

SHORT CURRICULUM VITAE



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Educational Background

Ph.D. in Computer Science from the UPC, 1991.

M.Sc. degree in Telecom Engineering from the UPC, 1984.

Employment History

Full Professor with the Computer Architecture Department of the UPC, 09/2005- to date.

Associate Professor with the Computer Architecture Department of the UPC, 05/1991-08/2005.

Assistant Professor with the Computer Architecture Department of the UPC, 10/1984-04/1991.

Current Fields of Interest

Nanonetworking Communications, Traffic Monitoring and Analysis, and High Speed and Optical Networking, with emphasis in traffic engineering, traffic characterization, MAC protocols and QoS provisioning.

Professional Activities and Honors (Selected)

- COORDINATOR of the Master of Science in Information and Communication Technologies (Master MINT: <http://mastersuniversitaris.upc.edu/mint>), 2005- to date.
- AREA EDITOR of the Computer Networks Journal (Elsevier, ISSN: 1389-1286), 2003- to date.
- CHAIRMAN of the IFIP TC6-WG10, Photonic Networks, 2005- 2011.
- INVITED SPEAKER (jointly with Dr. Franco Callegati) of the 2009 BONE Summer School on Core Networks, "From Interoperable OBS-GMPLS Networks to Optical MPLS", Kraków, September 28-30, 2009
- INVITED SPEAKER of the New Generation Optical Networks Seminar organized by the ISCTE, "Reaching Optical MPLS from an OBS network interoperable with GMPLS", Lisbon, Portugal, April 14, 2009.
- GUEST EDITOR for the Computer Networks Journal (Elsevier, ISSN: 1389-1286), Special Issue on "Challenges and opportunities in advanced optical networking", Vol. 52, No. 10, October 2008.
- Co-CHAIRMAN of the 12th International Conference on Optical Networking Design and Modeling (ONDM 2008), Vilanova i la Geltrú, Catalonia (Spain), March 12-14, 2008.
- KEYNOTE SPEAKER of the 10th Conference on Optical Network Design and Modeling ONDM 2006, "QoS Provisioning in Connection Oriented Optical Packet/Burst Switching Networks", Copenhagen, 22-24 May, 2006.
- LOCAL CHAIRMAN of the 25th Conference on Computer Communications (EEE INFOCOM 2006.), Barcelona, April 23-29, 2006.
- GENERAL CHAIRMAN of the 7th International Conference on Transparent Optical Networks (ICTON 2005), Barcelona, July 3-7, 2005 (<http://icton05.ccaba.upc.edu/>).
- GENERAL CHAIRMAN of the 5th. Workshop on Quality of Future Internet Services (QofIS'04), Barcelona, September 29-30 and October 1, 2004 (<http://qofis.ccaba.upc.edu/>).
- GUEST EDITOR for the Computer Communications Journal (Elsevier, ISSN: 0140-3664), Special Issue on "Quality of Future Internet Services", Vol. 27, No. 4, March 2004.
- GUEST EDITOR for the Computer Communications Journal (Elsevier, ISSN: 0140-3664), Special Issue on "Quality of Future Internet Services", Vol. 26, No. 4, March 2003.
- SPANISH DELEGATE for the QofIS Action (COST263: "Quality of Future Internet Services"), 1999-2004.
- ASSOCIATE DEAN of the UPC College of Computing, 1992-1993.

Participation in European Research Projects (Selected)

- EULER (Strep), “Experimental UpdateLess Evolutive Routing” (IST FP7-258307), 2010-2013.
- STRONGEST (IP), “Scalable, Tunable and Resilient Optical Networks Guaranteeing Extremely-high Speed Transport” (IST FP7-247674), 2010-2012.
- BONE (Network of Excellence): “Building the Future Optical Network in Europe: The e-Photon/ONe Network” (IST FP7-216863), 2007-2010.
- DICONET (Strep Project): “Dynamic Impairment Constraint Networking for Transparent Mesh Optical Networks” (IST FP7-216338), 2007-2010.
- TDON (COST Action): “Towards Digital Optical Networks” (COST 291), 2004-2008
- NOBEL-2 (Integrated Project): Next generation Optical network for Broadband European Leadership (IST FP6-027305), 2005-2008.
- NOBEL (Integrated Project): Next generation Optical network for Broadband European Leadership (IST FP6-506760), 2003-2005.
- e_Photon/One+ (Network of Excellence): Optical Networks: Towards Bandwidth Manageability and Efficiency (IST FP6-027497), 2006-2008.
- e_Photon/One (Network of Excellence): Optical Networks: Towards Bandwidth Manageability and Efficiency (IST FP6-001933), 2003-2006.
- LONG: “Laboratories over Next Generation Networks” (IST-1999-20393), 2001-2002.
- LION: “Layers Interworking in Optical Networks” (IST-1999-11387), 2000-2003.
- DAVID: “Data and Voice Integration over DWDM” (IST-1999-11742), 2000-2003.
- AIPhoNet (COST Action) : “Advanced Infrastructure for Photonic Networks” (COST 266), 2000-2004.
- E-NET: “Emerging Networking Technologies” (IST-2001-37814), 2000-2001.
- QofIS (COST Action): “Quality of Future Internet Services” (COST 263), 1999-2004.
- SONATA: “Switchless Optical Network for Advanced Transport Architecture” (ACTS, AC-351), 1998-1999.
- IMMP: “Integrated Multimedia Project” (ACTS, AC-023), 1995-1999.
- MICC: “Mobile Integrated Communications in Construction” (ACTS, AC-088), 1996-1998.
- InfoWin: “Information Window” (ACTS, P-565), 1996-1998.

Most Related Recent Publications

- P. Barlet-Ros, G. Iannaccone, J. Sanjuà-Cuxart, and J. Solé-Pareta, “Predictive Resource Management of Multiple Monitoring Applications”, *IEEE/ACM Transactions on Networking*, ISSN: 1063-6692 (in press).
- V. Carela-Español, P. Barlet-Ros, A. Cabellos-Aparicio, and J. Solé-Pareta, “Analysis of the impact of sampling on NetFlow traffic classification”, *Computer Networks Journal* (Elsevier), 2010 (in press).
- S. Azodolmolky, M. Klinkowski, Y. Pointurier, M. Angelou, D. Careglio, J. Solé-Pareta, I. Tomkos, “A novel offline physical layer impairments aware RWA algorithm with dedicated path protection consideration”, *OSA/IEEE Journal of Lightwave Technology*, vol. 28, no. 20, pp. 3029-3040, October 2010, ISSN: 0733-8724.
- M. Zannin, K. Ennsner, S. Taccheo, D. Careglio, J. Solé-Pareta, J. Aracil, “On the benefits of optical gain clamped amplification in optical burst switching networks”, *OSA/IEEE Journal of Lightwave Technology*, vol. 27, no. 23, pp. 5475-5482, 2009, ISSN: 0733-8724.
- Azodolmolky S, Klondis D, Tomkos I, Ye Yb, Saradhi Cv, Salvadori E, Gunkel M, Manousakis K, Vlachos K, Varvarigos Em, Nejabati R, Simeonidou D, Eiselt M, Comellas J, Sole-Pareta J, Simonneau C, et altri, (2009). “A Dynamic Impairment-Awate Networking Solution for Transparent Mesh Optical Networks”. *IEEE Communications Magazine*, 47 (5) : 38-47. ISSN: 0163-6804.
- Pavon-Marino P, Azodolmolky S, Aparicio-Pardo R, Garcia-Manrubia B, Pointurier Y, Angelou M, Sole-Pareta J, Garcia-Haro J, Tomkos I. Offline impairment aware RWA algorithms for cross-layer planning of optical networks. *OSA/IEEE Journal of Lightwave Technology* 2009;27:1763-1775, ISSN: 0733-8724.
- M. Klinkowski, D. Careglio, J. Solé-Pareta, M. Marciniak, “Performance overview of the offset time emulated OBS network architecture”, *OSA/IEEE Journal of Lightwave Technology*, vol. 27, no. 14, pp. 2751-2764, July 2009, ISSN: 0733-8724.
- S. Azodolmolky, M. Klinkowski, E. Marin, D. Careglio, J. Solé-Pareta, I. Tomkos, “A survey on physical layer impairments aware routing and wavelength assignment algorithms in optical networks”, *Computer Networks Journal*, vol. 53, no. 7, pp. 926-944, May 2009, ISSN: 1389-1286.
- M. Klinkowski, D. Careglio, J. Solé-Pareta, “Reactive and proactive routing in labelled OBS networks”, *IET Communications*, vol. 3, no. 3, pp. 454-464, March 2009, ISSN: 1751-8628.
- Miroslaw Klinkowski, M. Pioro, Davide Careglio, Marian Marciniak, Josep Solé-Pareta, “Non-linear optimization for multi-path source routing in OBS networks”, *IEEE Communications Letters*, Vol. 11 No. 12, December 2007, ISSN: 1089-7798.
- S. Sánchez-López, X. Masip-Bruin, J. Solé-Pareta, J. Domingo-Pascual, “Fast Set-up of End-to-end Paths for Bandwidth Constrained Applications in an IP/MPLS-ATM Integrated Environment”, *Computer Networks Journal* (Elsevier), Vol. 51, No. 2, February 2007, ISSN: 1389-1286.

- D. Careglio, J. Solé-Pareta, S. Spadaro, "Service Category-to-Wavelength Selection Technique for QoS Support in Connection-Oriented Optical Packet Switching", *Computer Networks Journal* (Elsevier), Vol. 51, No. 1, January 2007, ISSN: 1389-1286.
- S. Spadaro, Alessandro D'Alessandro, Antonio Manzalini, J. Solé-Pareta, "TRIDENT: An Automatic Approach to Traffic Engineering in IP/MPLS over ASON/GMPLS Networks", *Computer Networks Journal* (Elsevier), Vol. 51, No. 1, January 2007, ISSN: 1389-1286.
- E. Marín-Tordera, X. Masip-Bruin, S. Sánchez-López, J. Solé-Pareta, J. Domingo-Pascual, "The Prediction-Based Routing in Optical Transport Networks", *Computer Communications Journal* (Elsevier), Vol 29, Issue 7, April 2006, ISSN: 0140-3664.
- F. Callegati, D. Careglio, W. Cerroni, G. Muretto, C Raffaelli, J. Solé-Pareta, P. Zaffoni, "Keeping the packet sequence in optical packet-switched networks", *Optical Switching and Networking Journal*, Vol. 2, No. 3, November 2005, ISSN: 1573-4277.
- E. Marín-Tordera, X. Masip-Bruin, S. Sánchez-López, J. Solé-Pareta, J. Domingo-Pascual, "A Hierarchical Routing Approach for Optical Transport Networks", *Computer Networks Journal* (Elsevier), Vol. 50, Issue 2, February 2005, ISSN: 1389-1286.
- C. Develder, A. Stavdas, A. Bianco, D. Careglio, H. Lønsethagen, J. Fernández-Palacios, R. Van Caenegem, S. Sygletos, F. Neri, J. Solé-Pareta, M. Pickavet, N. Le Sauze, P. Demeester, "Benchmarking and viability assessment of Optical Packet Switching for metro networks", *IEEE/OSA Journal of Lightwave Technology*, Special Issue on Metro and Access Networks, November 2004, ISSN: 0733-8724.
- Andrea Bianco, Davide Careglio, Jorge M. Finochietto, Giulio Galante, Emilio Leonardi, Fabio Neri, Josep Solé-Pareta y Salvatore Spadaro, "Multi-Class Scheduling Algorithms for the DAVID Metro Network", *IEEE Journal on Selected Areas in Communications (JSAC)*, Special Issue on Advances in Metropolitan Optical Networks (Architectures and Control), Vol. 22, No. 9, November 2004, ISSN: 0733-8716.
- S. Spadaro, J. Solé-Pareta, "Positioning of the RPR standard in Contemporary Operator Environments", *IEEE Network Magazine*, Special Issue on Protection, Restoration and Disaster Recovery, April 2004, ISSN: 0890-8044.
- Sergi Sánchez-López, Josep Solé-Pareta, Jaume Comellas, John Soldatos, Georgios Kylafas, "PNNI Based Control Plane for Automatic Switched Optical Networks", *IEEE/OSA Journal of Lightwave Technology*, Special Issue on Optical Networks, November 2003, ISSN: 0733-8724.
- L. Dittmann (editor), C. Develder, D. Chiaroni, F. Neri, F. Callegati, W. Koerber, A. Stavdas, M. Renaud, A. Rafel, J. Solé-Pareta, W. Cerroni, N. Leligou, Lars Dembeck, B. Mortensen, M. Pickavet, N. Le Sauze, M. Mahony, B. Berde, G. Eilenberger, "The European IST Project DAVID: a Viable Approach towards Optical Packet Switching", *IEEE Journal on Selected Areas in Communications (JSAC)*, July 2003, ISSN: 0733-8716.

Advised PhD Thesis

- Pedro Miguel Pedroso Mendoza, Dept. Arquitectura de Computadors (UPC). "GMPLS-OBS Interoperability, and Routing Scalability in Internet". December 2011, "cum laude". Co-advised with Davide Careglio.
- Siamak Azodolmolky, Dept. Arquitectura de Computadors (UPC). "Impairment Aware Lightpath Routing and Network Planning in Transparent Optical Networks". February 2011, "cum laude". Co-advised with Iannis Tomkos (Athens Institute of Technology).
- Pere Barlet-Ros, Dept. Arquitectura de Computadors (UPC). "Load Shedding in Network Monitoring Applications". December 2008, "cum laude". Co-advised with Gianluca Iannaccone (Intel Research Berkeley).
- Miroslaw Klinkowsky, Dept. Arquitectura de Computadors (UPC). "Offset-Time Emulated Architecture for Optical Burst Switching: Modeling and Performance Evaluation. February 2008, "cum laude". Co-advised with Davide Careglio.
- Davide Careglio, Dept. Arquitectura de Computadors (UPC). "QoS Provisioning in Optical Networks for Metropolitan and Wide Area Environments". February 2005, "cum laude".
- Salvatore Spadaro, Dept. Teoria del Senyal i Comunicacions (UPC). "Traffic Engineering in IP over Optical Networks for Metropolitan and Wide Area Environments". February 2005, "cum laude".
- Xavier Masip Bruin, Dept. Arquitectura de Computadors (UPC). "Mechanisms to Reduce the Routing Information Inaccuracy Effects: Application to MPLS and WDM Networks". October 2003, "cum laude". Co-advised with Jordi Domingo-Pascual.
- Sergi Sánchez López, Dept. Arquitectura de Computadors (UPC). "Interconnection of IP/MPLS Networks through ATM and Optical Backbones using PNNI Protocols". October 2003, "excellent". Co-advised with Jordi Domingo-Pascual.
- Ramon Fabregat Gesa, Dept. Electrònica Informàtica i Automàtica de la Universitat de Girona (UdG). "Congestion Probability Routing in Virtual Path ATM Networks", September 1998, "cum laude".
- Joan Vila i Sallent, Dept. d'Arquitectura de Computadors (UPC). "A Network Architecture for Supporting Parallel Computing over ATM". November 1997, "cum laude".