation of an Energy Efficient ONU with Cooperative Cyclic Sleep", IEEE/OSA Asia Communications and Photonics Conference (ACP) 2013, Nov. 12-15, 2013, Beijing, China [BEST STUDENT PAPER AWARD]

List of Publications (continued)

- C80 - L. Valcarenghi, Y. Yoshida, A. Maruta, P. Castoldi, K.-I. Kitayama, "Energy saving in TWDM (A) PONs: Challenges and opportunities", 15th International Conference on Transparent Optical Networks (ICTON) 2013, Jun. 23-27, 2013, Cartagena, Spain [INVITED PAPER]
- C81 - D. Pham Van, L. Valcarenghi, M. Chincoli, P. Castoldi, "Experimental evaluation of an energy efficient TDMA PON", IEEE International Conference on Communications (ICC) 2013, June 9-13, Budapest, Hungary
- C82 - M. Gharbaoui, B. Martini, R. Bruno, L. Valcarenghi, M. Conti, P. Castoldi, "Designing and Evaluating Activity-Based Electric Vehicle Charging in Urban Areas", IEEE International Sustainable Mobility and Connected Vehicle Leadership Forum VEC-IEVC 2013, Oct. 23, 2013, Santa Clara, California, USA
- C83 - L. Valcarenghi, P. Castoldi "Impact of unicast and multicast traffic on ONU energy savings", 14th International Conference On Transparent Optical Networks (IEEE ICTON 2012), July 2 – 5, 2012, Coventry, England [INVITED PAPER]
- C84 - L. Valcarenghi, M. Chincoli, P. Castoldi, P. Monti, L. Wosinska "Improving energy efficiency in TDMA passive optical networks from theory to practice", IEEE Photonics In Switching (PS) 2012, Sep. 11-14, 2012, Ajaccio, France
- C85 - L. Valcarenghi, "Cognitive PONs: a Novel Approach Toward Energy Efficiency", Asia Communications And Photonics Conference (ACP) 2012, Nov. 7-10, 2012, Guangzhou (Canton), China [INVITED PAPER]
- C86 - Neelakandan Manihatty Bojan, D. Pham Van, L. Valcarenghi, P. Castoldi, "An Energy Efficient ONU Implementation", SustainIT 2012, Oct. 4-5, 2012, Pisa, Italy
- C87 - L. Valcarenghi, M. Chincoli, P. Monti, L. Wosinska, P. Castoldi, "Energy Efficient PONs with Service Delay Guarantees", SustainIT 2012, Oct. 4-5, 2012, Pisa, Italy
- C88 - M. Chincoli, L. Valcarenghi, Jijia Chen, P. Monti, L. Wosinska, "Investigating the Energy Savings of Cyclic Sleep with Service Guarantees in Long Reach PONs", Asia Communications And Photonics Conference (ACP) 2012, Nov. 7-10, 2012, Guangzhou (Canton), China
- C89 - L. Valcarenghi, "Improving network energy efficiency: a (partial) overview of initiatives in Italy", IEEE Photonics in Switching (PS) 2012, Sep. 11-14, 2012, Ajaccio, France
- C90 - M. Gharbaoui, L. Valcarenghi, B. Martini, P. Castoldi, R. Bruno, M. Conti, "Effective management of a public charging infrastructure through a smart management system for electric vehicles", IEEE International Energy Conference And Exhibition (Energycon 2012), Sep. 9-12, 2012, Firenze, Italy
- C91 - M. Gharbaoui, L. Valcarenghi, R. Bruno, B. Martini, M. Conti, P. Castoldi, "An Advanced Smart Management System for Electric Vehicle Recharge", 2012 IEEE International Electric Vehicle Conference (IEVC) March 4 - 8, 2012, Greenville, South Carolina USA
- C92 - D.R. Campelo, S.-W. Wong, L. Valcarenghi, S.-H. Yen, S. Yamashita, P.G. Raponi, L.G. Kazovsky, P. Castoldi, "Dynamic power saving in energy efficient PONs", in Proceedings XXIX Simpósio Brasileiro de Telecomunicações, Oct. 2-5, 2011, Curitiba, Brasil
- C93 - L. Valcarenghi, Dung Pham Van, P. Castoldi, "How to save energy in Passive Optical Networks", in Proceedings, 13th International Conference on Transparent Optical Networks (ICTON), Jun. 26-30, 2011, Stockholm, Sweden
- C94 - F. Paolucci, F. Cugini, B. Martini, M. Gharbaoui, L. Valcarenghi, P. Castoldi, "Preserving Confidentiality in PCEP-based Inter-domain Path Computation", 2010 36th European Conference and Exhibition on Optical Communication (ECOC), Sep. 19-23, 2010, Turin, Italy.
- C95 - L. Valcarenghi, M. Presi, G. Contestabile, E. Ciaramella, P. Castoldi, "Impact of Modulation Formats on ONU Energy Saving", 36th European Conference and Exhibition on Optical Communication (ECOC), Sep. 19-23, 2010, Turin, Italy.

List of Publications (continued)

- C96 - F. Cugini, N. Andriolli, G. Bottari, P. Iovanna, L. Valcarenghi, P. Castoldi, "Designated PCE Election Procedure for Traffic Engineering Database Creation in GMPLS Multi-Layer Networks", 36th European Conference and Exhibition on Optical Communication (ECOC), Sep. 19-23, 2010, Turin, Italy .
- C97 - N. Andriolli, F. Cugini, A. Bogoni, P. Iovanna, G. Bottari, L. Valcarenghi, P. Castoldi, "Introducing TE Metrics to account for Transponder and Grooming Resources in GMPLS Multi-layer Networks", International Conference on Photonics in Switching 2010, Jul. 25-29, 2010, Monterrey, CA, USA.
- C98 - L. Valcarenghi, I. Cerutti, P. Castoldi, "Energy efficient Optical Access and Metro Networks", 12th International Conference on Transparent Optical Networks (ICTON), Jun. 27 - Jul. 1, 2010, Munich, Germany
- C99 - Ying Yan, S.-W. Wong, L. Valcarenghi, S.-H. Yen, D. Campelo, S. Yamashita, L. Kazovsky, L. Dittmann, "Energy Management Mechanism for Ethernet Passive Optical Networks (EPONs)", IEEE International Conference on Communications (ICC), May 23-27, 2010, Cape Town, South Africa
- C100- A. Giorgetti, L. Valcarenghi, P. Castoldi, F. Cugini, "PCE-based Dynamic Restoration in GMPLS-controlled Optical Networks", IEEE International Conference on Communications (ICC), May 23-27, 2010, Cape Town, South Africa.
- C101- L. Buzzi, M. Conforto Bardellini, D. Siracusa, G. Maier, F. Paolucci, F. Cugini, L. Valcarenghi, P. Castoldi, "Hierarchical Border Gateway Protocol (HBGP) for PCE-based Multi-domain Traffic Engineering", IEEE International Conference on Communications (ICC), May 23-27, 2010, Cape Town, South Africa.
- C102- S.-W. Wong, L. Valcarenghi, S.-H. Yen, D. Campelo, S. Yamashita, L. Kazovsky, "Sleep Mode for Energy Saving PONs: Advantages and Drawbacks", IEEE GLOBECOM Workshops, 2nd International Workshop on Green Communications, in conjunction with Globecom 2009, Nov. 30 2009-Dec. 4 2009, Honolulu, HI [BEST PAPER AWARD]
- C103- I. Cerutti, L. Valcarenghi, P. Castoldi, "Quality of Activation (QoA) for Dynamic Service Flows in IEEE 802.16 Networks", IEEE Globecom, 30 Nov.-4 Dec. 2009, Honolulu, Hawaii, USA.
- C104- L. Valcarenghi, P. Korus, F. Paolucci, F. Cugini, M. Kantor, K. Wajda, P. Castoldi, "Experimental Evaluation of PCE-Based Batch Provisioning of Grid Service Interconnections", IEEE Globecom, 30 Nov.-4 Dec. 2009, Honolulu, Hawaii, USA.
- C105- F. Paolucci, F. Cugini, A. Giorgetti, L. Valcarenghi, P. Castoldi, P. Iovanna, G. Bottari, A. Welin, "PCE architecture for OIF E-NNI Multi-domain Routing evaluated in an intra-domain WSON scenario", ECOC 2009, Sep. 20-24, 2009, Wien, Austria.
- C106- N. Sambo, Y. Pointurier, F. Cugini, L. Valcarenghi, P. Castoldi, I. Tomkos, "Lightpath establishment in distributed transparent dynamic optical networks using network kriging", ECOC 2009, Sep. 20-24, 2009, Wien, Austria.
- C107- I. Cerutti, L. Valcarenghi, P. Castoldi, "Designing power efficient WDM networks", Gridnets, Sep. 8-9, 2009, Athens, Greece.
- C108- L. Valcarenghi, P. Monti, I. Cerutti, P. Castoldi, L. Wosinska, "Issues and Solutions in Mobile WiMAX and Wired Backhaul Network Integration", ICTON 2009, Jun. 28-Jul. 2009, Island of São Miguel, Azores, Portugal.
- C109- L. Valcarenghi, F. Paolucci, F. Cugini, P. Castoldi, "A Recursive Distributed Topology Discovery Service for Network-Aware Grid Clients", IEEE ICC, Jun. 2009, Dresden, Germany.
- C110- P. Korus, F. Paolucci, L. Valcarenghi, F. Cugini, P. Castoldi, M. Kantor, K. Wajda, "Experimental Evaluation of Batch versus Per-Request Service Interconnection Activation in PCE-based Grid Networking", HPSR 2009, Jun. 22-24, 2009, Paris, France.
- C111- F. Cugini, N. Andriolli, A. Giorgetti, F. Paolucci, L. Valcarenghi, P. Castoldi, P. Iovanna, A. Welin, "PCE in multi-layer MPLS over WSON networks", 5th Conference on IP + Optical Networks (iPOP2009), Jun. 11-12, 2009, Tokyo, Japan.

List of Publications (continued)

- C112- N. Sambo, C. Pinart, E. Le Rouzic, F. Cugini, L. Valcarenghi, P. Castoldi, "Signaling and Multi-layer Probe-based Schemes for guaranteeing QoT in GMPLS Transparent Networks", in Proceedings of OFC 2009, March 24-26 2009, San Diego, CA, USA
- C113- F. Cugini, F. Paolucci, L. Valcarenghi, P. Castoldi, A. Welin, "Global Load Balancing of Zero-bandwidth TE LSPs in MPLS Networks", in Proceedings of OFC 2009, March 24-26 2009, San Diego, CA, USA
- C114- F. Cugini, F. Paolucci, L. Valcarenghi, P. Castoldi, A. Welin, "PCE Communication Protocol for Resource Advertisement in Multi-domain BGP-based Networks", in Proceedings of OFC 2009, March 24-26 2009, San Diego, CA, USA
- C115- I. Cerutti, L. Valcarenghi, P. Castoldi, "Power Saving Architectures for Unidirectional WDM Rings", in Proceedings of OFC 2009, March 24-26 2009, San Diego, CA, USA
- C116- N. Andriolli, F. Cugini, L. Valcarenghi, P. Castoldi, A. Welin, "Virtual Network Topology Manager (VNTM) and Path Computation Element (PCE) Cooperation in Multi-Layer GMPLS Networks", in Proceedings of OFC 2009, March 24-26 2009, San Diego, CA, USA
- C117- Shaowei Huang, Ken-ichi Kitayama, F. Cugini, F. Paolucci, A. Giorgetti, L. Valcarenghi, P. Castoldi, "An experimental analysis on OSPF-TE convergence time", in Proceedings of SPIE APOC, Conference 7137 "Network Architectures, Management, and Applications VI", Oct. 26-30, 2008, Zhejiang International Conv. Ctr., Hangzhou, China
- C118- F. Cugini, S. Xu, H. Harai, F. Paolucci, L. Valcarenghi, and P. Castoldi, "Introducing Path Computation Element (PCE) in Optical Grid Networking", in Proceedings of ECOC 2008, Sep. 21-25, 2008, Brussels, Belgium
- C119- A. Giorgetti, F. Paolucci, F. Cugini, L. Valcarenghi, P. Castoldi, and G. Bernstein, "Routing and Wavelength Assignment in PCE-based Wavelength Switched Optical Networks", in Proceedings of ECOC 2008, Sep. 21-25, 2008, Brussels, Belgium
- C120- N. Sambo, F. Cugini, I. Cerutti, L. Valcarenghi, P. Castoldi, J. Poirrier, E. Le Rouzic, C. Pinart, "Probe-based Schemes to Guarantee Lightpath Quality of Transmission (QoT) in Transparent Optical Networks", Proceedings of ECOC 2008, Sep. 21-25, 2008, Brussels, Belgium
- C121- N. Sambo, I. Cerutti, A. Giorgetti, L. Valcarenghi, and P. Castoldi, "Segment Restoration Scheme with QoT-guarantees in GMPLS-Controlled Translucent Networks", in Proceedings of ECOC 2008, Sep. 21-25, 2008, Brussels, Belgium
- C122- N. Andriolli, L. Valcarenghi, P. Castoldi, "Reactive Re-provisioning Heuristics for Mitigating the Impact of Traffic Pattern Variations on Multi-Layer Optical Networks, in Proceedings of PS 2008, Aug. 4-7, 2008, Hokkaido University, Sapporo, Japan
- C123- N. Andriolli, A. Giorgetti, S. Ruepp, J. Buron, L. Valcarenghi, P. Castoldi, "Bidirectional Lightpath Provisioning in GMPLS-Controlled Optical Networks", in Proceedings of PS 2008, Aug. 4-7, 2008, Hokkaido University, Sapporo, Japan
- C124- N. Sambo, F. Cugini, N. Andriolli, A. Giorgetti, L. Valcarenghi, P. Castoldi, "Path Restoration Schemes in GMPLS-controlled Translucent Networks", Proceedings of PS 2008, Aug. 4-7, 2008, Hokkaido University, Sapporo, Japan
- C125- L. Valcarenghi, M. Kantor, P. Cholda, K. Wajda, "Guaranteeing high availability to client-server communications", in Proceedings of ICTON 2008, Jun. 22-26, 2008, Athens, Greece [INVITED PAPER]
- C126- P. Castoldi, F. Paolucci, A. Giorgetti, F. Cugini, L. Valcarenghi, S. Huang, K. Kitayama, "Management-augmented stateless PCE for wavelength routed optical networks", in Proceedings of ICTON 2008, Jun. 22-26, 2008, Athens, Greece [INVITED PAPER]
- C127- N. Sambo, N. Andriolli, A. Giorgetti, F. Cugini, L. Valcarenghi, and P. Castoldi, "Introducing Crosstalk-Awareness into GMPLS-Controlled Transparent Optical Networks", in Proceedings of OFC 2008, Feb. 24-28 2008, San Diego, CA, USA

List of Publications (continued)

- C128- F. Paolucci, F. Cugini, L. Valcarenghi, and P. Castoldi, "Enhancing Backward Recursive PCE-Based Computation (BRPC) for Inter-Domain Protected LSP Provisioning", in Proceedings of OFC 2008, Feb. 24-28, 2008, San Diego, CA, USA
- C129- D. Ficara, F. Paolucci, L. Valcarenghi, F. Cugini, P. Castoldi, and S. Giordano, "The Beacon Number Problem in a Fully Distributed Topology Discovery Service", in Proceedings of IEEE Globecom 2007 Performance Modeling, QoS and Reliability Symposium (PMQRS), Nov. 26-30, 2007, Washington, DC, USA
- C130- I. Cerutti, L. Valcarenghi, and P. Castoldi, "Mesh Assisted Broadcasting in IEEE 802.16 Mesh Mode", in Proceedings of IEEE Globecom 2007 Wireless Networking Symposium (WN), Nov. 26-30, 2007, Washington, DC, USA
- C131- I. Cerutti, L. Valcarenghi, P. Castoldi, R. Tka, and F. Kamoun, "Providing end-to-end Connectivity with QoS Guarantees in Integrated Wireless/Wired Networks", in Proceedings of Broadnets 2007, Sep. 10-14, 2007, Raleigh, NC
- C132- L. Valcarenghi, F. Paolucci, P. Castoldi, F. Cugini, D. Adami, D. Ficara, and S. Giordano, "Topology Discovery and Performance Information Services for Optical Grids", in Proceedings of Broadnets 2007, Sep. 10-14, 2007, Raleigh, NC [INVITED PAPER]
- C133- I. Cerutti, L. Valcarenghi, D. Marabissi, F. Meucci, L. Pierucci, L. Ronga, P. Castoldi, and E. Del Re, "Enhanced Operation Modes in IEEE 802.16 and Integration with Optical MANs", in Proceedings of Tyrrhenian International Workshop on Digital Communication (TIWDC 2007), Sep. 9-12, 2007, Ischia, Italy
- C134- N. Sambo, F. Cugini, N. Andriolli, A. Giorgetti, L. Valcarenghi, and P. Castoldi, "Lightweight RSVP-TE extensions to Account for Shared Regenerators in Translucent Optical Networks", in Proceedings of Photonics in Switching 2007, Aug. 19-22, 2007, San Francisco, CA
- C135- F. Cugini, F. Paolucci, L. Valcarenghi, and P. Castoldi, "Accounting for Physical Impairments in Transparent Networks: a Path Computation Element (PCE) Solution", in Proceedings of 2007 Japan-Italy Bilateral Workshop on Photonics for Communication, Jul. 5-7, 2007, Osaka, Japan
- C136- P. Castoldi, N. Andriolli, I. Cerutti, N. Sambo, L. Valcarenghi, A. Giorgetti, F. Cugini, S. Ruepp, and J. Buron, "A Framework for Label Preference in GMPLS Controlled Optical Networks", in Proceedings of 9th International Conference on Transparent Optical Networks (ICTON2007) - 6th Workshop on All-Optical Routing (WAOR), Jul. 2-6, 2007, Rome, Italy [INVITED PAPER]
- C137- P. Castoldi, F. Cugini, P. Ghelfi, L. Valcarenghi, G. Franzl, P. Gravey, M. Morvan, L. Rea, F. Matera, and K. Wajda, "Design of Reliable Metro Core Networks", in Proceedings of 9th International Conference on Transparent Optical Networks (ICTON2007), Jul. 2-6, 2007, Rome, Italy
- C138- L. Valcarenghi, R. Inkret, B. Mikac, A. Pattavina, M. Tornatore, M. Pickavet, K. Wajda, L. Wosinska, "Which Resilience for the Optical Internet ? An e-Photon/ONE+ Outlook", in Proceedings of 4th Reliability Issues in Next Generation Optical Networks (RONEXT 2007) co-located with ICTON 2007, Jul. 2-6, 2007, Rome, Italy [INVITED PAPER]
- C139- C. Raffaelli, L. Wosinska, N. Andriolli, F. Callegati, P. Castoldi, W. Kabacinski, G. Maier, A. Pattavina, and L. Valcarenghi, "Photonics in Switching in NoE e-Photon/One+", in Proceedings of 9th International Conference on Transparent Optical Networks (ICTON2007), Jul. 2-6, 2007, Rome, Italy [INVITED PAPER]
- C140- P. Castoldi, F. Cugini, L. Valcarenghi, N. Sambo, E. Le Rouzic, M. Poirrier, N. Andriolli, F. Paolucci, and A. Giorgetti, "Centralized vs. Distributed Approaches for Encompassing Physical Impairments in Transparent Optical Networks", in Proceedings of 11th Conference on Optical Network Design and Modelling (ONDM 2007) - Workshop on Optical networking perspectives vs. optical technologies reality, May 29-31, 2007, Athens, Greece [INVITED PAPER]
- C141- G. Berrettini, G. Meloni, M. Scaffardi, F. Paolucci, L. Valcarenghi, P. Castoldi, A. Bogoni, L. Potì, R. Di Muro, and B. Nayar, "Testbed for 100 Gb/s Ethernet", in Proceedings of International Conference on Testbeds and Research Infrastructures for the Development of Networks and Communities - TridentCom 2007, May 21-23, 2007, Orlando, USA

List of Publications (continued)

- C142- F. Cugini, F. Paolucci, L. Valcarenghi, and P. Castoldi, "Implementing a Path Computation Element (PCE) to encompass physical impairments in transparent networks", in Proceedings of OFC 2007, Mar. 25-29, 2007, Anaheim, CA, USA
- C143- F. Cugini, A. Giorgetti, N. Andriolli, F. Paolucci, L. Valcarenghi, and P. Castoldi, "Multiple Path Computation Element (PCE) Cooperation for Multi-layer Traffic Engineering", in Proceedings of OFC 2007, Mar. 25-29, 2007, Anaheim, CA
- C144- N. Sambo, A. Giorgetti, N. Andriolli, F. Cugini, L. Valcarenghi, and P. Castoldi, "GMPLS Signalling Feedback for Encompassing Physical Impairments in Transparent Optical Networks", in Proceedings of IEEE Globecom 2006 - Advanced Technologies and Protocols for Optical Networks, Nov. 27- Dec. 1, 2006, San Francisco, CA
- C145- F. Cugini, N. Sambo, N. Andriolli, A. Giorgetti, L. Valcarenghi, and P. Castoldi, "Physical impairment-aware control plane based on GMPLS signaling extensions", in Proceedings of China-Italy Bilateral Workshop on Photonics for Communication and Sensing, Oct. 23-24, 2006, Xi'an, China
- C146- A. Giorgetti, N. Sambo, L. Valcarenghi, and P. Castoldi, "Reservation Collision Avoidance in GMPLS Wavelength-routed Optical Networks", in Proceedings of International Conference on Photonics in Switching 2006 (PS 2006), Oct. 16-18, 2006, Herakleion, Greece
- C147- P. Castoldi, L. Valcarenghi, F. Paolucci, V. Martini, F. Baroncelli, F. Cugini, and B. Martini, "Network Resource Management in High-Quality Networks", in Proceedings of Broadnets 2006, Oct. 1-5, 2006, San Jose, CA [INVITED PAPER]
- C148- F. Baroncelli, B. Martini, L. Valcarenghi, P. Castoldi, "A Service Composition Model for Automatically Switched Transport Networks", in Proceedings of International Conference on Networking and Services ICNS'06, Jul. 16-18, 2006, Silicon Valley, USA
- C149- L. Valcarenghi and P. Castoldi, "QoS-Aware Fault Tolerance in Grid Computing through Topology-Aware Replica Placement", in Proceedings of 3rd Reliability issues in Next Generation Optical Networks (RONEXT) Workshop, co-located with ICTON 2006, Jun. 18-22, 2006, Nottingham, U.K. [INVITED PAPER]
- C150- L. Valcarenghi, F. Paolucci, P. Castoldi, L. Rossi, and F. Cugini, "Integrated Multi-Layer Bandwidth Recovery for Multimedia Communications", in Proceedings of IEEE Workshop on High Performance Switching and Routing (HPSR 2006), Jun. 7-9, 2006, Poznan, Polonia
- C151- N. Andriolli, L. Valcarenghi, P. Castoldi, J. Buron, S. Ruepp, and F. Cugini, "Signaling Protocol Extensions for Converter-Saving Wavelength Assignment in GMPLS Optical Networks", in Proceedings of HPSR 2006, Jun. 7-9, 2006, Poznan, Poland
- C152- F. Cugini, N. Andriolli, L. Valcarenghi, P. Castoldi, "Enhancing Link Bundling Performance in GMPLS Transparent Networks", in Proceedings of OFC 2006, Mar. 5-10, 2006, Anaheim (California, USA)
- C153- L. Valcarenghi, F. Cugini, F. Paolucci, and P. Castoldi, "QoS-Aware Fault Tolerance in Grid Computing," in Proceedings of Workshop on Reliability and Robustness in Grid Computing Systems," GGF16, Feb. 13- 16, 2006, Athens, Greece, <http://www.ggf.org/GGF16/materials/Grid-R-and-R/QoSawareFT.pdf>
- C154- M. Kantor, K. Wajda, L. Rea, A. Tarantino, F. Matera, F. Cugini, F. Paolucci, L. Valcarenghi, P. Castoldi, "Experimenting with Recovery Schemes Implemented in Commercial MPLS Routers", in Proceedings of Broadband Europe 2005, Dec. 12-14, 2005, Bordeaux (France)
- C155- F. Cugini, P. Ghelfi, A. Giorgetti, L. Valcarenghi, P. Castoldi, and M. Guglielmucci, "Partial Cross-Connection Capability OXCs for Ring Interconnection", in Proceedings of Sixth International Workshop on Optical Networking Technologies (Optical Cross-Connects (OXC): From research to practice) colocated with IEEE Globecom 2005, Nov. 28-Dec. 2 2005, St. Louis, MO (USA)
- C156- A. Giorgetti, N. Andriolli, L. Valcarenghi, P. Castoldi, "Failure-aware Idle Protection Capacity Reuse", in Proceedings of IEEE Globecom 2005, Symposium on Photonic Technologies for Communications, Nov. 28-Dec. 2, 2005, St. Louis, MO (USA)

List of Publications (continued)

- C157- A. Giorgetti, N. Andriolli, L. Valcarengi, P. Castoldi, "Impact of Idle Protection Capacity Reuse on Multi-Class Optical Networks", in Proceedings of 5th International Workshop on Design of Reliable Communication Networks (DRCN), Oct. 16-19, 2005, Island of Ischia (Naples), Italy
- C158- F. Cugini, N. Andriolli, L. Valcarengi, P. Castoldi, "Physical Impairment Aware Signalling for Dynamic Lightpath Set Up", in Proceedings of the European Conference on Optical Communications (ECOC 2005), Sep. 25-29, 2005, Glasgow (UK)
- C159- L. Valcarengi, F. Paolucci, L. Foschini, F. Cugini, and P. Castoldi, "Centralized and Distributed Topology Discovery Service Implementations", in Proceedings of 13th Annual IEEE Symposium on High Performance Interconnects, Aug. 17-19, 2005, Stanford University
- C160- N. Andriolli, A. Giorgetti, L. Valcarengi, P. Castoldi, "Impact of Spare Capacity Reuse on Multi-Class Lightpath Survivability Differentiation", in Proceedings of 7th International Conference on Transparent Optical Networks (ICTON 2005), Jul. 3-7, 2005, Barcelona, Spain
- C161- F. Cugini, L. Valcarengi, P. Castoldi, M. Guglielmucci, "Low-cost Resilience Schemes for the Optical Ethernet", in Proceedings of Reliability issues in Next Generation Optical Networks (RONEXT), COST270 WG1 workshop, colocated with ICTON 2005, Jul. 3-7, 2005, Barcelona, Spain [INVITED PAPER]
- C162- L. Valcarengi and P. Castoldi, "QoS-Aware Connection Resilience for Network-Aware Grid Computing Fault Tolerance", in Proceedings of Reliability issues in Next Generation Optical Networks (RONEXT), COST270 WG1 workshop, colocated with ICTON 2005, Jul. 3-7, 2005, Barcelona, Spain [INVITED PAPER]
- C163- F. Cugini, L. Valcarengi, P. Castoldi, and P.G. Raponi, "A Cost-effective Implementation of Fast GMPLS Shared Protection for IP over 10 Gigabit Ethernet Networks", in Proceedings of 2005 IEEE Workshop on High Performance Switching and Routing (HPSR05), May 12-14, 2005, Hong Kong, P. R. China
- C164- A. Giorgetti, N. Andriolli, L. Valcarengi, P. Castoldi, and F. Cugini, "Introducing Node Adaptation Capability Descriptor in GMPLS Multi-Region Networks", in Proceedings of 2005 IEEE Workshop on High Performance Switching and Routing (HPSR05), May 12-14, 2005, Hong Kong, P. R. China
- C165- F. Cugini, L. Valcarengi, P. Castoldi, "Implementazione di un Sistema di Protezione GMPLS Condiviso per Reti Ethernet Ottiche", in Proceedings of GARR Conference 2005, May 10-13, 2005, Pisa (PI), Italy [ITALIAN CONFERENCE]
- C166- L. Valcarengi, L. Rossi, F. Paolucci, P. Castoldi, and F. Cugini, "Multi-Layer Bandwidth Recovery for Multimedia Communications: An Experimental Evaluation", in Proceedings of 1st EuroNGI Conference on Next Generation Internet Networks - Traffic Engineering, Apr. 18-20, 2005, Rome, Italy
- C167- D. Adami, P. Castoldi, F. Cugini, S. Giordano, M. Repeti, and L. Valcarengi, "Performance Evaluation of Recovery Techniques in a Grid-oriented Metrocore/VESPER Field Trial", in Proceedings of First International Conference on Testbeds and Research Infrastructures for the DEvelopment of NeTworks and COMmunities (TRIDENTCOM 2005), Feb. 23-25, 2005, Trento, Italy
- C168- F. Baroncelli, B. Martini, L. Valcarengi, and P. Castoldi, "A Service Oriented Network Architecture suitable for Global Grid Computing", in Proceedings of ONDM 2005, Feb. 3-5, 2005, Milan, Italy
- C169- F. Cugini, N. Andriolli, L. Valcarengi, and P. Castoldi, "A Novel Signaling Approach to Encompass Physical Impairments in GMPLS Networks", in Proceedings of Globecom04-Workshop #4 (The Quest to Contro Next Generation Transport Networks: The Role of GMPLS), Dec. 3, 2004, Dallas, Texas
- C170- L. Valcarengi and P. Castoldi, "On the Advantages of Integrating Service Migration and GMPLS Path Restoration for Recovering Grid Service Connectivity", in Proceedings of First International Workshop on Networks for Grid Applications (GridNets 2004), Oct. 29, 2004, San Jose, CA, USA
- C171- M. Casoni, M. L. Merani, A. Giorgetti, L. Valcarengi, and P. Castoldi, "Guaranteeing Seamless End-to-End QoS in OBS Networks", in Proceedings of OpNeTec 2004, Oct. 18-20, 2004, Pisa, Italy

List of Publications (continued)

- C172- N. Andriolli, L. Valcarenghi, and P. Castoldi, "Assessing the Benefits of Wavelength Selection vs. Wavelength Conversion in WDM Networks", in Proceedings of OpNeTec 2004, Oct. 18-20, 2004, Pisa, Italy
- C173- N. Andriolli, T. Jakab, L. Valcarenghi, and P. Castoldi, "Separate Wavelength Pools for Multiple-Class Optical Channel Provisioning", in Proceedings of IEEE Networks 2004, Jun. 13-16, 2004, Vienna, Austria
- C174- B. Martini, F. Baroncelli, F. Cugini, L. Valcarenghi, and P. Castoldi, "Optical Ethernet Span Protection Using an XML-based Multi-Protocol Framework", in Proceedings of Photonics Europe 2004, Apr. 26-30, 2004, Strasbourg, France
- C175- A. Giorgetti, L. Valcarenghi, and P. Castoldi, "Combining Multi-Granularity Dynamic Provisioning and Restoration Schemes", in Proceedings of ONDM 2004, Feb. 1-4, 2004, Gent, Belgium
- C176- F. Cugini, L. Valcarenghi, P. Castoldi, and G. Ippoliti "Experimental Demonstration of Low-Cost 1:1 Optical Span Protection", in Proceedings of Globecom 03-Workshop # 4 (Protection and Restoration: from SONET/SDH to Next-Generation Networks), Dec. 1, 2003, San Francisco, USA
- C177- P. Castoldi, F. Cugini, A. Giorgetti, and L. Valcarenghi "An Integrated Scheme for Multilayer Network Restoration", in Proceedings of PS2003, Sep. 28-Oct. 2, 2003, Versailles, France
- C178- S. Darisala, A. Fumagalli, P. Kothandaraman, M. Tacca, L. Valcarenghi, M. Ali, and D. Elie-Dit-Cosaque "Multi-Failure Survivability in Optical Networks", in Proceedings of PS2003, Sep. 28-Oct. 2, 2003, Versailles, France
- C179- Kai Wu, L. Valcarenghi, and A. Fumagalli "Restoration Schemes with Differentiated Reliability", in Proceedings of ICC 2003, May 11-15, 2003, Anchorage, Alaska
- C180- S. Darisala, A. Fumagalli, P. Kothandaraman, M. Tacca, L. Valcarenghi, M. Ali, and D. Elie-Dit-Cosaque "On the Convergence of the Link-State Advertisement Protocol in Survivable WDM Mesh Networks", in Proceedings of ONDM 2003, Feb. 3-5, 2003, Budapest, Hungary
- C181- P. Kothandaraman, L. Valcarenghi, and A. Fumagalli "Generalized Stochastic Preplanned Restoration Scheme", Proceedings of IEEE Emerging Telecommunication Technologies Conference - IEEE-ETTC 2002, Sep. 23-24, 2002, Dallas, TX
- C182- L. Valcarenghi, A. Fumagalli, R. Ganapathysubramanian, and V. Peddigari "Preplanned Weighted Restoration in Highly Dynamic GMPLS Networks", Proceedings of OFC 2002, Mar. 17-22, 2002, Anaheim, CA
- C183- A. Fumagalli and L. Valcarenghi "The Preplanned Weighted Restoration Scheme", Proceedings of 2001 IEEE Workshop on High Performance Switching and Routing (HPSR 2001), May 29-31, 2001, Dallas, TX
- C184- A. Fumagalli and L. Valcarenghi "Fast Optimization of Survivable WDM Mesh Networks Based on Multiple Self-Healing Rings", Proceedings of All-Optical Networking 1999: Architecture, Control, and Management Issues, part of Photonic East, SPIE , vol. 3843, Sep. 19-21, 1999, Boston, MA
- C185- I. Chlamtac, A. Fumagalli, D. Montgomery, R. Brooks, I. Cerutti, M. Tacca, and L. Valcarenghi "CATO: CAD Tool for Design, Simulation, and Optimization of Optical Telecommunication Networks", Proceedings of All-Optical Networking 1999: Architecture, Control, and Management Issues, part of Photonic East, SPIE , vol. 3843, Sep. 19-21, 1999, Boston, MA
- C186- A. Fumagalli, G. Balestra, and L. Valcarenghi "Optimal Amplifier Placement in Multi-Wavelength Optical Networks Based on Simulated Annealing", Proceedings of the Society of Photo-Optical Instrumentation Engineers (SPIE), vol. 3531, Nov. 3-5, 1998, Boston, MA

National Peer-Reviewed Conference Papers

- N1 - R. Gaudino, R. Giuliano, F. Mazzenga, F. Vatalaro, L. Valcarenghi, "Unbundling in Passive Optical Networks: Brainstorming from the Italian Project ROAD-NGN", *Fotonica* 2014, May 12-14, 2014, Napoli, Italy [INVITED PAPER]

List of Publications (continued)

- N2 - N. Andriolli, I. Cerutti, A. Giorgetti, N. Sambo, L. Valcarenghi, and P. Castoldi, "Algoritmi per la selezione dinamica della lunghezza d'onda in reti con piano di controllo GMPLS", in Proceedings of Fotonica 2007, May 21-23, 2007, Mantova, Italy
- N3 - F. Cugini, L. Valcarenghi, P. Castoldi, "Implementazione di un Sistema di Protezione GMPLS Condiviso per Reti Ethernet Ottiche", in Proceedings of Fotonica 2005, May 30- Jun. 1, 2005, Trani, Italy
- N4 - N. Andriolli, A. Giorgetti, L. Valcarenghi, P. Castoldi, "Impatto dell'Introduzione di Dispositivi a Commutazione Ottica sul Costo di una Rete di Trasporto", in Proceedings of Fotonica 2005, May 30 - Jun. 1, 2005, Trani (BA)

Abstracts of Invited Presentations

- A1 - A. Fumagalli, M. Tacca, F. Unghváry, M. de Lacerda Rocha, A. Paradisi, S.M. Rossi, "Survivable Optical Networks", IEEE Opticos 2002, May, 2002, San José, Costa Rica

Other Publications

- O1 - Bosen Liu (Ed.), Fonbeyin Henry Abanda, Tony Lee Luen Len, L. Valcarenghi, Vimal Wakhlu (Co-Ed.), ITU-T Focus Group on Environmental Efficiency for Artificial Intelligence and other Emerging Technologies (FG-AI4EE), "Guidelines on the Implementation of Eco-friendly Criteria for AI and other Emerging Technologies", ITU-T Technical Report, 09/2021
- O2 - Co-author of "AI and ML - Enablers for Beyond 5G Networks", 5G PPP Technology Board, White paper, version 1.0, May 11, 2021, <http://doi.org/10.5281/zenodo.4299895>
- O3 - Co-author of "Service performance measurement methods over 5G experimental networks", 5G PPP Technology Board, White paper, May 2021
- O4 - contributor to "Core Network and Interoperability Testing (INT) Methodologies for E2E Testing & Validation of Vertical Applications over 5G & Beyond Networks", ETSI TR 103 761 V0.0.5 (2021-04)
- O5 - C.J. Bernardos, Ed. UC3M, LM. Contreras, I. Vaishnavi, R. Szabo, J. Mangués, X. Li, F. Paolucci, A. Sgambelluri, B. Martini, L. Valcarenghi, G. Landi, D. Andrushko, A. Mourad, "Multi-domain Network Virtualization", draft-bernardos-nmrg-multidomain-01 Informational, expires March 15, 2020
- O6 - Contributor to "Toolkit on Environmental Sustainability of the ICT Sector (ESS)", C. Bueti (Ed.), ITU-T, Sep., 2012
- O7 - A. Giorgetti, F. Paolucci, F. Cugini, L. Valcarenghi, P. Castoldi, G. Bernstein (Ed.), and Young Lee (Ed.), "Performance Evaluation of PCE Architectures for Wavelength Switched Optical Networks", draft-bernstein-pce-wson-evaluation-00.txt, IETF Internet Draft, Informational, Jun. 30, 2008
- O8 - Contributor to "Grid Optical Burst Switched Networks (GOBS)", R. Nejabati (Ed.), Open Grid Forum, Draft GFD.128, Informational, Apr. 2008

List of Patents

- P1- L. Valcarenghi, N. Sambo, K. Kondepu, F. Giannone, P. Castoldi, "WO2019175835 (A1) - MODIFICATION OF A FUNCTIONAL SPLIT IN CASE OF INSUFFICIENT AVAILABILITY OF RESOURCES", Num. dep. 102018000003571, 14 Marzo 2018, (<https://patentscope.wipo.int/search/en/detail.jsf?docId=WO2019175835>)
- P2- Annikki Welin, F. Cugini, L. Valcarenghi, F. Paolucci, P. Castoldi, "Global Provisioning of Zero-Bandwidth Traffic Engineering Label Switched Paths", application number 61159537 with the U.S. Patent Office and number WO2010104434 international, (filed May 14, 2009) (see <http://patentscope.wipo.int/search/en/WO2010104434>)
- P3- P. Castoldi, F. Cugini, N. Sambo, I. Cerutti, A. Giorgetti, L. Valcarenghi "A Restoration Scheme for an Optical Network and Method of Using such a Scheme", application number 13119520 with the U.S. Patent Office and number WO2010031443 international (filed Sep. 19, 2008) (see <http://patentscope.wipo.int/search/en/WO2010031443>)

List of Patents (continued)

- P4- S. Darisala, A. Fumagalli, P. Kothandaraman, M. Tacca, L. Valcarenghi, M. Ali, D. Elie-Dit-Cosaque, "Method and apparatus for dynamic provisioning of reliable connections in the presence of multiple failures", application number EP1453233 with the European Patent Office (filed Feb. 2, 2004) (see <https://register.epo.org/espacenet/application?number=EP04002521>)
- P5- S. Darisala, A. Fumagalli, P. Kothandaraman, M. Tacca, L. Valcarenghi, M. Ali, D. Elie-Dit-Cosaque, "Method and apparatus for dynamic provisioning of reliable connections in the presence of multiple failures", application number US20040170426 with the U.S. Patent Office (filed Oct. 2, 2003) (see <http://patentscope.wipo.int/search/en/detail.jsf?docId=US40693714>)

Bibliometric Indicators

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