fernandoguiomar

Research Fellow on Optical Communications and Photonics

personal info

Name
Fernando Pedro Pereira Guiomar
Nationality
Portuguese
Date of Birth
2nd October 1986

contact

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10129 Torino - Italy

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Google Scholar
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languages

portuguese (native)
english (fluency)
french (elementary)

programming

MATLAB
C, C++, VHDL
LaTeX

current position

10/2015–Now **Post-Doc Research Fellow** Politecnico di Torino & CISCO Photonics srl, Italy
Marie Skłodowska-Curie Individual Fellowship: *Flexible Optical Networks (FLEX-ON) – Time Domain Hybrid QAM: DSP and Physical Layer Modelling*
Since October 2015, I am working as a Marie Skłodowska-Curie Research Fellow dedicated to project FLEX-ON, carried out in close collaboration between Politecnico di Torino and CISCO Photonics.

education

2011–2015 **PhD** in Electronic Engineering Instituto de Telecomunicações & University of Aveiro, Portugal
Thesis Theme: *Digital Signal Processing for High-Speed Optical Transmission Systems*
Supervisor: Prof. Armando Nolasco Pinto

2004–2009 **MSc** in Electronics and Telecommunications Engineering University of Aveiro, Portugal
Thesis Theme: *Digital Post-Compensation of the Optical Channel*
Grade: *18 (0-20).*
Supervisor: Prof. Armando Nolasco Pinto

short bio

Fernando Guiomar was born in Aveiro, Portugal, in 1986. He received the M.Sc. degree in Electronics and Telecommunications Engineering in December of 2009, and the Ph.D. degree in Electrical Engineering in September 2015, both from University of Aveiro, Portugal. His research experience has started during the final year of the MSc studies, when he joined Instituto de Telecomunicações Aveiro (IT-Av) as a research fellow within the framework of the national project PANORAMA, in partnership with PT Inovação SA.

In January 2011, he has formally enrolled in a PhD on Electronics Engineering from University of Aveiro. During his PhD studies he has developed advanced high-performance and low-complexity digital filters to compensate for nonlinear impairments in coherent optical transmission systems. He has contributed as a member of the principal team or as a collaborator in several national and international research projects. During his PhD he has established several international collaborations, leading to scientific missions (Politecnico di Torino and Universidad Politecnica de Valencia) and industrial internships (in CPqD, Campinas, Brazil). In addition he has also contributed to the writing and submission of several project proposals and actively participated on the co-supervision of several MSc and PhD students.

Since October 2015, he has joined the OptCom group of Politecnico di Torino (in collaboration CISCO Photonics Italy srl), as a post-doctoral researcher under the framework of a Marie Skłodowska-Curie Individual Fellowship, where he is currently working on the development of flexible modulation and digital signal processing subsystems for elastic optical networks.

Fernando Guiomar is a member of the Optical Society of America (OSA) and of the Institute of Electrical and Electronics Engineers (IEEE) and he has been frequently serving as a reviewer for high-impact scientific journals in the area of optical communications. He has co-authored more than 40 scientific publications, including 6 invited journal papers, resulting from top-ranked paper submissions at leading scientific conferences in the area of optical communications (ECOC and OFC). He is also the co-author of two patent applications on the areas of linear and nonlinear equalization of optical fiber impairments. In 2016, he has received the Photonics 21 Student Innovation Award, distinguishing research work developed in Europe with high industrial impact.

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work experience

10/2015 – Now **Marie Skłodowska-Curie Research Fellow** Politecnico di Torino, Italy.
Since 16th October 2015, I am working as a Marie Skłodowska-Curie Research Fellow dedicated to project FLEX-ON, which will be carried out in close collaboration between Politecnico di Torino and CISCO Photonics Italy srl.

06–10/2015 **Post-Doctoral Researcher** Instituto de Telecomunicações, Aveiro, Portugal.
Research fellow in the project DiNEq, with the aim to develop and optimize advanced digital signal processing algorithms for the mitigation of intra- and inter-channel nonlinearities in high-speed coherent optical transmission systems.

11/2014 **Optical Engineering Internship** Centro de Pesquisa e Desenvolvimento em Telecomunicações, Campinas, Brazil.
Internship in the largest Brazilian telecommunications research center for the duration of 1 month, with the aim to experimentally test and validate nonlinear equalization algorithms for 400 Gb/s optical transmission systems.

2011 – 2015 **PhD Student** University of Aveiro and Instituto de Telecomunicações, Aveiro, Portugal.
Since June 2011 until May 2015, I have worked as PhD student financed by the FCT scholarship SFRH/BD/74049/2010 and under the supervision of Professor Armando Nolasco Pinto. The PhD thesis, "Digital Nonlinear Equalization for Optical Transmission Systems", has been carried out within the Optical Communications group of the Instituto de Telecomunicações research center.

2009 – 2011 **Undergraduate Researcher** Instituto de Telecomunicações, Aveiro, Portugal.
Since March 2009 until May 2011, I have worked under a research contract in the framework of the project ADI/QREN-3144 PANORAMA, a national research project in partnership with PT Inovação, SA, an innovation branch of Portugal's largest telecom company, Portugal Telecom (PT). The work plan included the development of Carrier Ethernet solutions and IP performance analysis.

supervision of students

2015-2018 **Sofia B. Amado, PhD Thesis** University of Aveiro
PhD on Electronics and Telecommunications, hosted by University of Aveiro and Instituto de Telecomunicações.
Thesis title: *Digital Equalization for Optical Coherent Transmission Systems*

2016-2019 **Celestino S. Martins, PhD Thesis** University of Aveiro
PhD on Electronics and Telecommunications, hosted by University of Aveiro and Instituto de Telecomunicações.
Thesis title: *Digital Signal Processing Techniques for Multi-Carrier Optical Transmission Systems*

teaching experience

2015 **Electric Circuits Analysis** University of Aveiro
- Theoretical and practical classes on the analysis of electric circuits for undergraduate students (2 hours on a weekly basis);

2012 **Applications for Science and Engineering** University of Aveiro
- Practical classes on MATLAB programming to solve engineering problems (2 hours on a weekly basis);

2009-2012 **Optical Networks** University of Aveiro
- Practical classes on the monitoring of metro and access optical networks;

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research projects

2016–2018 **SoftTransceiver** Instituto de Telecomunicações - Internal Project

Software-Defined Transceiver for Flexible Optical Networks

External consultant of the project, cooperating on the development of novel techniques for flexible optical transmission and on the experimental test and validation tasks.

2015–2017 **FLEX-ON** H2020 Project - Marie Skłodowska-Curie Individual Fellowship

Flexible Optical Networks – Time Domain Hybrid QAM: DSP and Physical Layer Modelling

The Flex-ON project will investigate new technological paradigms in terms of signal generation, digital processing and control-plane management for novel flexible and high-capacity transport optical networks. The primary technical objective of the project is to develop and implement a flexible transceiver prototype with intelligent reconfigurability and arbitrarily low bit-rate granularity.

2014–2016 **VADONetC** Internal Project

Simplified Volterra analysis for dynamical optical networks compensation

Development of a low-complexity adaptive Volterra series equalizer for dynamic coherent optical networks.

2013–2015 **DiNEq** National Project (PTDC/EEI-TEL/3283/2012)

Digital Nonlinear Equalization in Very-High Speed Coherent Optical Transmission Systems

Development of digital equalization algorithms for the mitigation of nonlinear fiber impairments in very-high speed coherent optical transmission systems.

2013–2015 **PANORAMA II** National Project - Partnership with PT Inovação, SA.

Development of a real-time coherent receiver with integrated DSP for clock recovery, impairment compensation, carrier recovery and symbol decoding. Implementation and validation in an experimental testbed for 100G optical channels.

2011–2013 **NG-COS** Internal Project

New-Generation Coherent Optical Systems

Hardware implementation of DSP algorithms for post-detection equalization of linear and nonlinear fiber impairments in long-haul (>1000 km) and high-speed (>100 Gb/s) coherent optical transmission systems.

2011–2013 **AdaptDig** National Project - Partnership with PT Inovação, SA.

Processamento Digital de Sinal em Redes Ópticas de Acesso e de Transporte

Development and implementation of adaptive digital signal processing algorithms for access and metro optical networks.

2010-2012 **PosDig** National Project - Partnership with PT Inovação, SA.

Pós-Compensação Digital da Dispersão e Não-Linearieddades em Sistemas de Transmissão Ópticos

Analysis of coherent detection architectures and development of post-detection equalization techniques for the mitigation of linear and nonlinear fiber impairments in optical transmission systems.

2009-2012 **EURO-FOS** European Network of Excellence

http://www.euro-fos.eu/

Actively participated on the “Digital Optical Transmission Systems” center of excellence, contributing with the development of nonlinear equalization techniques for long-haul optical transmission systems.

2009-2010 **PANORAMA** National Project - Partnership with PT Inovação, SA.

Study of Carrier Ethernet solutions (PBB-TE; MPLS-TP); IP networks performance analysis.

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communication skills

2010-Now **Oral Presentations at International Conferences:**

- (2016-09) – ECOC 2016, Dusseldorf, Germany (workshop).
- (2015-09) – ECOC 2015, Valencia, Spain (regular talk);
- (2015-09) – IONS 2015, Valencia, Spain (regular talk);
- (2015-06) – SPPCom 2015, Boston, USA (invited talk);
- (2014-09) – ECOC 2014, Cannes, France (regular talk);
- (2013-09) – ECOC 2013, London, UK (regular talk);
- (2012-09) – ECOC 2012, Amsterdam, Netherlands (regular talk);
- (2012-06) – NOC 2012, Barcelona, Spain (regular talk);
- (2011-09) – ECOC 2011, Geneva, Switzerland (regular talk);
- (2011-04) – CONFTELE 2011, Lisbon, Portugal (regular talk);
- (2010-06) – NOC 2010, Faro, Portugal (regular talk);

2010-Now **Training Schools and Project Meetings:**

- (2015-06) – DiNEq 2nd International Workshop, Aveiro, Portugal;
- (2014-06) – DiNEq 1st International Workshop, Aveiro, Portugal;
- (2014-05) – European Industrial Doctoral School (EIDS), Pardubice, Czech Republic;
- (2012-04) – EURO-FOS Meeting, Barcelona, Spain;
- (2011-06) – EURO-FOS Mobility Action (IT-ACREO), Kista, Sweden;
- (2011-03) – EURO-FOS Mobility Action (IT-POLITO), Turin, Italy;
- (2011-03) – EURO-FOS Meeting, Berlin, Germany;
- (2010-09) – BONE Summer School, Budapest, Hungary.

2015-Now **Dissemination of Science to the General Public:**

- (2015-12) – Seminar entitled “The Light Around Us”, focusing on the history and basic properties of light, given to high-school students in the city of Carmagnola, Italy;
- (2015-03) – Volunteer youth educator in the framework of the “Light the Future: A Community Outreach Even”, carried out during OFC 2016 for mid- and high-school students in the Los Angeles area.

awards, grants and scholarships

2016 **Photonics 21 Student Innovation Award** Photonics 21
Awarded by the European Technology Platform Photonics21 for research in the field of photonics with high industrial impact.
http://www.photonics21.org/TrainingEducation/PrizeWinners.php

2015 **Marie Skłodowska-Curie Grant for an Individual Fellowship** Politecnico di Torino, Italy
Research grant for a 2-years fellowship awarded by the European Commission in the framework of the Horizon 2020 Research and Innovation programme.
http://cordis.europa.eu/project/rcn/194861_en.html

2015 **Runner-up of the Best Student Paper Prize** ECOC 2015, Valencia, Spain
Honorable mention (2nd place) for the work "Ultra-Long-Haul 400G Superchannel Transmission with Multi-Carrier Nonlinear Equalization", on the Best Student Paper Prize Competition at ECOC 2015, Valencia, Spain.

2015-06 **Travel Grant** Fundação Luso-Americana Para o Desenvolvimento
Grant to support the travelling expenses related with the participation on the "Optics & Photonics Congress on Advanced Photonics", held in Boston, USA.

2013 **Best Engineering Poster** Research Day, University of Aveiro
Awarded to the best engineering-related poster at the University of Aveiro research day.

2011 **PhD Scholarship** Fundação para a Ciência e a Tecnologia
Research grant awarded for a period of 48 months with the aim to carry out research and studies leading to the PhD degree in Electrical Engineering.

organization of scientific meetings and conferences

09/2015 **IONS 2015** Valencia, Spain.
Actively participated in the organizing committee of the International OSA Network of Students (IONS) 2015, co-organized by the OSA Student Chapters in the Iberian Peninsula and taking place on the 24th-26th September 2015 in Valencia, Spain.

06/2015 **Optics & Photonics Congress on Advanced Photonics 2015** Boston, USA.
Volunteer member of the organizing staff at the Optics & Photonics Congress on Advanced Photonics, held in Boston, USA (27th June to 1st July 2015). As a staff member, I have video-recorded several oral presentations at different collocated meetings.

05/2015 **European Industrial Doctoral School** Aveiro, Portugal.
Actively participated in the organizing committee of the Summer Workshop of the European Industrial Doctoral School (EIDS) 2015, held in Aveiro, Portugal. The main contributions were made on the preparation of the scientific program and on the coordination of social activities.

06/2011 **ICTON 2011** Stockholm, Sweden.
Volunteer member of the organizing staff at the 13th International Conference on Transparent Optical Networks (ICTON), held in Stockholm, Sweden, on the 26th-30th June 2011. As a staff member, I have coordinated oral presentations and helped on the organization of social events.

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memberships and societies

04/2016–Now	**Advisor of the OSA Student Chapter Torino**	Optical Society of America
01/2016–Now	**IEEE Member**	Institute of Electrical and Electronics Engineers
01/2016–Now	**IEEE Photonics Society Member**	Institute of Electrical and Electronics Engineers
10/2015–Now	**OSA Graduate Member**	Optical Society of America
2014–2015	**OSA Student Chapter Member**	University of Aveiro's OSA Student Chapter
2014–2015	**OSA Student Member**	Optical Society of America

commissions of trust

2012–Now **Reviewer for International Journals**
Optics Letters (OSA)
Optics Express (OSA)
Journal of Optical Communications and Networking (IEEE/OSA)
Journal of Lightwave Technology (IEEE/OSA)
Photonic Network Communications (Springer)
Photonics Journal (IEEE)
Transactions on Microwave Theory and Techniques (IEEE)
Transactions on Magnetics (IEEE)
Optical Fiber Technology (Elsevier)
Journal of Modern Optics (Taylor & Francis)

2014–Now **Reviewer for International Conferences**
International OSA Network of Students 2015
22nd European Signal Processing Conference 2014
International Conference on Telecommunications 2014

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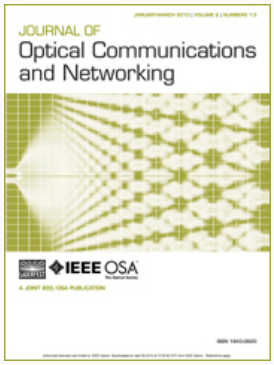

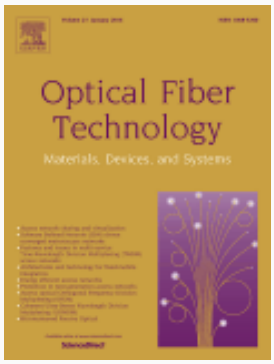

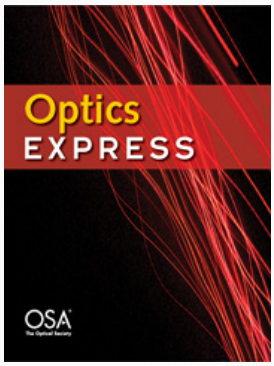

publications

Papers in international journals:

[J16] A. Shahpari, R. M. Ferreira, R. S. Luís, Z. Vujicic, F. P. Guiomar, J. D. Reis and A. L. Teixeira, "Coherent Access: a Review," under revision, *IEEE/OSA Journal of Lightwave Technology*, 2016. (**invited paper**)

[J15] C. S. Martins, F. P. Guiomar, S. B. Amado, R. M. Ferreira, A. Shahpari, A. L. Teixeira and A. N. Pinto, "Distributive FIR-Based Chromatic Dispersion Equalization for Coherent Receivers," accepted for publication in *IEEE/OSA Journal of Lightwave Technology*, 2016.
DOI: http://dx.doi.org/10.1109/JLT.2016.2604741

[J14] F. P. Guiomar, R. Li, A. Carena, C. Fludger and V. Curri, "Hybrid Modulation Formats Enabling Elastic Fixed-Grid Optical Networks," *IEEE/OSA Journal of Optical Communications and Networking*, vol. 8, no. 7, pp. A92–A100, 2016.
DOI: http://dx.doi.org/10.1364/JOCN.8.000A92

[J13] A. Shahpari, R. M. Ferreira, F. P. Guiomar, S. B. Amado, S. Ziaie, C. Rodrigues, J. D. Reis, A. N. Pinto and A. L. Teixeira, "Real-Time Bidirectional Coherent Nyquist UDWDM-PON Coexisting with Multiple Deployed Systems in Field-Trial," *IEEE/OSA Journal of Lightwave Technology*, vol. 34, no. 7, pp. 1643–1650, 2016. (**post-deadline paper @ ECOC 2015**)
DOI: http://dx.doi.org/10.1109/JLT.2015.2508378

[J12] F. P. Guiomar, S. B. Amado, J. D. Reis, S. M. Rossi, A. Chiuchiarelli, J. R. F. Oliveira, A. L. Teixeira and A. N. Pinto, "Multi-Carrier Digital Backpropagation for 400G Optical Superchannels," *IEEE/OSA Journal of Lightwave Technology*, vol. 34, no. 8, pp. 1896–1907, 2016. (**top-scored @ ECOC 2015**)
DOI: http://dx.doi.org/10.1109/JLT.2015.2512661

[J11] S. B. Amado, F. P. Guiomar, N. J. Muga, J. D. Reis, S. M. Rossi, A. Chiuchiarelli, J. R. F. Oliveira, A. L. Teixeira and A. N. Pinto, "Low Complexity Advanced DBP Techniques for Ultra-Long-Haul 400G Transmission Systems," *IEEE/OSA Journal of Lightwave Technology*, vol. 34, no. 8, pp. 1793–1799, 2016. (**top-scored @ ECOC 2015**)
DOI: http://dx.doi.org/10.1109/JLT.2015.2512038

[J10] R. M. Ferreira, J. D. Reis, S. M. Rossi, S. B. Amado, F. P. Guiomar, A. Shahpari, J. R. F. Oliveira, A. N. Pinto, A. L. Teixeira, "Coherent Nyquist UDWDM-PON with Digital Signal Processing in Real-Time", *IEEE/OSA Journal of Lightwave Technology*, vol. 32, no. 4, pp. 826–833, 2016. (**top-scored @ OFC 2015**)
DOI: http://dx.doi.org/10.1109/JLT.2015.2493207

[J9] S. Ziaie, N. J. Muga, F. P. Guiomar, G. M. Fernandes, R. M. Ferreira, A. Shahpari, A. L. Teixeira and A. N. Pinto, "Experimental Demonstration of an Adaptive 3D Stokes Space PolDemux Technique for Optical Metro and Access Networks," *IEEE/OSA Journal of Lightwave Technology*, vol. 33, no. 23, pp. 4968–4974, 2015.
DOI: http://dx.doi.org/10.1109/JLT.2015.2492541

[J8] R. M. Ferreira, J. D. Reis, S. B. Amado, A. Shahpari, F. P. Guiomar, J. R. F. Oliveira, A. N. Pinto and A. L. Teixeira, "Performance and Complexity of Digital Clock Recovery for Nyquist UDWDM-PON in Real-Time", *IEEE Photonics Technology Letters*, vol. 27, no. 21, pp. 2230–2233, 2015.
DOI: http://dx.doi.org/10.1109/LPT.2015.2457783

[J7] A. Shahpari, R. M. Ferreira, A. Sousa, V. Ribeiro, S. Ziaie, A. Tavares, Z. Vujicic, F. P. Guiomar, J. D. Reis, A. N. Pinto and A. Teixeira, "Coherent Ultra Dense Wavelength Division Multiplexing Passive Optical Networks", *Optical Fiber Technology*, vol. 26, Part A, pp. 100–107, 2015. (**invited paper**)
DOI: http://dx.doi.org/10.1016/j.yofte.2015.07.001

[J6] F. P. Guiomar, S. B. Amado, C. S. Martins and A. N. Pinto, "Time Domain Volterra-Based Digital Backpropagation for Coherent Optical Systems", *IEEE/OSA Journal of Lightwave Technology*, vol. 15, no. 33, pp. 3170–3181, 2015.
DOI: http://dx.doi.org/10.1109/JLT.2015.2435520

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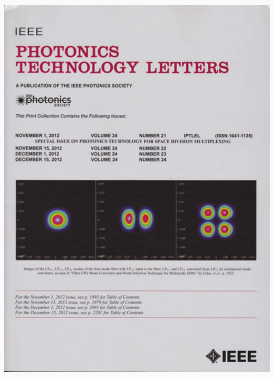

[J5] F. P. Guiomar, S. B. Amado, A. Carena, G. Bosco, A. Nespola, A. L. Teixeira and A. N. Pinto, "Fully-Blind Linear and Nonlinear Equalization for 100 G PM-64QAM Optical Systems", *IEEE/OSA Journal of Lightwave Technology*, vol. 33, no. 7, pp. 1265–1274, 2015. (**top-scored @ ECOC 2014**)
DOI: http://dx.doi.org/10.1109/JLT.2014.2386653

[J4] F. P. Guiomar, and A. N. Pinto, "Simplified Volterra Series Nonlinear Equalizer for Polarization-Multiplexed Coherent Optical Systems", *IEEE/OSA Journal of Lightwave Technology*, vol. 31, no. 23, pp. 3879–3891, 2013.
DOI: http://dx.doi.org/10.1109/JLT.2013.2288781

[J3] F. P. Guiomar, J. D. Reis, A. Carena, G. Bosco, A. T. Teixeira and A. N. Pinto, "Experimental Demonstration of a Frequency-Domain Volterra Series Nonlinear Equalizer in Polarization-Multiplexed Transmission", *Optics Express*, vol. 21, no. 1, pp. 276–288, 2013.
DOI: http://dx.doi.org/10.1364/OE.21.000276

[J2] F. P. Guiomar, J. D. Reis, A. T. Teixeira and A. N. Pinto, "Mitigation of intra-channel nonlinearities using a frequency-domain Volterra series equalizer", *Optics Express*, vol. 20, no. 2, pp. 1360-1369, 2012.
DOI: http://dx.doi.org/10.1364/OE.20.001360

[J1] F. P. Guiomar, J. D. Reis, A. T. Teixeira and A. N. Pinto, "Digital Post-Compensation Using Volterra Series Transfer Function", *IEEE Photonics Technology Letters*, vol. 23, no. 19, pp. 1412-1414, 2011.
DOI: http://dx.doi.org/10.1109/LPT.2011.2162229

Papers in national journals:

[NJ2] F. P. Guiomar, S. B. Amado, N. J. Muga, A. N. Pinto, C. Rodrigues, B. Marques, P. Costa, P. Mão-Cheia and C. Macedo, "Processamento digital adaptativo em sistemas óticos 40/100G", Revista Saber e Fazer Telecomunicações, pp. 135 – 141, January, 2013.

[NJ1] F. P. Guiomar, A. N. Pinto, C. Rodrigues and P. Mão-Cheia, "Transmissão e Receção Coerente a 40Gb/s e 100Gb/s", Revista Saber e Fazer Telecomunicações, Vol. 9, pp. 128 - 133, December, 2011.

Papers in international conferences:

[C37] G. Bosco, D. Pilori, P. Poggiolini, A. Carena and F. P. Guiomar, "Scalable Modulation Technology and the Tradeoff of Reach, Spectral Efficiency and Complexity," to be presented at Photonics West, San Francisco, USA, 2017.

[C36] F. P. Guiomar, "Advanced Techniques For Digital Nonlinear Compensation In Multi-carrier Optical Transmission Systems", to be presented at *Frontiers in Optics*, Rochester, New York, US, October 2016. (**invited paper**)

[C35] A. N. Pinto, S. B. Amado, C. S. Martins, S. Ziaie, N. J. Muga and F. P. Guiomar, "Multi-Carrier High-Speed Optical Communication Systems Supported by DSP", to be presented at *18th International Conference on Transparent Optical Networks (ICTON)*, Trento, Italy, 2016. (**invited paper**)

[C34] S. Ziaie, N. Muga, R. Ferreira, A. Shahpari, F. P. Guiomar, A. Teixeira and A. N. Pinto, "Flexible and Hybrid Bidirectional Optical Metro Networking Using Adaptive Stokes Space Polarization Demultiplexing", to be presented at *21st European Conf. on Networks and Optical Communications (NOC)*, Lisbon, Portugal, 2016.

[C33] A. Teixeira, A. Shahpari, R. Ferreira, F. P. Guiomar and J. D. Reis, "Coherent Access", *in Proc. Optical Fiber Communication Conference (OFC)*, paper M3C.5, Anaheim, USA, March 2016. (**invited paper**)

[C32] T. Almeida, A. Shahpari, A. Rocha, R. Oliveira, F. P. Guiomar, A. N. Pinto, A. L. Teixeira, P. André and R. Nogueira, "Experimental Demonstration of Selective Core Coupling in Multicore Fibers of a 200 Gb/s DP-16QAM Signal", *in Proc. Optical Fiber Communication Conference (OFC)*, paper Tu3I.4, Anaheim, USA, March 2016.

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[C31] R. Ferreira, A. Shahpari, F. P. Guiomar, S. Amado, M. Drummond, J. D. Reis, A. N. Pinto and A. L. Teixeira, "Hardware Optimization for Carrier Recovery based on Mth Power Schemes", *in Proc. Optical Fiber Communication Conference (OFC)*, paper Th2A.43, Anaheim, USA, March 2016.

[C30] R. M. Ferreira, A. Shahpari, F. P. Guiomar, S. B. Amado, C. Rodrigues, J. D. Reis, A. N. Pinto and A. L. Teixeira, "Field-Trial of a Real-Time Bidirectional UDWDM-PON Coexisting with GPON, RF Video Overlay and NG-PON2 Systems," *in 41th European Conf. Optical Communication (ECOC)*, paper PDP.4.5, Valencia, Spain, October 2015. (**post-deadline paper**)
DOI: http://dx.doi.org/10.1109/ECOC.2015.7341693

[C29] F. P. Guiomar, S. B. Amado, J. D. Reis, S. M. Rossi, A. Chiuchiarelli, J. R. F. Oliveira, A. L. Teixeira and A. N. Pinto, "Ultra-Long-Haul 400G Superchannel Transmission with Multi-Carrier Nonlinear Equalization", *in 41th European Conf. Optical Communication (ECOC)*, paper Th.2.2.4, Valencia, Spain, October 2015.
DOI: http://dx.doi.org/10.1109/ECOC.2015.7341876

[C28] S. B. Amado, F. P. Guiomar, N. J. Muga, Jacklyn D. Reis, S. M. Rossi, A. Chiuchiarelli, J. R. F. Oliveira, A. L. Teixeira and A. N. Pinto, "Experimental Demonstration of the Parallel Split-Step Method in Ultra-Long-Haul 400G Transmission", *in 41th European Conf. Optical Communication (ECOC)*, paper Th.2.6.2, Valencia, Spain, October 2015.
DOI: http://dx.doi.org/10.1109/ECOC.2015.7341897

[C27] S. B. Amado, F. P. Guiomar, N. J. Muga, J. D. Reis, S. M. Rossi, A. Chiuchiarelli, J. R. F. Oliveira, A. L. Teixeira and A. N. Pinto, "Experimental Demonstration of the Weighted Volterra Series Nonlinear Equalizer," *in 10th Conference on Telecommunications (ConfTele)*, Aveiro, Portugal, September, 2015.

[C26] J. P. Gonçalves, P. Lavrador, F. P. Guiomar, A. N. Pinto, T. R. Cunha and J. C. Pedro, "Nonlinear Behavioral Modeling Equalization Techniques for Optical Transmission Systems," *in 10th Conference on Telecommunications (ConfTele)*, Aveiro, Portugal, September, 2015.

[C25] S. Ziaie, F. P. Guiomar, R. M. Ferreira, S. B. Amado, A. Shahpari, A. L. Teixeira and A. N. Pinto, "100 Gbps DP-QPSK Transmission over 8000 km of Standard Single Mode Fiber using Recirculating Loop Technique," *in 10th Conference on Telecommunications (ConfTele)*, Aveiro, Portugal, September, 2015.

[C24] F. P. Guiomar, S. B. Amado, C. S. Martins and A. N. Pinto, "Digital Equalization of Nonlinear Fiber Impairments in Coherent Optical Transmission Systems," *in International OSA Network of Students (IONS)*, Valencia, Spain, September, 2015.

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