AALBORG UNIVERSITET

Den 6. februar 2017

Det Tekniske Fakultet for IT og Design
Niels Jernes Vej 10
9220 Aalborg Øst
Tlf. 9940 9940
www.engineering.aau.dk

Hanne Skovrider
Direkte tlf. 9940 9631
E-mail: has@adm.aau.dk

Skriftlig høring TECH Akademisk Råd pr. 8. februar 2017

1.	**Indstilling vedr. sammensætning af sagkyndige udvalg vedr. lektor stillingerne i:** A. "Reliable Internet of Things (IoT) Communications" ved Institut for Elektroniske Systemer (stilling 42206) B. "Internet of Things – focus on Smart Homes and Smart Cities" ved Institut for Electroniske Systemer (42208) **Bilag 080217-1**
2.	**Indstillinger vedr. sammensætning af sagkyndigt udvalg vedr. adjunkt stillingen i:** A. "Impact Assessment and Stakeholder Involvement" ved Institut for Planlægning (stilling 201702) **Bilag 080217-2**

OBS! Vedr. bedømmelsesudvalg – i de tilfælde hvor ansøgningsfristen ligger efter Akademisk Råds møde/skriftlig høring kontrolleres der efterfølgende for inhabilitet og sammensætning af udvalget (kvindelig bedømmer). Hvis der konstateres uregelmæssigheder, vil dekanen/formanden godkende nyt/nye medlemmer.

Det gælder for såvel bedømmelsesudvalg nedsat via de skriftlige høringer som ved de ordinære møder.

Fortegnelse over bedømmelsesudvalg til
stilling 42206 Associate Professor reliable Internet of Things (IoT) communications ved Department of Electronic Systems

Navn: Associate Proferssor Elisabeth de Carvalho
Arbejdssted: Department of Electronic Systems, AAU
E-mail: edc@es.aau.dk

Navn: Professor Michele Zorzi
Arbejdssted: Department of Information Engineering, University of Padova, Italy
E-mail:

Navn: Professor Alexey Vinel
Arbejdssted: Center for Research on Embedded Systems, Halmstad University, Sweden
E-mail:

Akademisk Råd har taget stilling til, at medlemmer af bedømmelsesudvalget er sagkyndige inden for stillingsområdet på et niveau, der mindst svarer til det, der forudsættes for stillingen, dog ikke under lektorniveau.

Associate Professor reliable Internet of Things (IoT) communications

Position No.
42206

At the Technical Faculty of IT and Design, Department of Electronic Systems a position as Associate Professor in reliable Internet of Things (IoT) communications is open for appointment from 01.04.2017 or soon hereafter. The position is available for 4 years.

The Department of Electronic Systems is one of the largest departments at Aalborg University with a total of more than 250 employees. The department is internationally recognized in particular for its contributions within Information and Communication Technology (ICT). The research and teaching of the Department of Electronic Systems focus on electronic engineering and the activity areas are organized in the sections: Antennas, Propagation and Radio Networking section (APNet), Automation Control section (Control), Signal and Information Processing section (SIP), Wireless Communication Networks section (WCN) and Infrastructure, Services and Entrepreneurship (ISE).

The department focuses on maintaining a close interplay with the university's surroundings - locally, nationally and internationally – as well as producing unique basic research and educating talented and creative engineers. The department collaborates with leading ICT researchers all over the world.

Job description
The position is within the area of Internet of Things (IoT) communications primarily at the MAC layer and above, with an emphasis on massive Machine-Type Communication (mMTC) and ultra-reliable and low-latency communications (URLLC). The relevant applications include primarily the smart grid, but also others, such as industry 4.0. The applicants are expected to take part in the existing and new projects, whose topics and tasks to be conducted may include:

- Analysis and design of communication protocols for applications requiring massive and/or ultra-reliable and low-latency wireless communications.
- Research into the capabilities and best use of new and upcoming IoT communication technologies.
- Modeling and analysis based on methods from probability and queueing theory.
- Design and analysis of communication protocols for URLLC that leverages the diversity of heterogeneous communication technologies in terminals.
- System analysis of wireless technologies for massive IoT communication.

Applicants are expected to be capable of conducting both of research and teaching on the topics listed above.

It is presupposed that applicants for the position as associate professor have research qualifications corresponding to the level achieved from a successful employment period as an assistant professor/postdoc researcher, or achieved otherwise. The applicants must document a record of scientific production at an international level within the research areas outlined above. The applicants should also provide a record of attracting external funding, as well as of successful PhD (co-)supervisions. Finally, the candidates should provide a teaching record, both at the undergraduate and graduate level.

You may obtain further professional information from Professor Petar Popovski, Phone +45 9940 9897, email: petarp@es.aau.dk.

Qualification requirements:

The level of qualification for Associate Professors shall correspond to the level, which can be achieved on the basis of the appointment as Assistant Professor, but may be achievable in other ways. The appointment presupposes that the applicant can demonstrate original scientific production at an international level as well as documented teaching qualifications.

Appointment to the position requires that both research and teaching qualifications are at the requested level. The two qualifications will be given equal and principal priority in the overall assessment.

The application must contain the following:
• A motivated text wherein the reasons for applying, qualifications in relation to the position, and intentions and visions for the position are stated.
• A current curriculum vitae.
• Copies of relevant diplomas (Master of Science and PhD). On request you could be asked for an official English translation.
• Scientific qualifications. A complete list of publications must be attached with an indication of the works the applicant wishes to be considered. You may attach up to 10 publications.

• Teaching qualifications described in the teaching portfolio. If this is not enclosed the applicant must include an explanation for its absence.
• Dissemination qualifications, including participation on committees or boards, participation in organisations and the like.
• Additional qualifications in relation to the position.
• References/recommendations.
• Personal data.

The applications are only to be submitted online by using the "Apply online" button below.

An assessment committee will assess all candidates.

For further information concerning the application procedure please contact Anne Christoffersen by mail ach@adm.aau.dk or phone (+45) 9940 9680.

Information regarding guidelines, ministerial circular in force, teaching portfolio and procedures can be seen here.

Workplace
Aalborg

Agreement
Employment is in accordance with the Ministerial Order on the Appointment of Academic Staff at Universities (the Appointment Order) and the Ministry of Finance's current Job Structure for Academic Staff at Universities. Employment and salary are in accordance with the collective agreement for state-employed academics.

Deadline
06/02/2017

Apply online

Aalborg University (AAU) conducts teaching and research to the highest level in the fields of humanities, engineering, and natural, health, and social sciences.

Michele Zorzi: Curriculum Vitae et Studiorum

Education

- Ph.D. in Telecommunications Engineering, University of Padova, 1994
- Laurea Degree (M.S. equivalent) in Electrical Engineering, University of Padova, 1990 (110/110 cum laude)
- Exchange Ph.D. student, University of California at San Diego, Academic Year 1992/93

Employment

- Professor of Telecommunications, University of Padova, 2003-present
- Professor of Telecommunications, University of Ferrara, 2000-2003
- Associate Professor of Telecommunications, University of Ferrara, 1998-2000
- Research Scientist, University of California at San Diego, 1995-1998
- Assistant Professor, Politecnico di Milano, 1993-1996
- Visiting Researcher, University of California at San Diego, 1999-present (Summers)

Professional Affiliations and Service

- Institute of the Electrical and Electronics Engineers (IEEE), 1989-present
- Associazione Elettrotecnica Italiana (AEIT), 1989-present
- Founding Editor in Chief of the IEEE Transactions on Cognitive Communications and Networking, Sep. 2014 – present
- Editor in Chief of the IEEE Transactions on Communications, Jan. 2008 – Dec. 2011
- Editor in Chief of the IEEE Wireless Communications Magazine, Jan. 2003 – Dec. 2005
- Editor for Europe for the Wiley Journal on Wireless Communications and Mobile Computing, 1999-2013
- Member of the Steering Committee of the IEEE Transactions on Mobile Computing, 2007-2009
- Member of the Steering Committee of the IEEE Transactions on Network Science, 2013-present
- Guest Editor for the IEEE Personal Communications magazine (special issues on "Energy management in Personal Communications/Mobile Computing," June 1998; "Wireless research at UCSD," August 1999)
- Guest Editor for the IEEE Wireless Communications magazine (special issues on "Cognitive Wireless Networks," August 2007)
- co-Guest Editor for the IEEE Journal on Selected Areas in Communications (special issues on "Network Multi-media Radios," May 1999, and "Underwater Acoustic Communications and Networks," December 2008)
- co-Guest Editor for the IEEE Network magazine (special issues on "Video over mobile networks," Mar. 2013)
- Member of the editorial board: IEEE Personal Communications/Wireless Communications magazine, 1996-2005; ACM Journal of Wireless Networks, 1998-2010; IEEE Journal on Selected Areas in Communications - Wireless Series, 1999-2000; IEEE Transactions on Wireless Communications, 2001-2007; IEEE Transactions on Mobile Computing, 2002-2005; IEEE Transactions on Communications, 2002-present; Wiley International Journal on Wireless Sensor Networks, 2005-present
- Member of the organizing committee for international conferences: IEEE ICUPC97, Publicity co-chair; ACM MobiCom99, Tutorial co-chair; ACM MobiCom01, Technical Program co-chair; ACM MobiHoc03, Publicity co-chair; Mobiquitous 2004, General co-chair; IEEE SECON 2006, Technical Program co-chair; ACM WUWNet 2007, Technical Program co-chair; IEEE SmartGridComm 2014, Symposium co-chair, IEEE WCNC 2016, Track co-chair
- Member of the technical program committee for international conferences: more than 60, including most major conferences in the field of communications and networking (ACM MobiCom, ACM MobiHoc, IEEE INFOCOM, IEEE ICC, IEEE GLOBECOM, IEEE SECON, etc.)
- Member at Large, IEEE Communications Society Board of Governors, 2009-2011.
- Member at Large, IEEE Communications Society Publications Council, 2012-2013.
- Director of Education and Training, IEEE Communications Society, 2014-2015.

Honors and awards

- IEEE Fellow, 2007
- Laurea Award "G. Francini," by AEI, for the best Laurea thesis in 1990
- Laurea Award/Research Fellowship awarded by Telettra, S.p.A., 1990
- Full scholarship support by the University of Padova throughout the Ph.D. program.
- Fellowship of the University of California for the Exchange Abroad Program in 1992/93 (ranked first in the

selection at the Universities of Padova and Venice)
- Research Fellowship "A. Gini" (including travel grant), by Gini Foundation, Italy, for studying abroad during the Academic Year 1992/93
- Research Fellowship "G. Someda," by AEI, for studying abroad, 1995.
- Best Paper Award, IEEE MobiWac Workshop, June 2005.
- Best Paper Award, IEEE CAMAD, June 2006.
- Best Paper Award, IEEE GLOBECOM (Wireless Networks Symposium), November 2007.
- Best Tutorial Paper Award, IEEE Communications Society, 2007.
- Best Paper Award, European Wireless Conference, May 2009.
- Best Paper Award, European Wireless Conference, May 2016.
- Several best paper award nominations

Funded research

In the past decade, Michele Zorzi has been very active in pursuing research projects and in securing funding. After moving back to Italy from the US (where he had been co-PI of two projects) in 1998, he immediately found industrial sponsors for his group, and within a couple of years was already well-connected in the network of European research. Michele Zorzi has been PI or co-PI on numerous research proposals. The total funding raised since 1998 is close to 10 MEur.

Past EU projects in which he was involved include the following: EYES, Embedded WISENTS, Ambient Networks (Phases I and II), e-SENSE, SENSEI, NEWCOM, NEWCOM++, ARAGORN. Current EU projects in which he participates include: IoT-A, MEDIEVAL, SAPHYRE, CLAM. He also received research grants from several major telecommunications companies, both from Europe and from the US. He has also carried out research sponsored by NATO (NURC), the US Army Research Office, and the US Office for Naval Research.

Publications

During the 20+ years of his career as a researcher, Michele has authored or coauthored more than 130 journal papers and more than 300 international conference papers, all peer-reviewed, as well as a few invited papers and book chapters and four patents. He has received five Best Paper Awards in the past seven years, and several additional best paper nominations. He has a total number of citations of 16536, an H-index of 62 and a G-index higher than 85. He has 30 papers with more than 100 citations each, and his most cited paper, published in 2003, has received a total of 878 citations so far. (Source: Google Scholar, Jun. 02, 2016).

His Google Scholar profile can be found at http://scholar.google.com/citations?user=Z7d93ZYAAAAJ

TEN REPRESENTATIVE PUBLICATIONS:

M. Zorzi, R.R. Rao, "Geographic Random Forwarding (GeRaF) for ad hoc and sensor networks: multihop performance," IEEE Trans. Mobile Computing, vol. 2, n. 4, pp. 337–348, Oct.–Dec. 2003. (829 cit.)

M. Zorzi, R.R. Rao, "Geographic Random Forwarding (GeRaF) for ad hoc and sensor networks: energy and latency performance," IEEE Trans. Mobile Computing, vol. 2, n. 4, pp. 349–365, Oct.–Dec. 2003. (532 cit.)

E. Fasolo, M. Rossi, J. Widmer and M. Zorzi, "In-network aggregation techniques for wireless sensor networks," IEEE Wireless Commun., vol. 14, n. 2, pp. 70–87, Apr. 2007. (519 cit.)

P. Bergamo, A. Giovanardi, A. Travasoni, D. Maniezzo, G. Mazzini, M. Zorzi, "Distributed power control for energy-efficient routing in ad hoc networks," ACM Wireless Networks, Vol. 10, n 1, pp. 29–42, Jan. 2004. (167 cit.)

N. Baldo, F. Maguolo, M. Miozzo, M. Rossi, M. Zorzi, "NS2-MIRACLE: a Modular Framework for Multi-Technology and Cross-Layer Support in Network Simulator 2," in Proc. ACM NSTools, Nantes, France, 22 Oct. 2007. (131 cit.)

G. Zanca, F. Zorzi, A. Zanella, M. Zorzi, "Experimental comparison of RSSI-based localization algorithms for indoor wireless sensor networks," in REALWSN 2008 in conjunction with ACM EuroSys 2008, Glasgow, Scotland, April 1 2008. (1590 cit.)

N. Baldo, M. Zorzi, "Fuzzy logic for cross-layer optimization in cognitive radio networks [cognitive radio communications and networks]," IEEE Communications Mag., vol. 46, n. 4, pp. 64–71, April 2008. (99 cit.)

M. Zorzi, J. Zeidler, A. Anderson, B. Rao, J. Proakis, A.L. Swindlehurst, M. Jensen, S. Krishnamurthy, "Cross-layer issues in MAC protocol design for MIMO ad hoc networks," IEEE Wireless Commun., vol. 13, n. 4, pp. 62–76, Aug. 2006. (76 cit.)

J.M. Jornet, M. Stojanovic, M. Zorzi, "Focused Beam Routing Protocol for Underwater Acoustic Networks," in 3rd ACM International Workshop on UnderWater Networks WUWNet 2008, San Francisco, CA, USA, September 15 2008. (148 cit.)

M. Zorzi, P. Casari, N. Baldo, A.F. Harris, "Energy-Efficient Routing Schemes for Underwater Acoustics Networks," IEEE J. Sel. Areas Commun., vol. 26, n. 9, pp. 1754–1766, Dec. 2008. (105 cit.)

(reference counts include self-citations; source: Google Scholar, Sep. 04, 2015)

GRANTED PATENTS:

Zanella A., Zorzi M, Maguolo F, Merlin S, Baldo N, Siorpaes, D, Melpignano D., I. Polato, R. Maguolo, S. Maguolo (2008). Cross layer optimization in multimedia communications, PCT/12/347,852, United States Patent Application 20100165856, Application Date: 2008-12-31, Publication Date: 2010-07-01, Patentee: STMicro-electronics S.p.A.

Zanella A., Zorzi M, Maguolo F, Merlin S, Baldo N., Siorpaes, D, I. Polato, R. Maguolo, S. Maguolo, Link Adaptation In Wireless Networks, PCT/12/347,874 (2008), United States Patent Application 20100169723, Application Date: 2008-12-31, Publication Date: 2010-07-01. Patentee: STMicroelectronics S.p.A.

Zanella A., Zorzi M, Maguolo F, Fasolo E, Ruffino S, Stupar P. (2006). "Method for routing in a local mobile communicaiton network." PCT/EP2006/010465. United States Patent Application 20100061352 Patentee: Telecom Italia S.p.A.

Francesco Rossetto and Michele Zorzi; European Patent Application 09 163 244. 8 "A practical system for decode-and-forward physical layer network coding".

INVITED PRESENTATIONS:

Keynote speaker at the following seven conferences/events: MoWNet 2014, Wireless Days 2010, European Wireless 2010, IEEE IWCMC 2012, UCOMMS 2012, 4th Euro-NGI Conf. 2008, COST2100/CONET/NEWCOM++ Training School and Workshop 2010, INSS 2005.

Invited speaker at international conferences (including several editions of IEEE/ACM IWCMC, all ten editions of ITA Workshop, etc.)

ORGANIZATION OF INTERNATIONAL CONFERENCES:

ACM MobiHoc03, Publicity co-chair; Mobiquitous 2004, General co-chair; Mobiquitous 2005, Member of the Steering Committee; IEEE SECON 2006, Technical Program co-chair; ACM WUWNET 2007, Technical Program co-chair; IEEE EHMEWC 2013 (ICC2013 Workshop), co-organizer; IEEE MASSAP 2014 (ICC2014 Workshop), co-organizer; IEEE MASSAP 2015 (ICC2015 Workshop), co-organizer.

Michele Zorzi: Scientific Profile

Prof. Michele Zorzi is a very well-known scientist and a respected researcher. His main expertise is in the area of telecommunications, with focus on wireless systems and networks. Specific topics of his interest include the following: multiple access techniques and MAC protocols for wireless networks, channel error stochastic modeling, third generation and future wireless systems, routing algorithms, ad hoc and sensor networks, cross-layer protocol design, energy efficiency in networks and energy-efficient protocol design, TCP in wireless networks, MIMO and multi-antenna systems, underwater communications and networking, cognitive radios and networks.

He was born in Venice, Italy, in Dec. 06, 1966, and received his PhD in Electrical Engineering and Telecommunications from the University of Padova in September 1994. As early as Dec. 1993, he became an Assistant Professor in the Department of Information Engineering of the Politecnico di Milano, one of the best technical universities in Italy. In September 1995, he moved to San Diego to spend a one-year sabbatical at the University of California, where he was then offered a Research Scientist position which he decided to accept, resigning his academic post in Milano. In 1998, he returned to Italy as an Associate Professor at the University of Ferrara, where he was in charge of creating a research group in Telecommunications. Two years later, in 2000, he was promoted and became the youngest Full Professor of Telecommunications in the nation. After five very successful years in Ferrara, where he had created a group of about fifteen people, he was offered a position by his Alma Mater, and returned to the Department of Information Engineering (DEI) at the University of Padova in November 2003, where he has been ever since.

His task in Padova was to build a research group and to increase the teaching offering in networking. In fact, when he joined DEI there was very little research in the networking area (the teaching offering was limited to a single course on Computer Networks), and a networking research group did not exist. Four years later, the offering in the networking area had increased to five courses, and two more faculty members had joined the networking group, which currently counts twelve PhD students, four post-doctoral researchers, five research engineers, one lab technician, one administrative assistant and several collaborators. In addition, the group graduates several Masters students every year.

Michele has a very strong and successful history of collaboration with foreign institutions. As a student, in 1992, he spent one academic year at the University of California at San Diego, where he returned to be a Research Scientist a few years later, and which he has been visiting regularly ever since. He has visited numerous Universities and research labs in the US and in Europe, and has given a large number of invited talks at many of them (including Stanford, Columbia, UIUC, USC, UCLA, UCSD, TU Berlin, UC Irvine, MIT, Lucent Bell Labs, IBM Research, HP Labs, INRIA, Eurecom, just to name a few). He has been a lecturer for continuing education programs both in Europe and in the US, and has been called upon as an invited speaker and a panelist in several occasions.

Michele has had a very distinguished research career, and has contributed many fundamental results in a number of areas in communications and networking. His research accomplishments give ample evidence of his leadership talent and of his ability to engage in interdisciplinary and collaborative efforts. He was one of the very first researchers to study energy-efficient networking architectures and protocols, more than a decade ago, and made fundamental contributions to the understanding of the role of energy efficiency in protocol stacks and of energy-aware protocol design. Very few were thinking of bringing energy-efficiency considerations into network design at the time, an approach that has by now become commonplace, also thanks to Michele's contributions on this topic. As early as June 1998, he edited a special issue of the IEEE Personal Communications magazine on Energy Management, which has become a landmark in this research field with hundreds of citations. He is still very much active in this area, and his more recent work on the energy-efficient Geographic Random Forwarding scheme for ad hoc and sensor networks has already been cited more than 750 times in just a few years. For this pioneering work in the area of energy efficient networking and protocol design, he has been elected Fellow of the Institute of Electrical and Electronics Engineers (IEEE) in 2007, the highest distinction that the IEEE (the largest professional engineering society in the world) bestows upon its members.

Another area in which he has made fundamental contributions is channel modeling for wireless packet access. He worked extensively on packet error characterization in wireless systems using Markov chains, bridging the gap between accurate radio channel modeling and effective tools for network design. This work also opened the door to protocol analysis techniques based on extended Markov models incorporating these channel behaviors. His own key studies in this area include performance analysis of TCP and of several versions of ARQ protocols, both in fading channels and in third-generation CDMA-based cellular systems. His early papers on this topic are considered as key contributions in the field and are widely cited by many researchers in wireless networks.

A third area of research in which Michele has been very active is cross-layer design, in which some of the modularity of layered architectures is traded off for higher efficiency. Again, he started working in this area well before it became as popular as it is today, and his seminal contributions have contributed to shape the field. Through his channel modeling work, he showed how error statistics can be percolated through the layers of the protocol stack, making it possible to relate the performance of the higher networking layers to the parameters of the lower layers, one of the key techniques in cross-layer design. He has applied cross-layer principles to the design of MAC/routing protocols for ad hoc and sensor networks. More recently, he has studied cross-layer MAC/PHY schemes in the context of MIMO ad hoc networks as well, in which network nodes are equipped with multiple antennas.

Always looking for intellectual challenges, more recently he has directed his attention towards new emerging research areas. Cognitive radios have received a lot of attention recently as a means to make a better use of the radio spectrum, and several schemes have been developed for dynamic spectrum access. In this area, Michele has worked on technology-independent cross-layer techniques based on the use of fuzzy logic, and on new architectural concepts beyond the current thinking. He has been one of the first (and still few) researchers to recognize that the common approach focused only on the radio properties is very limited, and that introducing cognition at the network level is a much broader and more promising approach. His special issue on this topic in the Aug. 2007 issue of the IEEE Wireless Communications magazine makes this point very clear, and provides an essential reference to the field. Another recent emerging area of research in which Michele has been involved for a few years is underwater acoustic communications and networking, which is being recognized more and more as a very fertile field of study. Even in such a short time, Michele and his collaborators have provided several valuable contributions, disseminated through the publication of more than fifty research papers. In addition, he has guest edited a special issue on Underwater Communications and Networking (IEEE JSAC, Dec. 2008), the first special issue on the topic published by IEEE COMSOC.

Michele has been very active in professional service. He has been an Editor and Guest Editor for many international journals, including the most distinguished publications in his field, and has served in many capacities in the organizing committees of several international conferences, and in dozens of program committees. From 2003 to 2005, he was the Editor in Chief of the IEEE Wireless Communications magazine, one of the key publications in the telecommunications field, which under his leadership consistently improved its impact factor performance, and eventually ranked number one in telecommunications in 2006. From 2008 to 2011, he was the Editor in Chief of the IEEE Transactions on Communications, which is considered to be the world's most prestigious and distinguished journal in the field of telecommunications. He served as Member at Large of the IEEE Communications Society Board of Governors from 2009 to 2011. He has also served as a reviewer on proposal evaluation panels for the US National Science Foundation, as well as a reviewer for an EU project. The several service positions he has held show his involvement in the community, as well as the widespread recognition he enjoys internationally.

During the 20+ years of his career as a researcher, Michele has authored or coauthored more than 130 journal papers and more than 300 international conference papers, all peer-reviewed, as well as a few invited papers and book chapters and four patents. He has received five Best Paper Awards in the past seven years, and several additional best paper nominations. He has a total number of citations of 15035, an H-index of 59 and a G-index higher than 85. He has 24 papers with more than 100 citations each, and his most cited paper, published in 2003, has received a total of 829 citations so far. (Source: Google Scholar, Sep. 04, 2015).

His Google Scholar profile can be found at http://scholar.google.com/citations?user=Z7d93ZYAAAAJ

Alexey Vinel (1983-02-07)

Position: Professor of Computer Communications, Halmstad University, Sweden

Contacts: +46 729773505 and alexey.vinel@hh.se

Higher Education and Training

2013 Ph.D., Technology, Tampere University of Technology, Finland

2007 Ph.D., Telecommunication Systems and Computer Networks, Institute for Information Transmission Problems, Russian Academy of Sciences, Moscow, Russia

Professional Positions

July 2015-present, Professor (Computer Communications), Center for Research on Embedded Systems, Halmstad University, Sweden

2013-2015, Guest Professor, Center for Research on Embedded Systems, Halmstad University, Sweden

2010-2013, Researcher, Department of Communications Engineering, Tampere University of Technology, Finland

2008-2012, Research Group Leader, Saint-Petersburg Institute for Informatics and Automation, Russian Academy of Sciences, Russia

Supervision

2014-present, Nikita Lyamin (Ph.D. Student, Halmstad Univ. and UPF Spain), main supervisor; ETSI ITS-G5 vehicular networking / platooning application; graduation: 2018

2014-present, Hawar Ramazanali (Ph.D. Student, Halmstad Univ. and SAAB), main supervisor; resource handling for military training networks / LTE energy efficiency; graduation: 2017

2015-present, Marco Marinho (Ph.D. Student, Halmstad Uni. and Univ. of Brasilia), main supervisor; robust antenna relay interpolation for wireless sensor / vehicular networks; graduation: 2018

2016-present, Carl Bergenhem (Ph.D. Student, Halmstad Univ. and Qamcom), co-supervisor, fault-tolerant vehicular networking; graduation 2018

2013-2014, Shih Yang Lin (Postdoctoral Researcher, Halmstad Univ.), main supervisor research subject – Cooperative intelligent transportation systems

Recent Projects and Coproduction

2016-present, Leader of a work-package on vehicular communication in the ELLIIT strategic research environment in collaboration with Lund University funded by the Swedish government

2014-2016, Leader of work-packages on video and security in the ACDC project on Communications issues of Autonomous Cooperative Driving in collaboration with Kapsch TrafficCom, Qamcom Research and Technology, Scania, Volvo Cars, Volvo Group Trucks Technology funded by the Swedish Knowledge Foundation

2013, Principal investigator of the ReViNet project on Real-time video streaming over vehicular ad hoc networks in collaboration with Volvo Technology, funded by VINNOVA FFI

10 Selected Journal Publications (Google Scholar H-Index: 25, Total Citations: 2000+)

Hawar Ramazanali; Alexey Vinel Performance Evaluation of LTE/LTE-A DRX: A Markovian Approach // *IEEE Internet of Things Journal*, 3(3), 2016.

Evgeny Belyaev; Alexey Vinel; Adam Surak; Moncef Gabbouj; Magnus Jonsson; Karen Egiazarian Robust Vehicle-to-Infrastructure Video Transmission for Road Surveillance Applications // *IEEE Transactions on Vehicular Technology*, 64(7), 2015.

Neeraj Kumar; Sherali Zeadally; Naveen Chilamkurti; Alexey Vinel Performance analysis of Bayesian coalition game-based energy-aware virtual machine migration in vehicular mobile cloud // *IEEE Network*, 29(2), 2015.

Alexey Vinel; Lin Lan; Nikita Lyamin Vehicle-to-vehicle communication in C-ACC / platooning scenarios // *IEEE Communications Magazine*, 53(8), 2015.

Nikita Lyamin; Alexey Vinel; Magnus Jonsson; Jonathan Loo Real-Time Detection of Denial-of-Service Attacks in IEEE 802.11p Vehicular Networks // *IEEE Communications Letters*, 18(1), 2014.

Fragkiskos Sardis; Glenford Mapp; Jonathan Loo; Mahdi Aiash; Alexey Vinel On the Investigation of Cloud-Based Mobile Media Environments With Service-Populating and QoS-Aware Mechanisms // *IEEE Transactions on Multimedia*, 15(4), 2013.

Alexey Vinel 3GPP LTE Versus IEEE 802.11p/WAVE: Which Technology is Able to Support Cooperative Vehicular Safety Applications? // *IEEE Wireless Communications Letters*, 1(2), 2012.

Alexey Vinel; Evgeny Belyaev; Karen Egiazarian; Yevgeni Koucheryavy An Overtaking Assistance System Based on Joint Beaconing and Real-Time Video Transmission // *IEEE Transactions on Vehicular Technology*, 61(5), 2012.

Claudia Campolo; Antonella Molinaro; Alexey Vinel; Yan Zhang Modeling Prioritized Broadcasting in Multichannel Vehicular Networks // *IEEE Transactions on Vehicular Technology*, 61(2), 2012.

Alexey Vinel; Qiang Ni; Dirk Staehle; Andrey Turlikov Capacity analysis of reservation-based random access for broadband wireless access networks // *IEEE Journal on Selected Areas in Communications*, 27(2), 2009.

Fortegnelse over bedømmelsesudvalg til
stilling 42208 Associate Professor in Internet of Things – focus on Smart Homes and Smart Cities
ved Department of Electronic Systems

Navn: Associate Professor Reza Tadayoni
Arbejdssted: Department of Electronic Systems, AAU

Navn: Professor Idelfonso Tafur Monroy
Arbejdssted: Department of Photonics Engineering, DTU

Navn: Associate Professor John Aasted Sørensen
Arbejdssted: Section for Information Technology, DTU

Akademisk Råd har taget stilling til, at medlemmer af bedømmelsesudvalget er sagkyndige inden for stillingsområdet på et niveau, der mindst svarer til det, der forudsættes for stillingen, dog ikke under lektorniveau.

Associate Professor in Internet of Things – focus on Smart Homes and Smart Cities

Position No.
42208

At the Technical Faculty of IT and Design, Department of Electronic Systems a position as Associate Professor in Internet of Things – focus on Smart Homes and Smart Cities is open for appointment from 1 April 2017 or soon hereafter.

The Department of Electronic Systems is one of the largest departments at Aalborg University with a total of more than 250 employees. The department is internationally recognized in particular for its contributions within Information and Communication Technology (ICT). The research and teaching of the Department of Electronic Systems focus on electronic engineering and the activity areas are organized in the sections: Antennas, Propagation and Radio Networking section (APNet), Automation Control section (Control), Signal and Information Processing section (SIP), Wireless Communication Networks section (WCN) and Communication, Media and Information technologies (CMI).

The department focuses on maintaining a close interplay with the university's surroundings - locally, nationally and internationally – as well as producing unique basic research and educating talented and creative engineers. The department collaborates with leading ICT researchers all over the world.

Job description
The position requires qualifications within ICT technologies with a focus on application of Internet of Things (IoT) in smart homes and smart cities. Documented research experiences within these fields of applied ICT are required. The applicant will be employed at CMI and must preferably have experience with working in multidisciplinary research groups. CMI focuses on analytical and technical contributions to the development of new applications and services for the converging communications, media and information technologies.

The applicant is expected to develop and provide new and innovative applications in the area of IoT's, implemented in smart homes, and smart cities with focus on the challenges in relation to wireless sensor systems, digital signal processing, and structured software modelling. Thus, it is expected that the candidate has knowledge on the following areas:

- Complex IoT systems
- Structured software design
- Wireless communication
- Broadband technologies
- Digital signal processing

Furthermore, practical lab and development experience from industry in these fields is desirable.

Teaching responsibilities will be within the above mentioned areas. The teaching is placed in the MSc program, Innovative Communication Technologies and Entrepreneurship (ICTE), and in the undergraduate program IT, Communications and Media Technology (ITCOM), but also in other study programs at the University. It is expected that the candidate has performed teaching at university level for some years and can document pedagogical training. In addition, the position includes supervising student-projects at all levels.

You may obtain further professional information from Professor Knud Erik Skouby. Phone +45 99407197, e-mail skouby@cmi.aau.dk.

Qualification requirements:

The level of qualification for Associate Professors shall correspond to the level, which can be achieved on the basis of the appointment as Assistant Professor, but may be

achievable in other ways. The appointment presupposes that the applicant can demonstrate original scientific production at an international level as well as documented teaching qualifications.

Appointment to the position requires that both research and teaching qualifications are at the requested level. The two qualifications will be given equal and principal priority in the overall assessment.

The application must contain the following:
• A motivated text wherein the reasons for applying, qualifications in relation to the position, and intentions and visions for the position are stated.
• A current curriculum vitae.
• Copies of relevant diplomas (Master of Science and PhD). On request you could be asked for an official English translation.
• Scientific qualifications. A complete list of publications must be attached with an indication of the works the applicant wishes to be considered. You may attach up to 10 publications.
• Teaching qualifications described in the teaching portfolio. If this is not enclosed the applicant must include an explanation for its absence.
• Dissemination qualifications, including participation on committees or boards, participation in organisations and the like.
• Additional qualifications in relation to the position.
• References/recommendations.
• Personal data.

The applications are only to be submitted online by using the "Apply online" button below.

An assessment committee will assess all candidates.

For further information concerning the application procedure please contact Anne Christoffersen by mail ach@adm.aau.dk or phone (+45) 9940 9680.

Information regarding guidelines, ministerial circular in force, teaching portfolio and procedures can be seen here.

Workplace
Copenhagen

Agreement
Employment is in accordance with the Ministerial Order on the Appointment of Academic Staff at Universities (the Appointment Order) and the Ministry of Finance's current Job Structure for Academic Staff at Universities. Employment and salary are in accordance with the collective agreement for state-employed academics.

Deadline
13/02/2017

Apply online

Aalborg University (AAU) conducts teaching and research to the highest level in the fields of humanities, engineering, and natural, health, and social sciences.

top

Curriculum Vitae
Idelfonso Tafur Monroy

Place and date of birth: El Castillo (Meta), Colombia. 28 April 1968
Citizenship: Dutch, *Gender:* Male. **Civil Status:** Married

Address in Denmark: Lundtofteparken 4, 2 th, DK-2800, Denmark. Tel: +45 91617523, +45 61396357
Email: Tafurmonroy@gmail.com

Education and training

1996-1999	**Eindhoven University of Technology,** Telecommunications Technology and Electromagnetics Department **Ph.D. degree** (graduation date: 9 September 1999).	**Eindhoven, The Netherlands**
1993-1996	**Royal Institute of Technology (KTH),** Department of Signals, Sensors and Systems, Division of Telecommunication Theory. **Technical licentiate degree** (a Swedish academic degree between the M.Sc. and Ph.D. degree) in Telecommunication Theory	**Stockholm, Sweden**
1987-1992	**State University of Telecommunications** Graduation date: June 1992. **M.Sc. degree** *(Diploma with honours)* in Multichannel Telecommunications Engineering, Optical Communication Option	**St. Petersburg, Russia**
1986-1987	**Kharkov Polytechnic Institute** *University preparatory Faculty - Engineering*	**Kharkov, Ukraine**

Academic positions

01-11-2009-current	**DTU Fotonik,** Department of Photonics Engineering, Technical University of Denmark *Title: Professor, group leader*	**Kgs. Lyngby, Denmark**
01-06-2015-18-11-2016	**ITMO University** *Title: ITMO Fellowship visiting professor*	**St Petersburg, Russia**
01-10-2011-15-02-2012	**UC Berkeley, EECS Department** *Title: Visiting Professor*	**Berkeley, CA, USA**
01-01-2010-31-12-2013	**Beijing University of Post and Telecommunications** *Title: Visiting professor*	**Beijing, China**
01-11-2006-30-10-2009	**DTU Fotonik,** Department of Photonics Engineering, Technical University of Denmark *Title: Associate Professor*	**Kgs. Lyngby, Denmark**
10-09-1999-31-12-2006	**Eindhoven University of Technology (TUE),** Telecommunications Technology and Electromagnetics Department. *Title: Assistant professor*	**Eindhoven, The Netherlands.**
01-05-2005-07-10-2006	**COM•DTU,** Department of Communications, Optics & Materials, Technical University of Denmark (on leave from TUE) *Title: Assistant Professor*	**Kgs. Lyngby, Denmark**
03-12-1993-31-05-1996	**Royal Institute of Technology (KTH),** Department of Signals, Sensors and Systems *Title: Research Assistant*	**Stockholm, Sweden**

Current research areas

I focus on photonic technologies and techniques for the generation, detection, transport and routing of signals for broadband telecommunication services and connectivity. A major consideration in my research is striving for solution supporting a seamless integration at the physical layer of metropolitan and access and short-range segments of the network as well as the convergence of wireline and wireless communication systems. An important area of my current

research is sub-Terahertz technologies for communication and sensing applications. Furthermore, together with my team we focus in the combination of cognitive optical networking, software defined photonics and its application to next generation optical communication networks in support of Internet-of-things (IoT) and Tactile Internet. My current projects include:

- Sub-Terahertz beamforming systems
- Terahertz wireless communications
- Vortex beam based optical and RF based communication links
- Hybrid optical fibre-wireless access networks in support of 5G and IoT
- Photonics and systems for short range data links and large-scale datacentre networks
- Cognitive optical networking and monitoring
- Digital signal processing and software defined photonics
- Converged wireless and optical access networks architectures with sensing applications
- Photonic technologies for signal routing in high-speed metro-access interfacing nodes and datacentre networking

Experience in research supervision and management

- Coordinator H2020 ITN CELTA (2016-2020) and ITN ABACUS.
- Head of the Metro-Access and Short Range Communication Systems at DTU Fotonik from its creation in January 2008 whose composition is 20 members in average composed of associate/assistant professors, Postdocs, Ph.D. students and research assistants
- Completed the DTU leadership course – 6 modules over a 1 year period
- Technical coordinator of the EU FP7 project ICT CHRON (2010-2013)
- Leader of bilateral research projects with companies as Huawei, Finisar, Agilent, Tellabs, Fujitsu
- Leading two workpackages of the EU project FP7 GigaWaM (2009-2012)
- Leader of the project OPSCODER granted by the Danish Research Council (FTP)
- I was responsible for the organization, execution and supervision of the laboratory trial and system demonstrator of the project EU FP5 *IST-STOLAS (*2002-2005).
- I was leader of the work package of the *IST-LASAGNE* project on the node design and network architecture for all-optical label switched networks (2002-2005)
- I was responsible for my group activities within the EU FP6 *IST-MUFINS* project (2003-2006).
- I have co-supervised 20 successfully graduated Ph.D. students.
- I have supervised over 50 completed master projects

Experience in innovation

- Co-founder and co-owner of startup CPhotonics (2106)
- Co-founder and co-owner startup Bifrost Communications (2015*)*
- Co-PI Danish Innovation fund project HOT (2015-2019)
- Co-founder of Danish Research, Innovation and Entrepreneurship Workshop series in Silicon Valley, China, Korea, South America (since 2010) and ESOF satellite event (2014) – www.photonicsworkshop.com

Experience in starting research projects and collaboration

Short description of my participation and contribution to the following international research projects:

<u>European projects:</u>

- 2016: Coordinator of ITN CELTA (15 PhD students in Terahertz electronics and photonics)
- 2014: Participant in ITN **Fiwin5G**
- 2013: Coordinator of ITN Marie Curie **ABACUS**
- 2013: Participant partner for Denmark COST ACTION TD1301
- 2013: Participant and consortium making STREP **IPHOBAC-NG**
- 2012: Marie-Curie International fellow grant, **WISCON** (Dr. J. J. Vegas Olmos)
- 2011: Participant partner for Denmark in COST ACTION IC0902
- 2010: Technical coordinator FP7 EU project **CHRON**
- 2009: Marie-Curie International integration fellow grant, **WoPRoF** (Dr. Xianbin Yu)
- 2008**:** European project **ICT-GigaWaM** on 1 Gbit/s fiber-to-the-home networks, co-writer of the proposal and leader of two workpackages

- 2008: Participation and contributor to the European FP7 projects: ICT ALHPA, ICT-BONE, ICT- EUROFOS
- 2004-2006: European project IST-LASAGNE (All-optical LAbel SwApping employing optical logic Gates in NEtwork nodes). Definition and co-writing of the proposal. Leader of work package 2, regarding node design for all-optical label switching nodes.
- 2004-2007: European project IST-MUFINS (Multi-functional Integrated Arrays of Interferometric Switches). Definition and co-writing of the proposal. Management and coordination of the Eindhoven University of Technology contribution of systems application of multi-functional optical switching elements.
- 2001-2005. Project IST-STOLAS (Switching Technologies for Optical Labeled Signals) of the 5th framework if the European Union IST program. Participation as researcher and leader of the work package on the laboratory trial and system demonstrator.
- 1998-2001. Project APEX (Advanced Photonic Experimental Cross-connect) of ACTS European Commission research program. Participated as a Ph.D. student researcher.
- 1996–1998. Project: BLISS (Broadband Light Sources and Systems) of the ACTS-European Commission. Participated as a Ph.D. student researcher.

National projects:

- 2015-2016- Project CONDOR- landslide sensor network and warning systems
- 2014-2017: Co-Pi Silicon photonics for big datacenters, HOT project – Danish Innovation fund
- 2014-2017: Co-PI in Silicon photonics project mmw SPRAWL
- 2012-2103: Cooperation with company Alight on test of devices for access networks
- 2009: Grant for a Ph.D. project with Tellabs Denmark and the Photonics Academy on coherent detection DQPSK for 100 Gbit/s transmission links
- 2008:Leader and main applicant of National Danish project OPSCODER funded by the FTP research council on coherent detection receivers
- 2007: Definition and supervisor of the Ph.D. project (TRANSIWOF) on unified signal transport for fixed and wireless communications granted by the Danish research council-international Ph.D. programme
- 2007: Postdoctoral project (Metro-Access) on Broadband converged metropolitan and access networks, granted by the Villum Kann Rasmussen foundation

International projects:

- 2016: Research projects with Fujitsu Labs America, Finisar Silicon Valley, YOFC China, Mellanox Denmark.
- 2015: Research project with Finisar Silicon Valley
- 2014: PhD grants from Brazilian SWB and Colombian Colciencias
- 2014: Research project with Fujitsu Labs America
- 2009-current: Founder of the Danish-Silicon Valley, Sino and South American workshops on research and innovation in photonic technologies
- 2013: Joint Ph.D. Project with ACREO and KTH, Sweden
- 2012-2013: cooperation with CPqD Research centre, Brazil
- 2013-2014: Research project Finisar, Agilent, Huawei
- 2013: CAPES Brazil, Ph.D. scholarships
- 2012: Colciencias, Colombia, smart grid project with UPB in Medellin, Colombia
- 2012: Huawei Technologies project on beyond 100 Gb/s client side optical links
- 2011: China Scholarship Council two Ph.D. visiting grants (1 and 1.5 yrs each)
- 2009: Grant for a full financed Ph.D. project from the Malaysian Ministry of Education
- 2008: Cooperation agreement with the CENDIT Institute of Venezuela for starting 4 Ph.D., 2 Postdoctoral and 2 MSc projects on photonic technologies for broadband access
- 2008: Joint Ph.D. project with the Nelson Mandela Metropolitan University, South Africa.
- 2008: A Visiting Scholar Program grant (Dr Xiaoli Yin) from the China Scholarship Council
- 2008: Grant for a guest Ph.D. student from the Colombian Science foundation (6 months)
- 2007: A guest Ph.D. grant (1.5 years stay at DTU Fotonik) from the China Scholarship Council

International recognition

- Plenary speaker for 3T telecom forum, Samara, Russia, 2016
- General chair of OSA LAOP 2016 Conference
- European Research Council, ERC, Member of evaluation panel for 2015 call.
- Invited speaker Internet of Things- China 2025 New Internet plan, Wuhan, China, 2015.

- Senior member IEEE 2014
- Invited speaker to FiO OSA 2014
- Plenary speaker for Microwave photonics conference MWP2013
- Associate editor of IEEE/OSA J. Lightwave Technology since 2011
- ECOC, TPC member since 2011
- Member of excellence chair professorship evaluation Politecnico de Torino, September 2014
- Visiting professor UC Berkeley, CA, Oct. 2011-Feb. 2012
- Distinguished visiting professor, BUPT Beijing, China, Dec. 2010 -2013
- Expert reviewer for proposals CELTIC (2014), Belgium SF (2014), ERC (2012), Swedish Science Foundation (2007,2010), Dutch STW (2012, 2013), South African SF (2011), Argentina (2013)
- Co-chair of conference workshop ECOC 2012 and for OFC 2009
- Invited speaker for OFC 2009 Workshop on Optical Access Networks, San Diego, CA, March 2009
- Invited speaker for the OptoElectronics and Communications Conference, OECC, July 2009
- Member of the technical programme committee (TPC) for Conference of Optical Communications (OFC) 2009, and IEEE Photonics (LEOS) Annual Meeting (2008, 2009), IEEE international communications conference (ICC) 2006, IEEE Photonics in switching (2007,2009), Asia-Pacific Optical Communications (APOC) 2004, IEEE Globecom 2005, European Networking Conference, NOC (2004-current)
- Expert reviewer for research applications grants within the ALBAN program of the European Union Aid for Latin America, 2004
- Act as book editor adviser for Kluwer academic publisher
- Member of Ph.D. jury committees: (22). Ph.D. jury committee for the evaluation of the Ph.D. thesis for Javier Antonio Sánchez Fandiño, UPVL Spain (2016), Irina Kulkova, DTU (2014), Jhonny Karout, Chalmers (2013), Yiyu Ou, DTU (2013), Nikos Stiropoulos, TUE (2013), Thor Ansbaek DTU (2012), Davide Visane, U. Bologna (2012), Hua Ji, DTU (2011), Quoc Thai Nguyen, ENSSAT, France (2011), Dzenan Hadziabdic, DTU (March 2009), Member of Ph.D. committee for Asier Villafranca, U of Zaragoza, (April 2009), Ruth Van Caenegem, University of Gent, Belgium, (March 2008), Gloria Carvalho, Giacomo Piacenza, Marzia Quaglio, Chen Qiuling, Xing Jianjun, Poitecnico of Torino, Italy, (April 2008), Victor Polo (20 September 2006), Joan Gene and Óscar Menéndez Nadal at the Polytechnic University of Catalonia (2005), Yun Jong Kim at the Gwangju Institute of Science and Technology, Korea (2005), Erik van Breusegem, University of Ghent, Belgium, March 17, 2006. R. Ingram (2004) at the Pretoria University, South Africa.
- Peer-reviewer for the IEEE/OSA J. Lightwave Technology, IEEE Photonic Technology Letters, IEE Elect. Letters, IEEE S. T Quantum Electronics, Microwave and Technology Letters, IEEE Trans. on Communications, IEE Optoelectronics proceedings, and Optics express scientific journals.
- Invited lecturer to the second summer school of the IST E-Photon/one network of excellence, September 2005.

Summary teaching experience

- **Founder, Lecturer:** Hardware Hackathon in fibre-to-the-home NG-PON2 transceivers, Technical University of Denmark, 2016
- **Lecturer:** Lecturer in fibre-to-the-home and radio-over-fibre systems, since 2007, Technical University of Denmark, course 34150
- **Lecturer:** Performance of optical communication systems, Ph.D. course, since 2011, Technical University of Denmark, course: 34191
- **Lecturer:** Digital communication receivers, Ph.D. course, since 2010, Technical University of Denmark: course 34190
- **Project oriented education.** December 2002 – December 2006**:** Coordinator, initiator and responsible teacher for the design and problem oriented project (ontwerp gericht onderwijs), 3d trimester of the Bachelor program, Electrical Engineering, TU Eindhoven. In-home broadband communication network (Course 5AA84)
- **Teaching innovation: Optical communications systems/Internship (5Z026/5Z024)** for the TUE master of technological design. In 1999/2000 I started this course for the Stan Ackermans Institute of the TUE. I play a leading role, specially, defining the assignments for the course, VPI simulations, and the internships, supervising and grading. I introduced the use of the simulation tool *VPI software as an innovative* learning element in this course as part of the exercise assignment
- October 1999 – December 2006: **Lecturer** in **Optical communications networks** (5TT00, 5N230, 5N430) Master level, spring term. *Textbook: Optical Networks, by Ramaswami and Sivarajan.* **Lecturer** in optical fiber communication systems (5LL40, 5LL30) Bachelor level. *Textbook: Optical fibers systems, by G. Keiser*

- July 1996- Dec. 2002. **Teaching Assistant** in Stochastic Signal Theory. *Textbook: Probability, R. Variables and R. Signal Principles, P. Z. Peebles*
- **Practical laboratory assistant** in telecommunication systems, TUE, 2000-2002
- Feb. 1996 Teaching Assistant in Optical Fiber Communications. Textbook: Principle of lightwave communications by G. Einarsson, at the Royal Institute of Technology, Stockholm
- Dec. 1994 - Feb. 1995, Teaching Assistant in Communication Theory *Textbook: Communication Systems Engineering, J.G. Proakis, M. Salehi* at the Royal Institute of Technology, Stockholm

Didactics and pedagogical projects

- Initiator and lecturer of the series of Travelling DTU Fotonik Summer School, 2008, in South America
- Course on supervising Ph.D. students and mentoring experts, Technical University of Denmark, March &June 2007 (2 days)
- Certificate in teaching and learning in Higher Education, TU Eindhoven, 1999
- 2005-2007.Co-investigator in the pedagogical project 'Adaptation of the teaching and learning process in the area of optical communications within the European higher education framework, University of Valladolid, financed by the Government of the Spanish province of Castilla and and Leon
- 2004-2006. Co-investigator in the pedagogical project 'Profile of the Telecommunication Engineer: adaptation of the study within the European convergence process. University of Valladolid, financed by the Government of Castilla and and Leon, Spain
- Oral presentation in the IST Network of excellence E-photon/One workshop on Education in optical communication networks, Eindhoven, 2004

Funding ID:

Accumulated a portfolio of 12+ million EUR in external individual and group's research grants

Faculty service and administration experience

- Budget management for group and projects under my supervision and group leadership
- Member of the Innovation management group of DTU Fotonik (2010)
- Started and managed a bilateral ERASMUS cooperation agreement with the following institutions: *ENSIL, France, University of Valladolid: Polytechnic University of Valencia, and Polytechnic University of Catalonia*
- Budget management and project administrative coordination for the TUE Eindhoven in the EU Projects IST-LASAGNE and IST-MUFINS
- Electrical Engineering building safety and evacuation coordinator while at TU Eindhoven

Summary of publications (ISI Researcher ID: E-6159-2010) and ORCID: http://orcid.org/0000-0003-1747-3405

ISI journal publications: 260+; Citations: 1700+; H index: 24; Other publ.: 330+
Books: 1 book; 6 invited book chapters and 2 academic dissertations. 20+ invited talks
Patents: 1 EU and US patent on optical detection for wireless signals.
I have also published popular scientific articles in Spanish language for Latin-American journals on general topics in Telecommunications.

Summary of my Ph.D. thesis research

Title of Ph.D. Thesis: Performance evaluation of optical communication networks.

- Conceived and developed computing efficient and accurate models for evaluating the performance of optical WDM cross-connected networks
- Proposed and implemented novel models to investigate the effects of optical phase noise in communication systems
- Experimentally verified the validity of my proposed models
- Applied developed models for efficient design of WDM cross-connected networks using photonic integrated circuits
- Acquired and developed skills to design optical communications systems, including optimal pre-amplified receivers, WDM cross-connected systems, and polymer optical fibre systems

Language proficiency

- **Danish:** Intermediate level. Completed level 3.5 of the Danish for foreigners language programme.
- **English:** Fluent. Graduate education pursued in English and teaching experience in English.
- **Dutch:** Fluent. Dutch language proficiency diploma NT2 "Staatsexamen" and advanced courses. Experience in lecturing in Dutch language
- **Swedish:** Fluent. Certificate of Proficiency in Swedish Language for University Education "Rikstest".
- **French:** High School level. Good reading skills.
- **Russian:** Fluent, Language of university education. Translator Certificate.
- **Spanish:** Native speaker.

Personal interests

Sports: Tennis, swimming, both indoors and outdoors sports.
Others: World literature, history of science and technology, cinema and foreign languages.

Idelfonso Tafur Monroy
List of publications

H-index: *24* determined by ISI Web of Science ResearcherID publications' metrics and 31 as computed by Google Scholar [date: December 2016]

Content

Idelfonso Tafur Monroy
10 selected publications

Ten seleted publications based on their breaktrough nature and direct relation to current projects on Connectivity for 5G, IoT and Tactile Internet.

Ten selectd publications*

[1*] X. Pang, A. Caballero, A. Dogadaev, V. Arlunno, R. Borkowski, J. S. Pedersen, L. Deng, F. Karinou, F. Roubeau, D. Zibar, X. Yu, and I**. Tafur Monroy**, "100 Gbit/s hybrid optical fiber-wireless link in the W-band (75-110 GHz)," Optics express, vol. 19, pp. 24944-24949, 2011.

[2*] **I. Tafur Monroy,** D. Zibar, N. G. Gonzalez, and R. Borkowski, "Cognitive Heterogeneous Reconfigurable Optical Networks (CHRON): Enabling Technologies and Techniques." International Conference on Transparent Optical Networks. IEEE Computer Society, 5970833. doi:10.1109/ICTON.2011.5970833, 2011.

[3*] K. Prince, J. B. Jensen, A. Caballero, X. Yu, T. B. Gibbon, D. Zibar,**I. Tafur Monroy**,"Converged Wireline and Wireless Access Over a 78-km Deployed Fiber Long-Reach WDM PON," *IEEE Photonics Technology Letters,* vol. 21, pp. 1274-1276, Sep 1 2009.

[4*] **I. Tafur Monroy,** E. Tangdiongga, "Performance evaluation of optical cross-connects by saddlepoint approximation," in *Lightwave Technology, Journal of* , vol.16, no.3, pp.317-323, Mar 1998. doi: 10.1109/50.66135

[5*] I. **Tafur Monroy**, K. Prince, J. Seoane, and X. B. Yu, "Optically envelope detected QAM and QPSK RF modulated signals in hybrid wireless-fiber systems," *Microwave and Optical Technology Letters,* vol. 51, pp. 864-866, 2009.

[6*] **I. Tafur Monroy,** and J. Seoane, A method and a device for detection of a first signal superimposed on a second signal, DE602008004892D1, EP2127103A1, EP2127103B1, US8428464, US20100142963, WO2008110169A1, 2007.

[7*] R. Rodes, J. Estaran, B. Li, M. Mueller, J. Jensen, T. Grundl, M. Ortsiefer, C. Neumeyr, J. Rosskopf, K. Larsen, M. Amann, and **I. Tafur Monroy,** 100 Gb/s single VCSEL data transmission link, in Optical Fiber Communication Conference 2012, postdeadline paper PDP5D.10, 2012.

[8*] Estaran Tolosa, Jose Manuel; Castaneda, Mario A. Usuga; Porto da Silva, Edson; Piels, Molly; M- Iglesias Olmedo, **I. Tafur Monroy.** "Quad-Polarization Transmission for High-Capacity IM/DD Links," ECOC 2014, postdeadline paper PD.4.3, 2012.

[9*] V. S. Lyubopytov, A. Tatarczak, X. Lu, R. V. Kutluyarov, A. Kh. Sultanov, and **I. Tafur Monroy,** Optical-domain Compensation for Coupling between Optical Fiber Conjugate Vortex Modes, CLEO-PR 2015, postdeadline paper PDP4, 2015.

[10*] J. Wei, N. Eiselt, H. Griesser, K. Grobe, M. Eiselt, JJ Vegas Olmos**, I Tafur Monroy,**& J.-P Elbers, "First Demonstration of Real-Time End-to-End 40 Gb/s PAM-4 System using 10-G Transmitter for Next Generation Access Applications" Proc. 41st European Conference and Exhibition on Optical Communications, Postdeadline paper PDP4.4, 2015.

Idelfonso Tafur Monroy
Journal articles
Journals 2016

[1] L. C. P. Cavalcante, S. Rommel, J. S. Rodríguez Páez, J. J. Vegas Olmos, and **I. Tafur Monroy**, "On the capacity of radio-over-fiber links at the W-band," *Optical and Quantum Electronics,* vol. 48, no. 5, 2016.

[2] B. Cimoli, J. M. Estaran Tolosa, G. A. Rodes Lopez, J. J. Vegas Olmos, and **I. Tafur Monroy**, "100G shortwave wavelength division multiplexing solutions for multimode fiber data links," *Optica Applicata (Online),* vol. 46, no. 3, pp. 409-419, 2016.

[3] E. P. Grakhova, S. Rommel, A. Jurado-Navas, A. K. Sultanov, J. J. Vegas Olmos, and **I. Tafur Monroy**, "First Experimental Impulse-Radio Ultra-Wideband Transmission Under the Russian Spectral Emission Mask," *Electronics Letters,* vol. 52, no. 10, pp. 877-879, 2016.

[4] M. Iglesias Olmedo, X. Pang, R. Schatz, O. Ozolins, H. Louchet, D. Zibar, G. Jacobsen, **I. Tafur Monroy**, and S. Popov, "Effective Linewidth of Semiconductor Lasers for Coherent Optical Data Links," *Nature Photonics,* vol. 3, no. 2, 2016.

[5] A. Jurado-Navas, T. R. Raddo, J. M. Garrido-Balsells, B.-H. V. Borges, J. J. Vegas Olmos, and **I. Tafur Monroy**, "Hybrid optical CDMA-FSO communications network under spatially correlated gamma-gamma scintillation," *Optics Express,* vol. 24, no. 15, pp. 16799-16814, 2016.

[6] P. Madsen, L. F. Suhr, J. S. Rodríguez Páez, **I. Tafur Monroy**, and J. J. Vegas Olmos, "Performance evaluation of multilevel modulation formats using partial response for capacity upgrade in access network with limited electronic bandwidth," *Optical Fiber Technology,* vol. 31, pp. 168-171, 2016.

[7] M. A. Mestre, J. M. Estaran, P. Jenneve, H. Mardoyan, **I. Tafur Monroy**, D. Zibar, and S. Bigo, "Novel coherent optical OFDM-based transponder for optical slot switched networks," *Journal of Lightwave Technology,* vol. 34, no. 8, pp. 1851-1858, 2016.

[8] R. Puerta Ramírez, S. Rommel, J. A. Altabas, L. Pyndt, R. Idrissa, A. K. Sultanov, J. J. Vegas Olmos, and **I. Tafur Monroy**, "Multiband carrierless amplitude/phase modulation for ultra-wideband high data rate wireless communications," *Microwave & Optical Technology Letters,* vol. 58, no. 7, pp. 1603-1607, 2016.

[9] T. R. Raddo, A. L. Sanches, **I. Tafur Monroy**, and B.-H. V. Borges, "Throughput Performance Evaluation of Multiservice Multirate OCDMA in Flexible Networks," *I E E E Photonics Journal,* vol. 8, no. 1, 2016.

[10] J. S. Rodríguez Páez, R. Puerta Ramírez, H. Kim, and **I. Tafur Monroy**, "Photonic up-convertion of Carrierless Amplitude Phase signals for wireless communications on the Ka-band," *Microwave & Optical Technology Letters,* vol. 58, no. 9, pp. 2068-2070, 2016.

[11] J. S. Rodríguez Páez, S. Rommel, J. J. Vegas Olmos, and **I. Tafur Monroy**, "Reconfigurable radio access unit to dynamically distribute W-band signals in 5G wireless access networks," *Optical Switching and Networking,* vol. 24, pp. 21-24, 2017.

[12] S. Rommel, L. C. P. Cavalcante, A. G. Quintero, A. K. Mishra, J. J. Vegas Olmos, and **I. Tafur Monroy**, "W-band photonic-wireless link with a Schottky diode envelope detector and bend insensitive fiber," *Optics Express,* vol. 24, no. 11, pp. 11312-11322, 2016.

[13] L. F. Suhr, **I. Tafur Monroy**, and J. J. Vegas Olmos, "Analog-based duobinary-4-PAM for electrical bandwidth limited optical fiber links," *Optica Applicata (Online),* vol. XLVI, no. 1, pp. 71-78, 2016.

[14] L. F. Suhr, **I. Tafur Monroy**, and J. J. Vegas Olmos, "Fiber extended ultra-wideband radar for breath tracking through 10 cm concrete," *Microwave & Optical Technology Letters,* vol. 58, no. 11, pp. 2612-2614, 2016.

[15] C. Wagner, M. H. Eiselt, M. Lawin, S. J. Zou, K. Grobe, J. J. Vegas Olmos, and **I. Tafur Monroy**, "Impairment analysis of WDM-PON based on low-cost tunable lasers," *Journal of*

Lightwave Technology, vol. 34, no. 22, pp. 5300-5307, 2016.

[16] J. L. Wei, N. Eiselt, H. Griesser, K. Grobe, M. Eiselt, J. J. Vegas Olmos, and **I. Tafur Monroy**, "Demonstration of the First Real-Time End-to-End 40-Gb/s PAM-4 for Next-Generation Access Applications using 10-Gb/s Transmitter," *Journal of Lightwave Technology,* vol. 34, no. 7, pp. 1628-1635, 2016.

Journals 2015

[1] R. Boada, R. Borkowski, and I. **Tafur Monroy**, "Clustering algorithms for Stokes space modulation format recognition," *Optics Express,* vol. 23, pp. 15521-15531, 2015.

[2] R. Borkowski, R. J. Duran, C. Kachris, D. Siracusa, A. Caballero Jambrina, N. Fernandez,I. **Tafur Monroy**, "Cognitive Optical Network Testbed: EU Project CHRON," *Journal of Optical Communications and Networking*, vol. 7, pp. A344-A355, 2015.

[3] L. C. P. Cavalcante, L. F. Q. Silveira, S. Rommel, J. J. Vegas Olmos, and I. **Tafur Monroy**, "Performance Analysis of Wavelet Channel Coding in COST207-based Channel Models on Simulated Radio-over-Fiber Systems at the W-Band," *Optical and Quantum Electronics*, vol. 48, 2016.

[4] J. M. Estaran Tolosa, M. A. Usuga Castaneda, E. Porto da Silva, M. Piels, M. Iglesias Olmedo, D. Zibar,I. **Tafur Monroy**, "Quaternary Polarization-Multiplexed Subsystem for High-Capacity IM/DD Optical Data Links," *Journal of Lightwave Technology,* vol. 33, pp. 1408-1416, 2015.

[5] A. Jurado-Navas, A. Tatarczak, X. Lu, J. J. Vegas Olmos, J. M. Garrido-Balsellss, and **I. Tafur Monroy,** "850-nm hybrid fiber/free-space optical communications using orbital angular momentum modes," *Optics Express*, vol. 23, pp. 33721-33732, 2015.

[6] B. Li, K. J. Larsen, D. Zibar, and I**. Tafur Monroy**, "Reconfigurable Forward Error Correction Decoder for Beyond 100 Gbps High Speed Optical Links," *IEEE Communications Letters*, vol. 19, pp. 119-122, 2015.

[7] M. Piels, M. Iglesias Olmedo, W. Xue, X. Pang, C. Schaffer, R. Schatz, I. **Tafur Monroy**,, "Laser Rate Equation Based Filtering for Carrier Recovery in Characterization and Communication," *Journal of Lightwave Technology*, vol. 33, pp. 3271-3279, 2015.

[8] M. Piels, E. Porto da Silva, J. M. Estaran Tolosa, R. Borkowski, **I. Tafur Monroy,** and D. Zibar, "Focusing over Optical Fiber Using Time Reversal," *IEEE Photonics Technology Letters*, vol. 27, pp. 631-634, 2015.

[09] S. Saldaña Cercos, M. Piels, J. M. Estaran Tolosa, M. A. Usuga Castaneda, E. Porto da Silva, A. M. Fagertun, **I. Tafur Monroy**, "100 Gbps IM/DD links using quad-polarization: Performance, complexity, and power dissipation," *Optics Express*, vol. 23, 2015.

[10] S. Saldaña Cercos, L. C. Resendo, M. R. N. Ribeiro, A. M. Fagertun, and **I. Tafur Monroy**, "Power-Aware Rationale for Using Coarse-Grained Transponders in IP-Over-WDM Networks," *Journal of Optical Communications and Networking*, vol. 7, pp. 825-836, 2015.

[11] A. Tatarczak, M. Iglesias Olmedo, T. Zuo, J. M. Estaran Tolosa, J. B. Jensen, X. Xu, and **I. Tafur Monroy**, "Enabling 4-Lane Based 400 G Client-Side Transmission Links with MultiCAP Modulation," *Advances in Optical Technologies*, 2015.

[12] J. J. Vegas Olmos and **I. Tafur Monroy,** "Reconfigurable Radio-Over-Fiber Networks [Invited]," *Journal of Optical Communications and Networking*, vol. 7, pp. B23-B28, 2015.

[13] D. Zibar, L. H. H. de Carvalho, M. Piels, A. Doberstein, J. Diniz, B. Nebendahl, **I. Tafur Monroy**, "Application of Machine Learning Techniques for Amplitude and Phase Noise Characterization," *Journal of Lightwave Technology*, vol. 33, pp. 1333-1343, 2015.

Journals 2014

[1] V. Arlunno, A. Caballero Jambrina, R. Borkowski, S. Saldaña Cercos, D. Zibar, K. J. Larsen, and I. **Tafur Monroy**, "Turbo Equalization Techniques Toward Robust PDM 16-

QAM Optical Fiber Transmission," *Journal of Optical Communications and Networking,* vol. 6, no. 2, pp. 204-214, 2014.

[2] V. Arlunno, A. Caballero Jambrina, R. Borkowski, D. Zibar, K. J. Larsen, and I. **Tafur Monroy**, "Turbo Equalization for Digital Coherent Receivers," *Journal of Lightwave Technology,* vol. 32, no. 2, pp. 275-284, 2014.

[3] R. Borkowski, L. H. H. de Carvalho, E. P. d. Silva, J. C. M. Diniz, D. Zibar, J. C. R. F. de Oliveira, and I. **Tafur Monroy,** "Experimental evaluation of prefiltering for 56 Gbaud DP-QPSK signal transmission in 75 GHz WDM grid," *Optical Fiber Technology,* vol. 20, no. 1, pp. 39-43, 2014.

[4] R. Borkowski, P. Johannisson, H. Wymeersch, V. Arlunno, A. Caballero Jambrina, D. Zibar, and I. **Tafur Monroy**, "Experimental demonstration of the maximum likelihood-based chromatic dispersion estimator for coherent receivers," *Optical Fiber Technology,* vol. 20, no. 2, pp. 158-162, 2014.

[5] R. Borkowski, D. Zibar, and I. **Tafur Monroy**, "Anatomy of a digital coherent receiver - invited paper," *IEICE Transactions on Communications,* vol. E97-B, no. 8, pp. 1528-1536, 2014.

[6] A. Caballero, R. Borkowski, I. de Miguel, R. J. Durán, J. C. Aguado, N. Fernández, T. Jiménez, I. Rodríguez, D. Sánchez, R. M. Lorenzo, D. Klonidis, E. Palkopoulou, N. P. Diamantopoulos, I. Tomkos, D. Siracusa, A. Francescon, E. Salvadori, Y. Ye, J. López Vizcaíno, F. Pittalà, A. Tymecki, and I. **Tafur Monroy**, "Cognitive, Heterogeneous and Reconfigurable Optical Networks: The CHRON Project," *Journal of Lightwave Technology,* vol. 32, no. 13, pp. 2308-2323, 2014/07/01, 2014.

[7] I. de Miguel, R. J. Durán, T. Jiménez, N. Fernández, J. C. Aguado, R. M. Lorenzo, A. Caballero, I. **Tafur Monroy**, Y. Ye, A. Tymecki, I. Tomkos, M. Angelou, D. Klonidis, A. Francescon, D. Siracusa, and E. Salvadori, "Cognitive Dynamic Optical Networks [Invited]," *Journal of Optical Communications and Networking,* vol. 5, no. 10, pp. A107-A118, 2013/10/01, 2013.

[8] L. Deng, X. Pang, I. **Tafur Monroy**, M. Tang, P. Shum, and D. Liu, "Experimental Demonstration of Nonlinearity and Phase Noise Tolerant 16-QAM OFDM W-Band (75–110 GHz) Signal Over Fiber System," *Journal of Lightwave Technology,* vol. 32, no. 8, pp. 1442-1448, 2014.

[9] J. M. Estaran Tolosa, D. Zibar, and I. **Tafur Monroy**, "Capacity-Approaching Superposition Coding for Optical Fiber Links," *Journal of Lightwave Technology,* vol. 32, no. 17, pp. 2960-2972, 2014.

[10] M. Iglesias Olmedo, L. Suhr, K. Prince, R. Rodes, C. I. Mikkelsen, E. Hviid, C. Neumeyr, G. Vollrath, E. Goobar, P. Ohlen, and I. **Tafur Monroy**, "Gigabit Access Passive Optical Network Using Wavelength Division Multiplexing—GigaWaM," *Journal of Lightwave Technology,* vol. 32, no. 22, pp. 3683-3691, 2014.

[11] J. B. Jensen, R. Rodes, A. Caballero Jambrina, N. Cheng, D. Zibar, and I. **Tafur Monroy**, "VCSEL Based Coherent PONs," *Journal of Lightwave Technology,* vol. 32, no. 8, pp. 1423-1433, 2014.

[12] A. Lebedev, X. Pang, J. J. Vegas Olmos, S. Forchhammer, and I. **Tafur Monroy**, "Simultaneous 60-GHz RoF Transmission of Lightwaves Emitted by ECL, DFB, and VCSEL," *IEEE Photonics Technology Letters,* vol. 26, no. 7, pp. 733-736, 2014.

[13] A. Lebedev, J. J. Vegas Olmos, X. Pang, I. **Tafur Monroy**, K. J. Larsen, and S. Forchhammer, "Low complexity source and channel coding for mm-wave hybrid fiber-wireless links," *Optics Communications,* vol. 318, pp. 142-146, 2014.

[14] M. I. Olmedo, T. Zuo, J. B. Jensen, Q. Zhong, X. Xu, S. Popov, and I. **Tafur Monroy**, "Multiband Carrierless Amplitude Phase Modulation for High Capacity Optical Data Links," *Journal of Lightwave Technology,* vol. 32, no. 4, pp. 798-804, 2014/02/15, 2014.

[15] X. Pang, M. Beltran, J. Sanchez, E. Pellicer, J. J. Vegas Olmos, R. Llorente, and I. **Tafur Monroy**, "Centralized optical-frequency-comb-based RF carrier generator for DWDM

fiber-wireless access systems," *Journal of Optical Communications and Networking,* vol. 6, no. 1, 2014.

[16] X. Pang, A. Lebedev, J. J. Vegas Olmos, and I. **Tafur Monroy**, "Multigigabit W-Band (75-110 GHz) Bidirectional Hybrid Fiber-Wireless Systems in Access Networks," *Journal of Lightwave Technology,* vol. 32, no. 23, pp. 3983-3990, 2014/12/01, 2014.

[17] J. J. Vegas Olmos, X. Pang, A. Lebedev, M. Sales Llopis, and I. **Tafur Monroy**, "Wireless and wireline service convergence in next generation optical access networks - the FP7 WISCON project," *IEICE Transactions on Communications,* vol. E97-B, pp. 1537-1546, 2014.

[18] J. J. Vegas Olmos, X. Pang, and I. **Tafur Monroy**, "E- and W-band high-capacity hybrid fiber-wireless link," *IEICE Transactions on Communications,* vol. E97-B, no. 7, pp. 1290-1294, 2014.

[19] D. Zibar, L. H. H. de Carvalho, J. M. Estaran Tolosa, E. Silva, C. Franciscangelis, V. Ribeiro, R. Borkowski, O. Winther, M. N. Schmidt, J. Oliveira, and I. **Tafur Monroy**, "Joint Iterative Carrier Synchronization and Signal Detection Employing Expectation Maximization," *Journal of Lightwave Technology,* vol. 32, no. 8, pp. 1608-1615, 2014.

Journals 2013

[1] V. Arlunno, A. Caballero Jambrina, R. Borkowski, D. Zibar, K. J. Larsen, and I. **Tafur Monroy**, "Counteracting 16-QAM Optical Fiber Transmission Impairments With Iterative Turbo Equalization," *IEEE Photonics Technology Letters,* vol. 25, no. 21, pp. 2097-2100, 2013.

[2] R. Borkowski, D. Zibar, A. Caballero Jambrina, V. Arlunno, and I. **Tafur Monroy**, "Stokes Space-Based Optical Modulation Format Recognition for Digital Coherent Receivers," *IEEE Photonics Technology Letters,* vol. 25, no. 21, pp. 2129-2132, 2013.

[3] R. Borkowski, D. Zibar, I. Roudas, K. G. Vlachos, and I. **Tafur Monroy**, "Advanced Modulation Techniques for High-Performance Computing Optical Interconnects," *IEEE Journal on Selected Topics in Quantum Electronics,* vol. 19, pp. 324-337, 2013.

[4] A. Caballero Jambrina, N. Guerrero Gonzalez, V. Arlunno, R. Borkowski, T.-T. Pham, R. Rodes Lopez, X. Zhang, M. Binti Othman, K. Prince, X. Yu, J. B. Jensen, D. Zibar, and I. **Tafur Monroy**, "Reconfigurable Digital Coherent Receiver for Metro-Access Networks Supporting Mixed Modulation Formats and Bit-rates," *Optical Fiber Technology,* vol. 19, no. 6, Part A, pp. 638-642, 2013.

[5] I. de Miguel, R. J. Duran, T. Jimenez, N. Fernandez, J. C. Aguado, R. M. Lorenzo, A. Caballero Jambrina, I. **Tafur Monroy**, Y. Ye, A. Tymecki, I. Tomkos, M. Angelou, D. Klonidis, A. Francescon, D. Siracusa, and E. Salvadori, "Cognitive Dynamic Optical Networks," *Journal of Optical Communications and Networking,* vol. 5, no. 10, pp. A107-A118, 2013.

[6] M. Iglesias Olmedo, T. Zuo, J. B. Jensen, Q. Zhong, X. Xu, S. Popov, and I. **Tafur Monroy**, "Multiband Carrierless Amplitude Phase Modulation for High Capacity Optical Data Links," *Journal of Lightwave Technology,* 2013.

[7] F. Karinou, L. Deng, R. R. Lopez, K. Prince, J. B. Jensen, and I. **Tafur Monroy**, "Performance comparison of 850-nm and 1550-nm VCSELs exploiting OOK, OFDM, and 4-PAM over SMF/MMF links for low-cost optical interconnects," *Optical Fiber Technology,* vol. 19, no. 3, pp. 206-212, //, 2013.

[8] F. Karinou, R. Borkowski, D. Zibar, I. Roudas, K. G. Vlachos, and I. **Tafur Monroy**, "Advanced Modulation Techniques for High-Performance Computing Optical Interconnects," *IEEE Journal on Selected Topics in Quantum Electronics,* vol. 19, no. 2, pp. 324-337, 2013.

[9] F. Karinou, L. Deng, R. Rodes Lopez, K. Prince, J. B. Jensen, and I. **Tafur Monroy**, "Performance comparison of 850-nm and 1550-nm VCSELs exploiting OOK, OFDM, and

4-PAM over SMF/MMF links for low-cost optical interconnects," *Optical Fiber Technology*, vol. 19, no. 3, pp. 206-212, 2013.

[10] A. Lebedev, J. J. V. Olmos, X. D. Pang, S. Forchhammer, and I. **Tafur Monroy**, "Demonstration and Comparison Study for V- and W-Band Real-Time High-Definition Video Delivery in Diverse Fiber-Wireless Infrastructure," *Fiber and Integrated Optics*, vol. 32, no. 2, pp. 93-104, Mar, 2013.

[11] A. Lebedev, X. Pang, J. J. Vegas Olmos, M. Beltrán, R. Llorente, S. Forchhammer, and I. **Tafur Monroy**, "Feasibility Study and Experimental Verification of Simplified Fiber-Supported 60-GHz Picocell Mobile Backhaul Links," *IEEE Photonics Journal*, vol. 5, no. 4, 2013.

[12] A. Lebedev, X. Pang, J. J. Vegas Olmos, S. Forchhammer, and I. **Tafur Monroy**, "Gigabit close-proximity wireless connections supported by 60 GHz RoF links with low carrier suppression," *Optics Express*, vol. 21, no. 21, pp. 24574-24581, 2013.

[13] A. Lebedev, J. J. Vegas Olmos, M. Iglesias Olmedo, S. Forchhammer, and I. **Tafur Monroy**, "A novel method for combating dispersion induced power fading in dispersion compensating fiber," *Optics Express*, vol. 21, no. 11, pp. 13617-13625, 2013.

[14] A. Lebedev, J. J. Vegas Olmos, X. Pang, S. Forchhammer, and I. **Tafur Monroy**, "Demonstration and Comparison Study for V- and W-Band Real-Time High-Definition Video Delivery in Diverse Fiber-Wireless Infrastructure," *Fiber and Integrated Optics*, vol. 32, no. 2, pp. 93-104, 2013.

[15] X. D. Pang, L. Deng, A. Dogadaev, X. Zhang, X. B. Yu, and I. **Tafur Monroy**, "Uplink transmission in the W-band (75110 GHz) for hybrid optical fiber-wireless access networks," *Microwave and Optical Technology Letters*, vol. 55, no. 5, pp. 1033-1036, May, 2013.

[16] T.-T. Pham, R. Rodes Lopez, J. B. Jensen, C. J. Chang-Hasnain, and I. **Tafur Monroy**, "Sub-cycle QAM modulation for VCSEL-based optical fiber links," *Optics Express*, vol. 21, no. 2, pp. 1830-1839, 2013.

[17] R. Rodes, M. Mueller, B. M. Li, J. Estaran, J. B. Jensen, T. Gruendl, M. Ortsiefer, C. Neumeyr, J. Rosskopf, K. J. Larsen, M. C. Amann, and I. **Tafur Monroy**, "High-Speed 1550 nm VCSEL Data Transmission Link Employing 25 GBd 4-PAM Modulation and Hard Decision Forward Error Correction," *Journal of Lightwave Technology*, vol. 31, no. 4, pp. 689-695, Feb, 2013.

[18] J. J. Vegas Olmos, L. F. Suhr, B. Li, and I. **Tafur Monroy**, "Five-level polybinary signaling for 10 Gbps data transmission systems," *Optics Express*, vol. 21, no. 17, pp. 20417-20422, 2013.

[19] X. Yu, T. B. Gibbon, R. Rodes, T. T. Pham, and I. **Tafur Monroy**, "System wide implementation of photonically generated impulse radio ultra-wideband for gigabit fiber-wireless access," *Journal of Lightwave Technology*, vol. 31, no. 2, pp. 264-275, //, 2013.

Journals 2012

[1] M. Beltran, L. Deng, X. Pang, X. Zhang, V. Arlunno, Y. Zhao, X. Yu, R. Llorente, D. Liu, and I. **Tafur Monroy**, "Single- and Multiband OFDM Photonic Wireless Links in the 75-110 GHz Band Employing Optical Combs," *Ieee Photonics Journal*, vol. 4, no. 5, pp. 2027-2036, Oct, 2012.

[2] R. Borkowski, F. Karinou, M. Angelou, V. Arlunno, D. Zibar, D. Klonidis, N. G. Gonzalez, A. Caballero, I. Tomkos, and I. **Tafur Monroy**, "Experimental Study on OSNR Requirements for Spectrum-Flexible Optical Networks Invited," *Journal of Optical Communications and Networking*, vol. 4, no. 11, pp. B85-B93, Nov, 2012.

[3] A. Caballero Jambrina, D. Zibar, R. Sambaraju, J. Marti, and I. **Tafur Monroy**, "High-Capacity 60 GHz and 75–110 GHz Band Links Employing All-Optical OFDM Generation

and Digital Coherent Detection," *Journal of Lightwave Technology,* vol. 30, no. 1, pp. 147-155, 2012.

[4] L. Deng, D. M. Liu, X. D. Pang, X. Zhang, V. Arlunno, Y. Zhao, A. Caballero, A. K. Dogadaev, X. B. Yu, I. **Tafur Monroy**, M. Beltran, and R. Llorente, "42.13 GBIT/S 16QAM-OFDM PHOTONICS-WIRELESS TRANSMISSION IN 75-110 GHz BAND," *Progress in Electromagnetics Research-Pier,* vol. 126, pp. 449-461, 2012.

[5] L. Deng, X. D. Pang, Y. Zhao, M. B. Othman, J. B. Jensen, D. Zibar, X. B. Yu, D. M. Liu, and I. **Tafur Monroy**, "2x2 MIMO-OFDM Gigabit fiber-wireless access system based on polarization division multiplexed WDM-PON," *Optics Express,* vol. 20, no. 4, pp. 4369-4375, Feb, 2012.

[6] L. Deng, M. Beltran, X. Pang, X. Zhang, V. Arlunno, Y. Zhao, A. Caballero Jambrina, A. K. Dogadaev, X. Yu, R. Llorente, D. Liu, and I. **Tafur Monroy**, "Fiber Wireless Transmission of 8.3-Gb/s/ch QPSK-OFDM Signals in 75–110-GHz Band," *I E E E Photonics Technology Letters,* vol. 24, no. 5, pp. 383-385, 2012.

[7] J. Estaran, R. Rodes, T. T. Pham, M. Ortsiefer, C. Neumeyr, J. Rosskopf, and I. **Tafur Monroy**, "Quad 14 Gbps L-band VCSEL-based system for WDM migration of 4-lanes 56 Gbps optical data links," *Optics Express,* vol. 20, no. 27, pp. 28524-28531, Dec, 2012.

[8] J. J. V. Olmos, G. Rodes, and I. **Tafur Monroy**, "Optical Switching for Dynamic Distribution of Wireless-Over-Fiber Signals in Active Optical Networks," *Journal of Optical Communications and Networking,* vol. 4, no. 8, pp. 622-627, Aug, 2012.

[9] M. B. Othman, X. Zhang, L. Deng, M. Wieckowski, J. B. Jensen, and I. **Tafur Monroy**, "Experimental Investigations of 3-D-/4-D-CAP Modulation With Directly Modulated VCSELs," *Ieee Photonics Technology Letters,* vol. 24, no. 22, pp. 2009-2012, Nov, 2012.

[10] X. D. Pang, X. B. Yu, Y. Zhao, L. Deng, D. Zibar, and I. **Tafur Monroy**, "Experimental characterization of a hybrid fiber-wireless transmission link in the 75 to 110 GHz band," *Optical Engineering,* vol. 51, no. 4, Apr, 2012.

[11] X. Pang, A. Caballero Jambrina, A. K. Dogadaev, V. Arlunno, L. Deng, R. Borkowski, J. S. Pedersen, D. Zibar, X. Yu, and I. **Tafur Monroy**, "25 Gbit/s QPSK Hybrid Fiber-Wireless Transmission in the W-Band (75–110 GHz) With Remote Antenna Unit for In-Building Wireless Networks. ," *I E E E Photonics Journal,* vol. 4, no. 3, pp. 691-698, 2012.

[12] T. T. Pham, R. Rodes, J. Estaran, J. B. Jensen, and I. **Tafur Monroy**, "Half-cycle modulation for VCSEL based 6-Gbaud 4-QAM transmission over 1 km multimode fibre link," *Electronics Letters,* vol. 48, no. 17, pp. 1074-1075, Aug 16, 2012.

[13] T. T. Pham, A. Lebedev, M. Beltrán, X. Yu, R. Llorente, and I. **Tafur Monroy**, "Combined single-mode/multimode fiber link supporting simplified in-building 60-GHz gigabit wireless access.," *Optical Fiber Technology,* vol. 18, no. 4, pp. 226-229, 2012.

[14] K. Prince, T. B. Gibbon, R. Rodes, E. Hviid, C. I. Mikkelsen, C. Neumeyr, M. Ortsiefer, E. Ronneberg, J. Rosskopf, P. Ohlen, E. I. de Betou, B. Stoltz, E. Goobar, J. Olsson, R. Fletcher, C. Abbott, M. Rask, N. Plappert, G. Vollrath, and I. **Tafur Monroy**, "GigaWaM-Next-Generation WDM-PON Enabling Gigabit Per-User Data Bandwidth," *Journal of Lightwave Technology,* vol. 30, no. 10, pp. 1444-1454, May, 2012.

[15] V. S. C. Teichmann, A. N. Barreto, T. T. Pham, R. Rodes, I. **Tafur Monroy**, and D. A. A. Mello, "SC-FDE for MMF short reach optical interconnects using directly modulated 850 nm VCSELs," *Optics Express,* vol. 20, no. 23, pp. 25369-25377, Nov, 2012.

[16] P. Tien-Thang, T. B. Gibbon, and I. **Tafur Monroy**, "VCSEL-based gigabit IR-UWB link for converged communication and sensing applications in optical metro-access networks," *Optics Communications,* vol. 285, no. 24, pp. 5068-5072, Nov 1, 2012.

[17] J. L. Vizcaino, Y. B. Ye, and I. **Tafur Monroy**, "Energy efficiency analysis for flexible-grid OFDM-based optical networks," *Computer Networks,* vol. 56, no. 10, pp. 2400-2419, Jul, 2012.

[18] Y. Zhao, X. Pang, L. Deng, X. Yu, X. Zheng, and I. **Tafur Monroy**, "Ultra-broadband Photonic Harmonic Mixer Based on Optical Comb Generation," *I E E E Photonics*

Technology Letters, vol. 24, no. 1, pp. 16-18, 2012.

Journals 2011

[1] F. Amaya, A. Cárdenas, and I. **Tafur Monroy**, "Modeling of video distribution link in Next Generation Optical Access Networks," *Journal of Physics: Conference Series,* vol. 274, no. 1, 2011.

[2] V. Arlunno, X. Zhang, K. J. Larsen, D. Zibar, and I. **Tafur Monroy**, "Digital non-linear equalization for flexible capacity ultradense WDM channels for metro core networking," *Optics Express,* vol. 19, no. 26, pp. 270-276, Dec, 2011.

[3] V. Arlunno, R. Borkowski, N. Guerrero Gonzalez, A. Caballero Jambrina, K. Prince, J. B. Jensen, D. Zibar, K. J. Larsen, and I. **Tafur Monroy**, "Radio over fiber link with adaptive order n- QAM optical phase modulated OFDM and digital coherent detection," *Microwave & Optical Technology Letters,* vol. 53, no. 10, pp. 2245-2247, 2011.

[4] M. Beltran, J. B. Jensen, R. Llorente, and I. **Tafur Monroy**, "Experimental Analysis of 60-GHz VCSEL and ECL Photonic Generation and Transmission of Impulse-Radio Ultra-Wideband Signals," *IEEE Photonics Technology Letters,* vol. 23, no. 15, pp. 1055-1057, Aug 1, 2011.

[5] M. Beltran, J. B. Jensen, X. Yu, R. Llorente, R. Rodes, M. Ortsiefer, C. Neumeyr, and I. **Tafur Monroy**, "Performance of a 60-GHz DCM-OFDM and BPSK-Impulse Ultra-Wideband System with Radio-Over-Fiber and Wireless Transmission Employing a Directly-Modulated VCSEL," *IEEE Journal on Selected Areas in Communications,* vol. 29, no. 6, pp. 1295-1303, Jun, 2011.

[6] R. Borkowski, X. Zhang, D. Zibar, R. Younce, and I. **Tafur Monroy**, "Experimental demonstration of adaptive digital monitoring and compensation of chromatic dispersion for coherent DP-QPSK receiver," *Optics express,* vol. 19, no. 26, pp. B728-35, 2011-Dec-12, 2011.

[7] A. Caballero Jambrina, D. Zibar, C. G. Schäffer, and I. **Tafur Monroy**, "Photonic downconversion for coherent phase-modulated radio-over-fiber links using free-running local oscillator," *Optical Fiber Technology,* vol. 17, no. 4, pp. 263-266, 2011.

[8] A. Caballero, D. Zibar, and I. **Tafur Monroy**, "Performance Evaluation of Digital Coherent Receivers for Phase-Modulated Radio-Over-Fiber Links," *Journal of Lightwave Technology,* vol. 29, no. 21, pp. 3282-3292, Nov 1, 2011.

[9] Y. Cao, A. V. Osadchiy, X. Xin, X. Yin, C. Yu, X. Zhang, and I. **Tafur Monroy**, "Performance analysis of IM, DPSK and DQPSK payload signals with frequency swept coherent detected spectral amplitude code labelling," *Optical Switching and Networking,* vol. 8, no. 2, pp. 79-85, 2011.

[10] L. Deng, M. Beltran, X. D. Pang, X. Zhang, V. Arlunno, Y. Zhao, A. Caballero, A. Dogadaev, X. B. Yu, R. Llorente, D. M. Liu, and I. **Tafur Monroy**, "Fiber Wireless Transmission of 8.3-Gb/s/ch QPSK-OFDM Signals in 75-110-GHz Band," *IEEE Photonics Technology Letters,* vol. 24, no. 5, pp. 383-385, Mar, 2012.

[11] L. Deng, Y. Zhao, X. Yu, V. Arlunno, R. Borkowski, D. Liu, and I. **Tafur Monroy**, "Experimental demonstration of an improved EPON architecture using OFDMA for bandwidth scalable LAN emulation," *Optical Fiber Technology,* vol. 17, no. 6, pp. 554-557, Dec, 2011.

[12] T. B. Gibbon, K. Prince, T. T. Pham, A. Tatarczak, and I. **Tafur Monroy**, "VCSEL Transmission at 10 Gb/s for 20 km Single Mode Fiber WDM-PON without Dispersion Compensation or Injection Locking," *Optical Fiber Technology,* vol. 17, no. 1, pp. 41-45, 2011.

[13] N. G. Gonzalez, K. Prince, D. Zibar, and I. **Tafur Monroy**, "Re-configurable digital receiver for optically envelope detected half cycle BPSK and MSK radio-on-fiber signals," *Optical Fiber Technology,* vol. 17, no. 1, pp. 59-63, Jan, 2011.

[14] N. Guerrero Gonzalez, D. Zibar, X. Yu, and I. **Tafur Monroy**, "Reconfigurable digital receiver for 8PSK subcarrier multiplexed and 16QAM single carrier phase- modulated radio over fiber links," *Microwave & Optical Technology Letters,* vol. 53, no. 5, pp. 1015-1018, 2011.

[15] A. Lebedev, T. T. Pham, M. Beltran, X. Yu, A. Ukhanova, R. Llorente, I. **Tafur Monroy**, and S. Forchhammer, "Optimization of high-definition video coding and hybrid fiber-wireless transmission in the 60 GHz band," *Optics express,* vol. 19, no. 26, pp. B895-904, 2011-Dec-12, 2011.

[16] A. V. Osadchiy, N. Guerrero, J. B. Jensen, and I. **Tafur Monroy**, "Coherent spectral amplitude coded label detection for DQPSK payload signals in packet-switched metropolitan area networks," *Optical Fiber Technology,* vol. 17, no. 3, pp. 141-144, 2011.

[17] A. V. Osadchiy, K. Prince, N. Guerrero Gonzalez, A. Caballero Jambrina, F. O. Amaya, J. B. Jensen, D. Zibar, and I. **Tafur Monroy**, "Coherent detection passive optical access network enabling converged delivery of broadcast and dedicated broadband services," *Optical Fiber Technology,* vol. 17, no. 1, pp. 1-6, 2011.

[18] M. B. Othman, L. Deng, X. Pang, J. Caminos, W. Kozuch, K. Prince, X. Yu, J. B. Jensen, and I. **Tafur Monroy**, "MIMO-OFDM WDM PON with DM-VCSEL for femtocells application," *Optics express,* vol. 19, no. 26, pp. B537-42, 2011-Dec-12, 2011.

[19] X. Pang, A. Caballero, A. Dogadaev, V. Arlunno, R. Borkowski, J. S. Pedersen, L. Deng, F. Karinou, F. Roubeau, D. Zibar, X. Yu, and I. **Tafur Monroy**, "100 Gbit/s hybrid optical fiber-wireless link in the W-band (75-110 GHz)," *Optics express,* vol. 19, no. 25, pp. 24944-24949 2011.

[20] T. T. Pham, X. Yu, L. Dittmann, and I. **Tafur Monroy**, "Integration of Optically Generated Impulse Radio UWB Signals into Baseband WDM-PON," *IEEE Photonics Technology Letters,* vol. 23, no. 99, 2011.

[21] K. Prince, and I. **Tafur Monroy**, "Multi-band radio over fiber system with all-optical halfwave rectification, transmission and frequency down-conversion," *Optical Fiber Technology,* vol. 17, no. 4, pp. 310-314, Jul, 2011.

[22] K. Prince, M. Ma, T. B. Gibbon, C. Neumeyr, E. Ronneberg, M. Ortsiefer, and I. **Tafur Monroy**, "Free-Running 1550 nm VCSEL for 10.7 Gb/s Transmission in 99.7 km PON," *Journal of Optical Communications and Networking,* vol. 3, no. 5, pp. 399-403, May, 2011.

[23] R. Rodes Lopez, J. B. Jensen, D. Zibar, C. Neumeyr, E. Rönneberg, J. Rosskopf, M. Ortsiefer, and I. **Tafur Monroy**, "Vertical- cavity surface- emitting laser based digital coherent detection for multigigabit long reach passive optical links," *Microwave & Optical Technology Letters,* vol. 53, no. 11, 2011.

[24] R. Rodes, M. Wieckowski, T. T. Pham, J. B. Jensen, J. Turkiewicz, J. Siuzdak, and I. **Tafur Monroy**, "Carrierless amplitude phase modulation of VCSEL with 4 bit/s/Hz spectral efficiency for use in WDM-PON," *Optics Express,* vol. 19, no. 27, pp. 26551-26556, Dec, 2011.

[25] R. A. Soriano, F. N. Hauske, N. Guerrero Gonzalez, Z. Zhang, Y. Ye, and I. **Tafur Monroy**, "Chromatic Dispersion Estimation in Digital Coherent Receivers," *Journal of Lightwave Technology,* vol. 29, no. 11, pp. 1627-1637, Jun 1, 2011.

[26] P. Tien-Thang, X. Yu, T. B. Gibbon, L. Dittmann, and I. **Tafur Monroy**, "A WDM-PON-Compatible System for Simultaneous Distribution of Gigabit Baseband and Wireless Ultrawideband Services With Flexible Bandwidth Allocation," *IEEE Photonics Journal,* vol. 3, no. 1, pp. 13-19, Feb, 2011.

[27] X. Yu, and I. **Tafur Monroy**, "Distribution of photonically generated 5 Gbits/s impulse radio ultrawideband signals over fiber," *Optics Letters,* vol. 36, no. 6, 2011.

[28] Y. Zhao, L. Deng, X. Pang, X. Yu, X. Zheng, H. Zhang, and I. **Tafur Monroy**, "Digital predistortion of 75-110 GHz W-band frequency multiplier for fiber wireless short range access systems," *Optics Express,* vol. 19, no. 26, pp. 18-25, Dec 12, 2011.

[29] Y. Zhao, X. Pang, L. Deng, X. Yu, X. Zheng, B. Zhou, and I. **Tafur Monroy**, "High

accuracy microwave frequency measurement based on single-drive dual-parallel Mach-Zehnder modulator," *Optics express*, vol. 19, no. 26, pp. B681-6, 2011-Dec-12, 2011.

[30] Y. Zhao, X. Yu, X. Zheng, I. **Tafur Monroy**, and H. Zhang, "Generalized Tensor Analysis Model for Multi-Subcarrier Analog Optical Systems," *Journal of Lightwave Technology*, vol. 29, no. 21, pp. 3144-3155, Nov 1, 2011.

[31] D. Zibar, J. C. R. F. de Olivera, V. B. Ribeiro, A. Paradisi, J. C. Diniz, K. J. Larsen, and I. **Tafur Monroy**, "Experimental investigation and digital compensation of DGD for 112 Gb/s PDM-QPSK clock recovery," *Optics Express*, vol. 19, no. 26, pp. 429-437, Dec 12, 2011.

[32] D. Zibar, R. Sambaraju, A. Caballero, J. Herrera, U. Westergren, A. Walber, J. B. Jensen, J. Marti, and I. **Tafur Monroy**, "High-Capacity Wireless Signal Generation and Demodulation in 75-to 110-GHz Band Employing All-Optical OFDM," *IEEE Photonics Technology Letters*, vol. 23, no. 12, pp. 810-812, Jun 15, 2011.

Journals 2010

[1] A. Caballero, D. Zibar, and I. **Tafur Monroy**, "Digital coherent detection of multi-gigabit 40 GHz carrier frequency radio-over-fibre signals using photonic downconversion," *Electronics Letters*, vol. 46, pp. 57-U83, 2010.

[2] Y. S. Cao, A. V. Osadchiy, X. J. Xin, X. L. Yin, C. X. Yu, and I. **Tafur Monroy**, "Recognition of spectral amplitude codes by frequency swept coherent detection for flexible optical label switching," *Photonic Network Communications*, vol. 20, pp. 131-137, 2010.

[3] T. B. Gibbon, X. Yu, R. Gamatham, N. G. Gonzalez, R. Rodes, J. B. Jensen, I. **Tafur Monroy**, "3.125 Gb/s Impulse Radio Ultra-Wideband Photonic Generation and Distribution Over a 50 km Fiber With Wireless Transmission," *IEEE Microwave and Wireless Components Letters*, vol. 20, pp. 127-129, Feb 2010.

[4] N. G. Gonzalez, D. Zibar, A. Caballero, and I. **Tafur Monroy**, "Experimental 2.5-Gb/s QPSK WDM Phase-Modulated Radio-Over-Fiber Link With Digital Demodulation by a K-Means Algorithm," *IEEE Photonics Technology Letters*, vol. 22, pp. 335-337, Mar 1 2010.

[5] R. R. Lopez, A. Caballero, X. Yu, T. B. Gibbon, J. B. Jensen, and I. **Tafur Monroy**, "A Comparison of Electrical and Photonic Pulse Generation for IR-UWB on Fiber Links," *Ieee Photonics Technology Letters*, vol. 22, pp. 263-265, Mar 1 2010.

[6] A. V. Osadchiy and I. **Tafur Monroy**, "Coherent detection for spectral amplitude-coded optical label switching systems," *Microwave and Optical Technology Letters*, vol. 52, pp. 2732-2735, 2010.

[7] A. V. Osadchiy, K. Prince, and I. **Tafur Monroy**, "Converged delivery of WiMAX and wireline services over an extended reach passive optical access network," *Optical Fiber Technology*, vol. 16, pp. 182-186, 2010.

[8] R. Rodes Lopez, X. Yu, A. Caballero Jambrina, J. B. Jensen, T. B. Gibbon, N. Guerrero Gonzalez,**.I. Tafur Monroy,** "Range extension and channel capacity increase in impulse-radio ultra-wideband communications," *Tsinghua Science & Technology*, vol. 15, pp. 169-173, 2010.

[9] R. Rodes, J. B. Jensen, A. Caballero, X. B. Yu, S. Pivnenko, and I. **Tafur Monroy**, "Enhanced bit rate-distance product impulse radio ultra-wideband over fiber link," *Microwave and Optical Technology Letters*, vol. 52, pp. 1679-1680, 2010.

[10] R. Rodes, J. B. Jensen, D. Zibar, C. Neumeyr, E. Roenneberg, J. Rosskopf, I. **Tafur Monroy**, "All-VCSEL based digital coherent detection link for multi Gbit/s WDM passive optical networks," *Optics Express*, vol. 18, pp. 24969-24974, Nov 22 2010.

[11] R. Sambaraju, D. Zibar, A. Caballero, I. **Tafur Monroy**, R. Alemany, and J. Herrera, "100-GHz Wireless-Over-Fiber Links With Up to 16-Gb/s QPSK Modulation Using Optical Heterodyne Generation and Digital Coherent Detection," *IEEE Photonics Technology Letters*, vol. 22, pp. 1650-1652, 2010.

[12] X. L. Yin, X. B. Yu, and I. **Tafur Monroy**, "Bit-Error-Rate Performance Analysis of Self-

Heterodyne Detected Radio-Over-Fiber Links Using Phase and Intensity Modulation," *IEEE Transactions on Microwave Theory and Techniques*, vol. 58, pp. 3229-3236, 2010.

[13] D. Zibar, R. Sambaraju, R. Alemany, A. Caballero, J. Herrera, and I. **Tafur Monroy**, "Radio-Frequency Transparent Demodulation for Broadband Hybrid Wireless-Optical Links," *Ieee Photonics Technology Letters*, vol. 22, pp. 784-786, Jun 1 2010.

Journals 2009

[1] F. Amaya, J. Martinez, X. Yu, and I. **Tafur Monroy**, "Hybrid RSOA and fibre Raman amplified long reach feeder link for WiMAX-on-fibre," *Electronics Letters*, vol. 45, pp. 949-950, Aug 27, 2009.

[2] T. B. Gibbon, A. V. Osadchiy, R. Kjær, J. B. Jensen, and I. **Tafur Monroy**, "Gain transient control for wavelength division multiplexed access networks using semiconductor optical amplifiers," *Optical Fiber Technology*, vol. 15, pp. 279-282, 2009.

[3] T. B. Gibbon, X. Yu, and I. **Tafur Monroy**, "Photonic Ultra-Wideband 781.25-Mb/s Signal Generation and Transmission Incorporating Digital Signal Processing Detection," *IEEE Photonics Technology Letters*, vol. 21, pp. 1060-1062, Aug 1 2009.

[4] J. B. Jensen, R. Rodes, A. Caballero, X. Yu, T. B. Gibbon, and I. **Tafur Monroy**, "4 Gbps Impulse Radio (IR) Ultra-Wideband (UWB) Transmission over 100 Meters Multi Mode Fiber with 4 Meters Wireless Transmission," *Optics Express*, vol. 17, pp. 16898-16903, Sep 14 2009.

[5] K. Prince, A. V. Osadchiy, I. **Tafur Monroy**, and Ieee, "Full-Duplex Transmission of 256-QAM WiMAX Signals over an 80-km Long-Reach PON," in *IEEE LEOS Annual Meeting Conference Proceedings, Vols 1and 2*, 2009, pp. 547-548.

[6] K. Prince, M. Presi, A. Chiuchiarelli, I. Cerutti, G. Contestabile, I. **Tafur Monroy**, *et al.*, "Variable Delay With Directly-Modulated R-SOA and Optical Filters for Adaptive Antenna Radio-Fiber Access," *Journal of Lightwave Technology*, vol. 27, pp. 5056-5064, Nov 2009.

[7] K. Prince, J. B. Jensen, A. Caballero, X. Yu, T. B. Gibbon, D. Zibar, I. **Tafur Monroy**,"Converged Wireline and Wireless Access Over a 78-km Deployed Fiber Long-Reach WDM PON," *IEEE Photonics Technology Letters*, vol. 21, pp. 1274-1276, Sep 1 2009.

[8] I. **Tafur Monroy**, K. Prince, J. Seoane, and X. B. Yu, "Optically envelope detected QAM and QPSK RF modulated signals in hybrid wireless-fiber systems," *Microwave and Optical Technology Letters*, vol. 51, pp. 864-866, 2009.

[9] I. **Tafur Monroy**, N. Guerrero Gonzalez, A. Caballero Jambrina, K. Prince, D. Zibar, T. B. Gibbon, *et al.*, "Convergencia de sistemas de comunicaci¢n ¢pticos e inal mbricos (Converged wireless and optical communication systems)," *Optica Pura y Aplicada*, pp. 83-90, 2009.

[10] T. Vivero, N. Calabretta, I. **Tafur Monroy**, G. Kassar, F. Ohman, K. Yvind, *et al.*, "2R-Regeneration in a monolithically integrated four-section SOA-EA chip," *Optics Communications*, vol. 282, pp. 117-121, Jan 1 2009.

[11] X. B. Yu, T. B. Gibbon, and I. **Tafur Monroy**, "Experimental Demonstration of All-Optical 781.25-Mb/s Binary Phase-Coded UWB Signal Generation and Transmission," *IEEE Photonics Technology Letters*, vol. 21, pp. 1235-1237, 2009.

[12] X. B. Yu, T. B. Gibbon, M. Pawlik, S. Blaaberg, and I. **Tafur Monroy**, "A photonic ultra-wideband pulse generator based on relaxation oscillations of a semiconductor laser," *Optics Express*, vol. 17, pp. 9680-9687, Jun 2009.

[13] X. Yu, T. B. Gibbon, and I. **Tafur Monroy**, "High-Speed Ultra-Wideband Wireless Signals over Fiber Systems: Photonic Generation and DSP Detection," *The Journal of China Universities of Posts and Telecommunications (invited paper)*, vol. 16, pp. 7-11, 2009.

[14] E. Zhou, X. Yu, X. Zhang, W. Xue, Y. Yu, J. Mørk, *et al.*, "Photonic generation of ultrawideband monocycle and doublet pulses by using a semiconductor-optical-amplifier-

based wavelength converter," *Optics Letter,* vol. 34, 2009.
[15] D. Zibar, K. J. Larsen, and I. **Tafur Monroy**, "Digital coherent receiver for subcarrier multiplexed phase-modulated radio-over-fibre signals," *Electronics Letters,* vol. 45, pp. 563-U50, May 21 2009.
[16] D. Zibar, X. Yu, C. Peucheret, P. Jeppesen, and I. **Tafur Monroy**, "Digital Coherent Receiver for Phase-Modulated Radio-Over-Fiber Optical Links," *IEEE Photonics Technology Letters,* vol. 21, pp. 155-157, Jan-Feb 2009.

Journals 2008

[1] A. Caballero, J. B. Jensen, X. Yu, and I. **Tafur Monroy**, "5 GHz 200 Mbit/s radio over polymer fibre link with envelope detection at 650 nm wavelength," *Electronics Letters,* vol. 44, pp. 1479-U149, Dec 4 2008.
[2] T. B. Gibbon, A. V. Osadchiy, R. Kjaer, J. B. Jensen, and I. **Tafur Monroy**, "Gain transient suppression for WDM PON networks using semiconductor optical amplifier," *Electronics Letters,* vol. 44, pp. 756-757, Jun 5 2008.
[3] J. B. Jensen, A. V. Osadchiy, I. **Tafur Monroy**, and P. Jeppesen, "Colorless DQPSK receiver for wavelength routed packet-switched networks," *IEEE Photonics Technology Letters,* vol. 20, pp. 1839-1841, 2008.
[4] K. Prince and I. **Tafur Monroy**, "All-optical envelope detection and fiber transmission of wireless signals by external injection of a DFB laser," *IEEE Photonics Technology Letters,* vol. 20, pp. 1317-1319, 2008.
[5] I. **Tafur Monroy**, R. Kjaer, F. Ohman, K. Yvind, and P. Jeppesen, "Distributed fiber Raman amplification in long reach PON bidirectional access links," *Optical Fiber Technology*, vol. 14, pp. 41-44, 2008.
[6] V. Torres-Company, K. Prince, and I. **Tafur Monroy**, "Fiber transmission and generation of ultrawideband pulses by direct current modulation of semiconductor lasers and chirp-to-intensity conversion," *Optics Letters,* vol. 33, pp. 222-224, 2008.
[7] V. Torres-Company, K. Prince, and I. **Tafur Monroy**, "Ultrawideband pulse generation based on overshooting effect in gain-switched semiconductor laser," *IEEE Photonics Technology Letters,* vol. 20, pp. 1299-1301, 2008.
[8] N. Yan, E. Tangdiongga, H. D. Jung, I. **Tafur Monroy**, H. De Waardt, and A. M. J. Koonen, "Regenerative all-optical wavelength multicast for next generation WDM network and system applications," *Photonic Network Communications,* vol. 15, pp. 1-6, 2008.
[9] X. Yu, T. B. Gibbon, and I. **Tafur Monroy**, "Bidirectional Radio-Over-Fiber System With Phase-Modulation Downlink and RF Oscillator-Free Uplink Using a Reflective SOA," *IEEE Photonics Technology Letters,* vol. 20, pp. 2180-2182, Nov-Dec 2008.
[10] X. Yu, J. B. Jensen, D. Zibar, C. Peucheret, and I. **Tafur Monroy**, "Converged Wireless and Wireline Access System Based on Optical Phase Modulation for Both Radio-Over-Fiber and Baseband Signals," *IEEE Photonics Technology Letters,* vol. 20, pp. 1814-1816, 2008.

Journals 2007

[1] N. Calabretta, G. C. Kassar, and I. **Tafur Monroy**, "Demonstration of RF oscillator-free radio-over-fibre system by all optically processing received wireless signal," *Electronic Letters,* vol. 43, pp. 1225-1226, 2007.
[2] J. B. Jensen, I. **Tafur Monroy**, R. Kjaer, and P. Jeppesen, "Reflective SOA re-modulated 20 Gbit/s RZ-DQPSK over distributed Raman amplified 80 km long reach PON link," *Optics Express,* vol. 15, pp. 5376-5381, 2007.
[3] H. D. Jung, I. **Tafur Monroy**, A. M. J. Koonen, and E. Tangdiongga, "All-optical Data Vortex node using an MZI-SOA switch array," *IEEE Photonics Technology Letters,* vol. 19, pp. 1777-1779, 2007.

[4] R. Kjaer, I. **Tafur Monroy**, L. K. Oxenlowe, P. Jeppesen, and B. Palsdottir, "Impairments due to burst-mode transmission in a Raman-Based long-reach PON link," *IEEE Photonics Technology Letters,* vol. 19, pp. 1490-1492, Sep-Oct 2007.

[5] A. M. J. Koonen, N. Yan, J. J. V. Olmos, I. **Tafur Monroy**, C. Peucheret, E. Van Breusegem, *et al.*, "Label-controlled optical packet routing-technologies and applications," *IEEE Journal of Selected Topics in Quantum Electronics,* vol. 13, pp. 1540-1550, Sep-Oct 2007.

[6] I. **Tafur Monroy**, S. J. Kim, C. Peucheret, and P. Jeppesen, "Wavelength shift keying modulation up to 35 Gb/s with wavelength tone reuse to multiplex two 40 Gb/s DPSK signals," *Optical Fiber Technology,* vol. 13, pp. 13-17, Jan 2007.

[7] N. Yan, E. Tangdiongga, H. D. Jung, I. **Tafur Monroy**, H. de Waardt, and A. M. J. Koonen, "Regenerative all-optical wavelength multicast for next generation WDM network and system applications," *Photonic Network Communications,* vol. 15, pp. 1-6, Feb 2008.

[8] N. Yan, A. Teixeira, T. Sllveira, G. M. T. Beleffi, F. Curtl, D. Forin,.,I. **Tafur Monroy**, "Theoretical and experimental performance evaluation of all-optical multiwavelength conversion by four-wave mixing in fiber at 10/20/40 Gb/s for optical layer multicast," *Microwave and Optical Technology Letters,* vol. 49, pp. 1067-1071, 2007.

[9] I. **Tafur Monroy**, and J. Seoane, A method and a device for detection of a first signal superimposed on a second signal, DE602008004892D1, EP2127103A1, EP2127103B1, US8428464, US20100142963, WO2008110169A1, 2007.

Journals 2006

[1] R. Geldenhuys, Z. Wang, N. Chi, I. **Tafur Monroy**, A. M. J. Koonen, H. J. S. Dorren, *et al.*, "Time-slot interchanging using the crosspoint switch and a recirculating buffer," *Microwave and Optical Technology Letters,* vol. 48, pp. 897-900, 2006.

[2] I. **Tafur Monroy**, J. J. V. Olmos, M. G. Larrode, T. Koonen, and C. D. Jimenez, "In-band 16-QAM and multi-carrier SCM modulation to label DPSK payload signals for IP packet routing," *Optics Express,* vol. 14, pp. 1000-1005, Feb 6 2006.

[3] I. **Tafur Monroy**, F. Ohman, K. Yvind, L. J. Christiansen, J. Mork, C. Peucheret, *et al.*, "Monolithically integrated reflective SOA-EA carrier re-modulator for broadband access nodes," *Optics Express,* vol. 14, pp. 8060-8064, Sep 4 2006.

[4] O. M. Diaz, J. Prat, I. **Tafur Monroy**, and H. de Waardt, "PMD characterization of a dispersion managed link up to the second- order with high accuracy," *Optical and Quantum Electronics,* vol. 38, pp. 575-582, 2006.

[5] J. J. V. Olmos, N. Chi, I. **Tafur Monroy**, A. M. J. Koonen, and S. Yu, "Time and wavelength domain contention resolution in an optical packet routing node," *Microwave and Optical Technology Letters,* vol. 48, pp. 1728-1729, 2006.

[6] J. J. V. Olmos, I. **Tafur Monroy**, and A. M. J. Koonen, "All-optical label and payload separator for a time-serial RZ-IM/IM scheme," *Ieee Photonics Technology Letters,* vol. 18, pp. 496-498, Jan-Feb 2006.

[7] J. J. V. Olmos, I. **Tafur Monroy**, M. G. Larrodé, and A. M. J. Koonen, "All-optical processing of time-serial IM/DPSK encoded label and payload packets," *IEEE Journal on Selected Topics in Quantum Electronics,* vol. 12, pp. 679-684, 2006.

[8] J. J. V. Olmos, N. Chi, G. Zervas, D. Simeonidou, S. Yu, I. **Tafur Monroy**, *et al.*, "Optical node with time-space-and-wavelength domain contention resolution, deflection and dropping capability," *Optics Express,* vol. 14, pp. 11545-11550, Nov 27 2006.

[9] J. J. V. Olmos, I. **Tafur Monroy**, J. P. A. van Berkel, E. V. M. Verdurmen, J. G. L. Jennen, and A. M. J. Koonen, "On intranode impairments and engineering rules for an optical label switching router supporting an FSK/IM labeling scheme," *Journal of Lightwave Technology,* vol. 24, pp. 3322-3333, Sep 2006.

[10] V. Polo, J. Prat, J. J. Vegas Olmos, I. **Tafur Monroy**, and A. M. J. Koonen, "All-optical FSK-WDM to intensity modulation-OTDM transmultiplexing for access passive optical networks," *Journal of Optical Networking,* vol. 5, pp. 739-746, 2006.

[11] I. **Tafur Monroy**, E. Van Breusegem, T. Koonen, J. J. V. Olmos, J. Van Berkel, J. Jennen, *et al.,* Optical label switched networks: Laboratory trial and network emulator in the IST-STOLAS project. *IEEE Communications Magazine*, pp 43-50, 2006.

[12] I. **Tafur Monroy**, E. van Breusegem, T. Koonen, J. J. V. Olmos, J. van Berkel, J. Jennen, *et al.*, "Wavelength shift keying modulation up to 35 Gb/s with wavelength tone reuse to multiplex two 40 Gb/s DPSK signals," *Optical Fiber Technology,* vol. 13, 2006.

Journals 2005

[1] R. Geldenhuys, Z. Wang, N. Chi, I. **Tafur Monroy**, A. M. J. Koonen, H. J. S. Dorren, F. W. Leuschner, G. D. Khoe, and S. Yu, "Multiple recirculations through Crosspoint switch fabric for recirculating optical buffering," *Electronics Letters,* vol. 41, no. 20, pp. 1136-1138, 2005.

[2] J. J. V. Olmos, I. **Tafur Monroy**, J. P. Turkiewicz, N. Calabretta, H. J. S. Dorren, and A. M. J. Koonen, "Asynchronous all-optical label extraction in a time-serial IM/DPSK scheme supporting variable packet-length operation," *Microwave and Optical Technology Letters,* vol. 46, no. 5, pp. 453-454, 2005.

[3] J. J. V. Olmos, I. **Tafur Monroy**, J. P. Turkiewicz, Y. Liu, and A. M. J. Koonen, "Self-controlled all-optical label and payload separator for variable length bursts in a time-serial IM/DPSK scheme," *IEEE Photonics Technology Letters,* vol. 17, no. 8, pp. 1692-1694, 2005.

[4] F. Ramos, E. Kehayas, J. M. Martinez, R. Clavero, J. Marti, L. Stampoulidis, D. Tsiokos, H. Avramopoulos, J. Zhang, P. V. Holm-Nielsen, N. Chi, P. Jeppesen, N. Yan, I. **Tafur Monroy**, A. M. J. Koonen, M. T. Hill, Y. Liu, H. J. S. Dorren, R. Van Caenegem, D. Colle, M. Pickavet, and B. Riposati, "IST-LASAGNE: Towards all-optical label swapping employing optical logic gates and optical flip-flops," *Journal of Lightwave Technology,* vol. 23, no. 10, pp. 2993-3011, 2005.

Journals 2004

[1] I. de Miguel, J. C. Gonzalez, T. Koonen, R. Duran, P. Fernandez, and I. **Tafur Monroy**, "Polymorphic architectures for optical networks and their seamless evolution towards next generation networks," *Photonic Network Communications,* vol. 8, pp. 177-189, Sep 2004.

[2] I. **Tafur Monroy**, J. J. V. Olmos, A. M. J. Koonen, F. M. Huijskens, H. de Waardt, and G. D. Khoe, "Optical label switching by using differential phase shift keying and in-band subcarrier multiplexing modulation format," *Optical Engineering,* vol. 43, pp. 1476-1477, Jul 2004.

[3] A. Ng'oma, I. **Tafur Monroy**, J. J. V. Olmos, T. Koonen, and G. D. Khoe, "Frequency up-conversion in multimode fiber-fed broadband wireless networks by using agile tunable laser source," *Microwave and Optical Technology Letters,* vol. 41, pp. 28-30, Apr 2004.

[4] A. Ng'oma, A. Koonen, I. **Tafur Monroy**, H. Van der Boom, P. Smulders, G. Khoe, *et al.*, "Optical frequency up-conversion in multimode and single-mode fibre radio systems," *Microwave and Terahertz Photonics,* vol. 5466, pp. 169-177, 2004 2004.

[5] J. J. V. Olmos, I. **Tafur Monroy**, Y. Liu, M. G. Larrode, J. Turkiewicz, H. J. S. Dorren, *et al.*, "Asynchronous, self-controlled, all-optical label and payload separator using nonlinear polarization rotation in a semiconductor optical amplifier," *Optics Express,* vol. 12, pp. 4214-4219, 2004.

[6] J. J. V. Olmos, I. **Tafur Monroy**, F. M. Huijskens, and A. M. J. Koonen, "In-band time-to-live signaling system for combined DPSK/SCM scheme in OLS," *IEEE Photonics*

Technology Letters, vol. 16, pp. 2386-2388, 2004.
[7] J. J. V. Olmos, J. Zhang, P. V. Holm-Nielsen, I. **Tafur Monroy**, V. Polo, A. M. J. Koonen, *et al.*, "Simultaneous optical label erasure and insertion in a single wavelength conversion stage of combined FSK/IM modulated signals," *IEEE Photonics Technology Letters,* vol. 16, pp. 2144-2146, 2004.
[8] I. **Tafur Monroy**, E. J. M. Verdurmen, S. Sulur, A. M. J. Koonen, H. De Waardt, G. D. Khoe, *et al.*, "Performance of a SOA-MZI wavelength converter for label swapping using combined FSK/IM modulation format," *Optical Fiber Technology,* vol. 10, pp. 31-49, 2004.
[9] I. **Tafur Monroy**, J. J. V. Olmos, A. M. J. Koonen, F. M. Huijskens, H. de Waardt, and G. D. Khoe, "Optical label switching by using differential phase shift keying and in-band subcarrier multiplexing modulation format," *Optical Engineering,* vol. 43, pp. 1476-1477, Jul 2004.

Journals 2003

[1] N. Chi, J. F. Zhang, P. V. Holm-Nielsen, L. Xu, I. **Tafur Monroy**, C. Peucheret, *et al.*, "Experimental demonstration of cascaded transmission and all-optical label swapping of orthogonal IM/FSK labelled signal," *Electronics Letters,* vol. 39, pp. 676-678, Apr 17 2003.
[2] T. Koonen, A. Ng'oma, P. Smulders, H. Van den Boom, I. **Tafur Monroy**, and G. D. Khoe, "In-House Networks Using Multimode Polymer Optical Fiber for Broadband Wireless Services," *Photonic Network Communications,* vol. 5, pp. 177-187, 2003.
[3] J. J. V. Olmos, I. **Tafur Monroy**, A. M. J. Koonen, and Y. L. Yu, "High bit-rate combined FSK/IM modulated optical signal generation by using GCSR tunable laser sources," *Optics Express,* vol. 11, pp. 3136-3140, Nov 2003.
[4] I. **Tafur Monroy**, H. P. A. Vd Boom, A. M. J. Koonen, G. D. Khoe, Y. Watanabe, Y. Koike, *et al.*, "Data transmission over polymer optical fibers," *Optical Fiber Technology,* vol. 9, pp. 159-171, 2003.
[5] J. J. Vegas Olmos, I. **Tafur Monroy**, and A. M. J. Koonen. (2003) Técnicas de etiquetado de señales ópticas en redes de conmutación de ráfagas. *IEEE Buran*. 28-31. Available: http://hdl.handle.net/2099/9979
[6] K. G. Vlachos, I. **Tafur Monroy**, A. M. J. Koonen, C. Peucheret, and P. Jeppesen, STOLAS: Switching Technologies for Optically Labeled Signals. *IEEE Communications Magazine*. S9-S15, 2003
[7] K. Vlachos, J. Zhang, J. Cheyns, Sulur, N. Chi, E. Van Breusegem, *et al.*, "An Optical IM/FSK Coding Technique for the Implementation of a Label-Controlled Arrayed Waveguide Packet Router," *Journal of Lightwave Technology,* vol. 21, pp. 2617-2628, 2003.

Journals 2001

[1] H. P. A. Boom, B. van de, P. K. van, I. **Tafur Monroy**, and G. D. Khoe, "High-capacity transmission over polymer optical fiber," *IEEE Journal of Selected Topics in Quantum Electronics,* vol. 7, p. 461, 2001.
[2] I. **Tafur Monroy**, "On analytical expressions for the distribution of the filtered output of square envelope receivers with signal and colored Gaussian noise input," *IEEE Transactions on Communications,* vol. 49, pp. 19-23, 2001.

Journals 2000

[1] I. **Tafur Monroy**, "Scalability of Optical Networks: Crosstalk Limitations," *Photonic*

Network Communications, vol. 2, no. 2, pp. 111-121, 2000.
[2] I. **Tafur Monroy**, and G. Hooghiemstra, "On a recursive formula for the moments of phase noise," *IEEE Transactions on Communications,* vol. 48, no. 6, pp. 917-920, 2000.
[3] I. **Tafur Monroy**, E. Tangdiongga, R. Jonker, and H. De Waardt, "Interferometric Crosstalk Reduction by Phase Scrambling," *IEEE Journal of Lightwave Technology,* vol. 18, no. 5, pp. 637-645, 2000.
[4] E. Tangdiongga, I. **Tafur Monroy**, R. Jonker, and H. De Waardt, "Experimental Evaluation of Optical Crosstalk Mitigation Using Phase Scrambling," *IEEE Photonics Technology Letters,* vol. 12, no. 5, pp. 567-569, 2000.

Journals 1999

[1] H. J. S. Dorren, H. De Waardt, and I. **Tafur Monroy**, "Statistical analysis of crosstalk accumulation in WDM networks," *IEEE Journal of Lightwave Technology,* vol. 17, no. 12, pp. 2425-2430, 1999.
[2] G. Einarsson, and I. **Tafur Monroy**, "Error rate analysis of optical receivers with Fabry-Perot optical filter and equalizing postdetection filtering," *Journal of Optical Communications,* vol. 20, no. 6, pp. 222-227, 1999.
[3] I. **Tafur Monroy**, "Optically preamplified receiver with low quantum limit," *Electronics Letters,* vol. 35, no. 14, pp. 1182-1183, 1999.
[4] I. **Tafur Monroy**, E. Tangdiongga, and H. De Waardt, "On the distribution and performance implications of filtered interferometric crosstalk in optical WDM networks," *IEEE Journal of Lightwave Technology,* vol. 17, no. 6, pp. 989-997, 1999.
[5] I. **Tafur Monroy**, E. Tangdiongga, and H. De Waardt, "Performance of Optically Preamplified Receivers in WDM Systems Disturbed by Interferometric Crosstalk," *Photonic Network Communications,* vol. 1, no. 4, pp. 313-322, 1999.

Journals 1998

[1] H. J. S. Dorren, H. De Waardt, and I. **Tafur Monroy,** "Statistical analysis of crosstalk accumulation in WDM networks," *IEEE Journal of Lightwave Technology,* vol. 17, no. 12, pp. 2425-2430, 1999.
[2] G. Einarsson, and I. **Tafur Monroy**, "Error rate analysis of optical receivers with Fabry-Perot optical filter and equalizing postdetection filtering," *Journal of Optical Communications,* vol. 20, no. 6, pp. 222-227, 1999.
[3] I. **Tafur Monroy**, "Optically preamplified receiver with low quantum limit," *Electronics Letters,* vol. 35, no. 14, pp. 1182-1183, 1999.
[4] I. **Tafur Monroy**, E. Tangdiongga, and H. De Waardt, "On the distribution and performance implications of filtered interferometric crosstalk in optical WDM networks," *IEEE Journal of Lightwave Technology,* vol. 17, no. 6, pp. 989-997, 1999.
[5] I. **Tafur Monroy**, E. Tangdiongga, and H. De Waardt, "Performance of Optically Preamplified Receivers in WDM Systems Disturbed by Interferometric Crosstalk," *Photonic Network Communications,* vol. 1, no. 4, pp. 313-322, 1999.
[6] I. **Tafur Monroy**, E. Tangdiongga, "Performance evaluation of optical cross-connects by saddlepoint approximation," in *Lightwave Technology, Journal of* , vol.16, no.3, pp.317-323, Mar 1998. doi: 10.1109/50.661356

Journals 1997

[1] I. **Tafur Monroy**, "Redes opticas de telecomunciaciones-Interferencia en los nodos de interconexion," *Revista Colombiana de Telecomunicaciones,* vol. 4, pp. 54-57, 1997.

[2] I. **Tafur Monroy** and G. Einarsson, "Bit error evaluation of optically preamplified direct detection receivers with Fabry-Perot optical filters," *IEEE Journal of Lightwave Technology,* vol. 15, pp. 1546-1553, 1997.

Journals 1995

[1] G. Einarsson, J. Strandberg, and I. **Tafur Monroy**, "Error probability evaluation of optical systems disturbed by phase noise and additive noise," *IEEE Journal of Lightwave Technology,* vol. 13, pp. 1847-1852, 1995.

Idelfonso Tafur Monroy
Monographs

Monographs and Patents

[1] I. **Tafur Monroy**, Calculation of a Coherent fiber optic communication system with EDFA as regenerator: In Russian: Raschet KVOSPI s EDFA v kachestve linieinogo regeneratora, M.Sc. Thesis. Bonch-Bruevitch Institute of Telecommunications, St. Petersburg, Russia, June 4, 1992., 1992.

[2] I. **Tafur Monroy**, Performance Analysis of Optically Preamplified Direct Detection Receivers: Thesis, Royal Institute of Technology, Stockholm, April 30, 1996.

[3] I. **Tafur Monroy**, "Performance evaluation of optical communication networks," Electrical Engineering, Eindhoven University of Technology, PhD Thesis, 1999.

Patents

[1] I. Tafur Monroy, and J. Seoane, *A method and a device for detection of a fisrt signal superimposed on a second signal*, DE602008004892D1, EP2127103A1, EP2127103B1, US8428464, US20100142963, WO2008110169A1, 2008.

Idelfonso Tafur Monroy
Conference proceedings

Conferences 2016

[1] B.-M. Andrus, A. Autenrieth, S. Pachnicke, J. J. Vegas Olmos, and **I. Tafur Monroy**, "Live Migration Downtime Analysis of a VNF Guest for a Proposed Optical FMC Network Architecture," 2016.

[2] U. Armendariz, S. Rommel, J. S. Rodríguez Páez, **I. Tafur Monroy**, J. J. Vegas Olmos, and C. B. Olsen, "Additive manufacturing of Ka-band antennas for wireless communications," 2016.

[3] U. Armendariz, S. Rommel, J. S. Rodríguez Páez, **I. Tafur Monroy**, J. J. Vegas Olmos, and C. B. Olsen, "Evaluation and Performance Analysis of 3D Printing Technique for Ka-Band Antenna Production," 2016.

[4] Ł. Chorchos, S. Rommel, J. P. Turkiewicz, **I. Tafur Monroy**, and J. J. Vegas Olmos, "Remote Access Unit for Optic-to-Wireless Conversion," 2016.

[5] Ł. Chorchos, J. P. Turkiewicz, S. Rommel, **I. Tafur Monroy**, J. J. Vegas Olmos, and S. Spolitis, "W-Band Real-Time Transmission Utilizing a Reconfigurable RAU for NG-PON Networks," 2016.

[6] B. Cimoli, G. S. Valdecasa, A. B. Granja, J. B. Jensen, **I. Tafur Monroy**, T. K. Johansen, and J. J. Vegas Olmos, "An Ultra-Wideband Schottky Diode Based Envelope Detector for 2.5 Gbps signals," 2016.

[7] I. F. da Costa, J. S. Rodríguez Páez, J. J. Vegas Olmos, R. Puerta Ramírez, A. Cerqueira S. Jr, L. G. da Silva, D. H. Spadoti, and **I. Tafur Monroy**, "Photonic Downconversion and Optically Controlled Reconfigurable Antennas in mm-waves Wireless Networks," *Proceedings of 2016 Optical Fiber Communication Conference and Exhibition*, 2016.

[8] I. da Costa, A. Cerqueira Sodre Jr, L. Gustavo da Silva, J. J. Vegas Olmos, D. Henrique Spadoti, and **I. Tafur Monroy**, "Optically controlled reconfigurable antenna for 5G future broadband cellular communication networks."

[9] N. Eiselt, A. Dochhan, H. Griesser, M. Eiselt, J. J. Vegas Olmos, and **I. Tafur Monroy**, "Experimental Comparison of 56 Gbit/s PAM-4 and DMT for Data Center Interconnect Applications," 2016.

[10] N. Eiselt, H. Griesser, J. Wei, A. Dochhan, M. Eiselt, J.-P. Elbers, J. J. Vegas Olmos, and **I. Tafur Monroy**, "Real-Time Evaluation of 26-GBaud PAM-4 Intensity Modulation and Direct Detection Systems for Data-Center Interconnects," *Proceedings of Optical Fiber Communications 2016,* 2016.

[11] N. Eiselt, J. J. Vegas Olmos, and **I. Tafur Monroy**, "Digital Signal Processing for 100G/400G Optical Fiber Connectivity Links."

[12] N. Eiselt, J. Wei, H. Griesser, A. Dochhan, M. Eiselt, J.-P. Elbers, J. J. Vegas Olmos, and **I. Tafur Monroy**, "First Real-Time 400G PAM-4 Demonstration for Inter-Data Center Transmission over 100 km of SSMF at 1550 nm," 2016.

[13] J. M. Estaran Tolosa, M. A. Mestre, P. Jenneve, H. Mardoyan, **I. Tafur Monroy**, D. Zibar, and S. Bigo, "Coherent optical orthogonal frequency-division multiplexing for optical slot switched intra-datacenters networks," IEEE, 2015.

[14] A. Fernández Martín, J. J. Vegas Olmos, V. Mehmeri, and **I. Tafur Monroy**, "Current status on research in Photonic Systems for next generation network."

[15] E. P. Grakhova, S. Rommel, A. Jurado-Navas, A. K. Sultanov, J. J. Vegas Olmos, and **I. Tafur Monroy**, "Pulse Shaping for High Capacity Impulse Radio Ultra-Wideband Wireless Links Under the Russian Spectral Emission Mask," IEEE, 2016.

[16] A. Jurado-Navas, T. R. Raddo, A. L. Sanches, J. M. Garrido-Balsellss, B.-H. V. Borges, J. J. Vegas Olmos, and **I. Tafur Monroy**, "Asynchronous Free-Space Optical CDMA

Communications System for Last-mile Access Network," Optical Society of America, 2016.
[17] V. S. Lyubopytov, A. Tatarczak, X. Lu, R. V. Kutluyarov, S. Rommel, A. K. Sultanov, and **I. Tafur Monroy**, "Analysis of Optical Fiber Complex Propagation Matrix on the Basis of Vortex Modes," IEEE, 2016.
[18] V. S. Lyubopytov, A. Tatarczak, X. Lu, R. V. Kutluyarov, S. Rommel, A. K. Sultanov, and **I. Tafur Monroy**, "Optical-domain Compensation for Coupling between Optical Fiber Conjugate Vortex Modes," Optical Society of America, 2016.
[19] V. Mehmeri, J. J. Vegas Olmos, and **I. Tafur Monroy**, "Software architecture for hybrid electrical/optical data center network," IEEE, 2016, pp. 133-137.
[20] R. Puerta Ramírez, M. Agustin, L. Chorchos, J. Toński, J. R. Kropp, N. Ledentsov Jr, V. A. Shchukin, N. N. Ledentsov, R. Henker, **I. Tafur Monroy**, J. J. Vegas Olmos, and J. P. Turkiewicz, "107.5 Gb/s 850 nm multi- and single-mode VCSEL transmission over 10 and 100 m of multi-mode fiber," Optical Society of America, 2016.
[21] R. Puerta Ramírez, S. Rommel, J. J. Vegas Olmos, and **I. Tafur Monroy**, "10Gb/s Ultra-Wideband Wireless Transmission Based on Multi-Band Carrierless Amplitude Phase Modulation," IEEE, 2016.
[22] R. Puerta Ramírez, S. Rommel, J. J. Vegas Olmos, and **I. Tafur Monroy**, "Up to 35 Gbps Ultra-Wideband Wireless Data Transmission Links," IEEE, 2016.
[23] R. Puerta Ramírez, J. J. Vegas Olmos, and **I. Tafur Monroy**, "35 Gb/s Ultra-wideband Technology for Advanced Communications," 2016.
[24] R. Puerta Ramírez, J. J. Vegas Olmos, **I. Tafur Monroy**, and J. P. Turkiewicz, "Adaptive MultiCAP modulation for short range VCSEL based transmissions," Optical Society of America, 2016.
[25] T. R. Raddo, A. L. Sanches, **I. Tafur Monroy**, and B. H. V. Borges, "Multirate IP traffic transmission in flexible access networks based on optical FFH-CDMA," IEEE, 2016.
[26] T. R. Raddo, A. L. Sanches, **I. Tafur Monroy**, and B. H. V. Borges, "Packet throughput performance of multiservice, multirate OCDMA in elastic networks," IEEE, 2016.
[27] S. Rommel, B. Cimoli, G. S. Valdecasa, J. B. Jensen, T. K. Johansen, J. J. Vegas Olmos, and **I. Tafur Monroy**, "Ultra Wideband Signal Detection with a Schottky Diode Based Envelope Detector," 2016.
[28] S. Rommel, J. S. Rodríguez Páez, Ł. Chorchos, E. P. Grakhova, A. K. Sultanov, J. P. Turkiewicz, J. J. Vegas Olmos, and **I. Tafur Monroy**, "225m Outdoor W-Band Radio-over-Fiber Link Using an Optical SFP+ Module," IEEE, 2016.
[29] S. Rommel, J. J. Vegas Olmos, and **I. Tafur Monroy**, "15Gbit/s Duobinary Transmission Over a W-Band Radio-over-Fiber Link," IEEE, 2016.
[30] S. Rommel, J. J. Vegas Olmos, and **I. Tafur Monroy**, "mm-Wave Hybrid Photonic Wireless Links for Ultra-High Speed Wireless Transmissions."
[31] A. R. Salazar, S. Rommel, E. Anufriyev, J. J. Vegas Olmos, and **I. Tafur Monroy**, "Convergence of Photonics and Electronics for Terahertz Wireless Communications," 2016.
[32] A. R. Salazar, S. Rommel, E. Anufriyev, **I. Tafur Monroy**, and J. J. Vegas Olmos, "Rapid Prototyping by 3D Printing for Advanced Radio Communications at 80 GHz and Above," 2016.
[33] L. F. Suhr, **I. Tafur Monroy**, and J. J. Vegas Olmos, "FMWC Radar for Breath Detection," 2016.
[34] L. F. Suhr, **I. Tafur Monroy**, and J. J. Vegas Olmos, "Ultra-Wideband Radar for Breath Tracking with Optical Fiber for Remote Reach Extension," 2016.
[35] **I. Tafur Monroy**, "Convergence of photonics and electronics for Terahertz wireless communications – the ITN CELTA project," 2016.
[36] J. J. Vegas Olmos, A. Astorino, J. S. Rodríguez Páez, S. Rommel, and **I. Tafur Monroy**, "Optical Components for Reconfigurable Photonic Networks and Mobile Systems," 2016.
[37] J. J. Vegas Olmos, R. Puerta Ramírez, and **I. Tafur Monroy**, "Secure Multi-Gigabit Ultra-Wide Band Communications for Personal Area Networks," IEEE, 2016.

[38] C. Wagner, M. Eiselt, K. Grobe, J. L. Wei, J. J. Vegas Olmos, and **I. Tafur Monroy**, "Evaluation of Crosstalk Attacks in Access Networks," 2016.

[39] C. Wagner, M. Eiselt, S. Zou, M. Lawin, B. Teipen, K. Grobe, J. J. Vegas Olmos, and **I. Tafur Monroy**, "Wavelength-agnostic WDM-PON System," IEEE, 2016.

Conferences 2015

[1] B.-M. Andrus, O. Mihai Poncea, J. J. Vegas Olmos and I. **Tafur Monroy**, "Performance evaluation of two highly interconnected data center networks", in Transparent Optical Networks (ICTON), 2015 17th International Conference on, pp. 1-4, 2015.

[2] B.-M. Andrus, I**. Tafur Monroy** and J. J. Vegas Olmos, "Software defined optics and networking for large scale data centers", 2015.

[3] B.-M. Andrus and J. J. Vegas Olmos,I. **Tafur Monroy,** "Data center network performance evaluation in ns3", in Proceedings of ICTON 2015, 2015.

[4] B.-M. Andrus, J. J. Vegas Olmos, V. Mehmeri, I**. Tafur Monroy**, S. Spolitis and V. Bobrovs, "Sdn data center performance evaluation of torus and hypercube interconnecting schemes", in Proceedings of IEEE Advances in Wireless and Optical Communications, IEEE Press, 2015.

[5] B. Cimoli, J. M. Estaran Tolosa, G. A. Rodes Lopez, A. Tatarczak, J. J. Vegas Olmos and I. **Tafur Monroy**, "100g wdm transmission over 100 meter multimode fiber", 2015.

[6] N. Eiselt, H. Griesser, A. Dochhan, M. Eiselt, J. J. Vegas Olmos and I. **Tafur Monroy**, "Digital signal processing for 100g/400g optical fiber connectivity links", 2015.

[7] N. Eiselt, H. Griesser, A. Dochhan, M. Eiselt, J. J. Vegas Olmos and I. **Tafur Monroy**, "Experimental investigation and comparison of different equalizers for four level pulse amplitude modulation", in Photonische Netze, pp. 140-144, 2015.

[8] M. Iglesias Olmedo, X. Pang, M. Piels, R. Schatz, G. Jacobsen, S. Popov, I. **Tafur Monroy** and D. Zibar, "Carrier recovery techniques for semiconductor laser frequency noise for 28 gbd dp-16qam", in Proceedings of the 2015 Optical Fiber Communications Conference and Exhibition, pp. 1-3, IEEE, 2015.

[9] M. Iglesias Olmedo, X. Pang, R. Schatz, D. Zibar, **I. Tafur Monroy**, G. Jacobsen and S. Popov, "Digital signal processing approaches for semiconductor phase noise tolerant coherent transmission systems", in Proceedings of the SPIE, SPIE - International Society for Optical Engineering, 2015.

[10] E. Inga, A. Peralta-Sevilla, R. Hincapié, F. Amaya-Fernandez and I. **Tafur Monroy**, "Optimal dimensioning of fiwi networks over advanced metering infrastructure for the smart grid", in Proceedings of ISGT-LA 2015, IEEE, 2015.

[11] J. B. Jensen, R. Rodes, N. Cheng and I. **Tafur Monroy**, "Vcsels for coherent pon", in Proceedings of Optical Fiber Communications Conference and Exhibition 2015, IEEE, 2015.

[12] X. Lu, A. Tatarczak, S. Rommel, J. S. Rodriguez Páez, J. J. Vegas Olmos and I. **Tafur Monroy**, "Microwave photonics technologies supporting high capacity and flexible wireless communications systems", 2015.

[13] X. Lu, A. Tatarczak, S. Rommel, J. S. Rodríguez Páez, J. J. Vegas Olmos and I. **Tafur Monroy**, "Microwave photonics technologies supporting high capacity and flexible wireless communications systems", in Asia Communications and Photonics Conference 2015, Optical Society of America, 2015.

[14] P. Madsen, L. F. Suhr, L. C. P. Cavalcante, J. J. Vegas Olmos and I. **Tafur Monroy**, "Rfid-over-fiber system for agricultural exploitations - wireless track and trace with range extension using optical fiber", in Proceedings of 2015 IEEE International Topical Meeting on Microwave Photonics, IEEE, 2015.

[15] P. Madsen, L. F. Suhr, J. J. Vegas Olmos and I**. Tafur Monroy**, "Long reach rfid-over-fiber distribution and collection network", 2015.

[16] V. Mehmeri, B.-M. Andrus, I. **Tafur Monroy** and J. J. Vegas Olmos, "Software defined optics and networking for large scale data centers", 2015.
[17] V. Mehmeri, J. J. Vegas Olmos and **I. Tafur Monroy**, "Capacity extension of software defined data center networks with jellyfish topology", 2015.
[18] M. Piels, I. **Tafur Monroy** and D. Zibar, "Laser characterization with advanced digital signal processing", in Proceedings of the SPIE, SPIE - International Society for Optical Engineering, 2015.
[19] M. Piels, W. Xue, C. G. Schäffer, Y. Yu, E. Semenova, L. Ottaviano, K. Yvind, **I. Tafur Monroy**, J. Mørk and D. Zibar, "Highly sensitive photonic crystal cavity laser noise measurements using bayesian filtering", in Proceedings of 2015 Optical Fiber Communications Conference and Exhibition, IEEE, 2015.
[20] R. Puerta Ramírez, A. Tatarczak, B. Cimoli, J. M. Estaran Tolosa, J. J. Vegas Olmos and I. Tafur Monroy, "Advanced functionalities in optical data links", 2015.
[21] T. R. Raddo, A. L. Sanches, B. H. V. Borges and I. **Tafur Monroy,** "Throughput performance analysis of multirate, multiclass s-aloha offh-cdma packet networks", in 17th International Conference on Transparent Optical Networks, IEEE, 2015.
[22] S. Rommel, L. C. P. Cavalcante, J. J. Vegas Olmos and I. **Tafur Monroy**, "Low rf complexity photonically enabled indoor and building-to-building w-band wireless link", 2015.
[23] S. Rommel, L. C. P. Cavalcante, J. J. Vegas Olmos and I. **Tafur Monroy**, "Microwave photonics techniques supporting flexible wireless communications links", 2015.
[24] S. Rommel, L. C. P. Cavalcante, J. J. Vegas Olmos, I. **Tafur Monroy** and A. K. Mishra, "Requirements for bend insensitive fiber in millimeter-wave fronthaul systems", in 2015 IEEE International Topical Meeting on Microwave Photonics, IEEE, 2015.
[25] S. Rommel, L. C. P. Cavalcante, J. J. Vegas Olmos, I. **Tafur Monroy** and A. G. Quintero, "Channel characterization for high-speed w-band wireless communication links", in 2015 Opto-Electronics and Communications Conference (OECC), pp. 1-3, IEEE, 2015.
[26] S. Rommel, L. C. P. Cavalcante, J. J. Vegas Olmos, I. **Tafur Monroy** and A. G. Quintero, "Channel characterization for high-speed w-band wireless links", in Proceedings of OECC 2015, 2015.
[27] S. Rommel, M. Heck, J. J. Vegas Olmos and I. **Tafur Monroy,** "Mm-wave wireless communications based on silicon photonics integrated circuits", 2015.
[28] S. Rommel, J. J. Vegas Olmos and I. **Tafur Monroy**, "Silicon photonics integrated circuits for 5th generation mm-wave wireless communications", 2015.
[29] S. Rommel, L. Yi, M. Shi, I. Tafur Monroy and J. J. Vegas Olmos, "Demonstration of 4gbit/s duobinary ka-band hybrid photonic-wireless transmission", 2015.
[30] S. Saldaña Cercos, G. E. R. de Paiva, M. C. Argentato, J. R. Oliveira, A. M. Fagertun and **I. Tafur Monroy,** "Empirical multichannel power consumption model for erbium-doped fiber amplifiers", in Proceedings of 2015 International Conference on Photonics in Switching, pp. 142-144, IEEE, 2015.
[31] S. Saldaña Cercos, R. M. Ramos, A. C. E. Eller, M. Martinello, M. R. N. Ribeiro, A. M. Fagertun and I. **Tafur Monroy**, "Design of a stateless low-latency router architecture for green software-defined networking", in Proceedings of SPIE, SPIE - International Society for Optical Engineering, 2015.
[32] S. Saldaña Cercos, C. Wagner, J. J. Vegas Olmos, A. M. Fagertun and I. **Tafur Monroy**, "Digital signal processing for a sliceable transceiver for optical access networks", in Proceedings of ISCC 2015, IEEE, 2015.
[33] S. Spolitis, V. Bobrovs, C. Wagner, J. J. Vegas Olmos and I. **Tafur Monroy**, "Towards bandwidth scalable transceiver technology for optical metro-access networks", in Proceedings of IEEE Advances in Wireless and Optical Communications, IEEE Press, 2015.
[34] A. Stöhr, S. Babiel, M. Chuenchom, M. Steeg, J. Mitchell, C. Renaud, M. Thakur, F. van Dijk, A. Steffan, M. O'Keefe, Y. Leiba, P. Polis, P. Parol, J. J. Vegas Olmos and I. **Tafur**

Monroy, "Integrated coherent radio-over-fiber units for millimeter-wave wireless access", in Proceedings of SPIE, SPIE - International Society for Optical Engineering, 2015.

[35] L. F. Suhr, I. Lyubomirsky, H. M. Daghighian, C. Kocot, I**. Tafur Monroy** and J. J. Vegas Olmos, "Paper title: Comparing 52 gbps duobinary and 4-pam transmission over 100m om-3 fiber with 25ghz class vcsels", 2015.

[36] L. F. Suhr, J. J. Vegas Olmos, B. Mao, X. Xu, G. N. Liu and I. **Tafur Monroy**, "Direct modulation of 56 gbps duobinary-4-pam", in Proceedings of the Optical Fiber Communication Conference and Exhibition 2015, IEEE, 2015.

[37] L. F. Suhr, J. J. Vegas Olmos and I. Tafur Monroy, "10-gbps duobinary-4-pam for high-performance access network", 2015.

[38] I. **Tafur Monroy**, "Photonic techniques for sub-terahertz wireless data transmission", in Proceedings Advanced Photonics 2015, Optical Society of America, 2015.

[39] I. **Tafur Monroy**, M. Usuga and J. J. Vegas Olmos, "High capacity optical links for datacentre connectivity", 2015.

[40] A. Tatarczak, J. M. Estaran Tolosa, M. Iglesias Olmedo, J. B. Jensen, J. J. Vegas Olmos and I. **Tafur Monroy**, "Advanced digital signal processing for high-speed access networks", in Proceedings of SPIE, SPIE - International Society for Optical Engineering, 2015.

[41] A. Tatarczak, X. Lu, S. Rommel, J. S. Rodriguez Páez, J. J. Vegas Olmos and I. **Tafur Monroy**, "Radio-over-fiber transmission using vortex modes", in 2015 IEEE International Topical Meeting on Microwave Photonics, IEEE, 2015.

[42] A. Tatarczak, M. A. Usuga Castaneda and **I. Tafur Monroy**, "Oam-enhanced transmission for multimode short-range links", in Proceedings of SPIE, ed. A. K. Srivastava, SPIE - International Society for Optical Engineering, 2015.

[43] J. J. Vegas Olmos, M. J. R. Heck and I. **Tafur Monroy**, "Photonic integrated circuits for mmw systems", 2015.

[44] J. J. Vegas Olmos, V. Mehmeri and I. **Tafur Monroy**, "Flexible edge nodes enabled by hybrid software defined optics & networking", 2015.

[45] J. J. Vegas Olmos and I. **Tafur Monroy**, "Millimeter-wave wireless links for 5g mobile networks", 2015.

[46] J. J. Vegas Olmos and **I. Tafur Monroy**, "Reconfigurable radio-over-fiber networks", in Proceedings of the Optical Fiber Communication Conference and Exhibition 2015, IEEE, 2015.

[47] C. Wagner, M. Eiselt, K. Grobe, I. **Tafur Monroy** and J. J. Vegas Olmos, "Evaluation of the impact of coherent and incoherent crosstalk on the performance of wavelength-agnostic wdm-pon systems", in Photonische Netze, pp. 62-66, VDE Verlag, 2015.

[48] C. Wagner, M. Eiselt, K. Grobe, I. **Tafur Monroy** and J. J. Vegas Olmos, "Robust and flexible wavelength division multiplexed optical access networks", 2015.

[49] C. Wagner, P. Madsen, S. Spolitis, J. J. Vegas Olmos and I. **Tafur Monroy**, "Sliceable transponders for metro-access transmission links", in Proceedings of SPIE, ed. A. K. Dutta, SPIE - International Society for Optical Engineering, 2015.

[50] C. Wagner, S. Spolitis, J. J. Vegas Olmos, V. Bobrovs and I. **Tafur Monroy**, "Re-use of low bandwidth equipment for high bit rate transmission using signal slicing technique", 2015.

[51] J. Wei, N. Eiselt, H. Griesser, K. Grobe, M. Eiselt, J. J. Vegas Olmos, I. **Tafur Monroy** and J.-P. Elbers, "First demonstration of real-time end-to-end 40 gb/s pam-4 system using 10-g transmitter for next generation access applications", 2015.

Conferences 2014

[1] R. Borkowski, A. Caballero Jambrina, V. Arlunno, D. Zibar, and I. **Tafur Monroy**, "Robust Cognitive-GN BER Estimator for Dynamic WDM Networks," *Proceedings of European Conference on Optical Communications 2014*, 2014.

[2] R. Borkowski, A. Caballero Jambrina, D. Klonidis, C. Kachris, A. Francescon, I. de Miguel, R. J. D. Barroso, D. Zibar, I. Tomkos, and I. **Tafur Monroy**, "Advanced Modulation Formats in Cognitive Optical Networks: EU project CHRON Demonstration," *OFC 2014*, Optical Society of America, 2014.

[3] J. M. Estaran Tolosa, M. A. U. Castaneda, E. Porto da Silva, M. Piels, M. Iglesias Olmedo, and I. **Tafur Monroy**, "Quad-Polarization Transmission for High-Capacity IM/DD Links," *Proceedings of ECOC 2014*, 2014.

[4] J. M. Estaran Tolosa, M. Iglesias Olmedo, D. Zibar, X. Xu, and I. **Tafur Monroy**, "First Experimental Demonstration of Coherent CAP for 300-Gb/s Metropolitan Optical Networks," *Optical Fiber Communication Conference 2014*, Optical Society of America, 2014.

[5] J. M. Estaran Tolosa, D. Zibar, and I. **Tafur Monroy**, "Capacity and Shaping in Coherent Fiber-Optic Links."

[6] C. Kachris, D. Klonidis, A. Francescon, D. Siracusa, E. Salvadori, R. J. D. Barroso, I. de Miguel, R. Borkowski, A. Caballero Jambrina, I. **Tafur Monroy**, Y. Ye, A. Tymecki, and I. Tomkos, "Experimental Demonstration of a Cognitive Optical Network for Reduction of Restoration Time," *OFC 2014*, Optical Society of America, 2014.

[7] I. **Tafur Monroy**, "Advanced Modulation Techniques for Optical Interconnects," *OSA Technical Digest (online).* p. FTu1B.3.

[8] M. Piels, E. Porto da Silva, J. M. Estaran Tolosa, R. Borkowski, D. Zibar, and I. **Tafur Monroy**, "DSP-Based Focusing over Optical Fiber Using Time Reversal," *Proceedings of ECOC 2014*, 2014.

[9] S. Saldaña Cercos, L. C. Resendo, M. R. N. Ribeiro, A. M. Fagertun, and I. **Tafur Monroy**, "Power-Aware Multi-Layer Translucent Network Design: an Integrated OPEX/CAPEX Analysis," *Optical Fiber Communication Conference*, Optical Society of America, 2014.

[10] D. Siracusa, F. Pederzolli, E. Salvadori, R. L. Cigno, and I. **Tafur Monroy**, "Proactive restoration of slow-failures in optical networks," *Proceedings of 16th International Conference on Transparent Optical Networks*, 2014, pp. 1-4.

[11] L. F. Suhr, J. J. Vegas Olmos, C. Peucheret, and I. **Tafur Monroy**, "Direct modulation and detection link using polybinary signaling," *Proceedings of the OptoElectronics and Communication Conference and Australian Conference on Optical Fibre Technology 2014*, IEEE, 2014, pp. 950-951.

[12] A. Tatarczak, Y. Zheng, G. A. Rodes, J. M. Estaran Tolosa, C.-h. Lin, A. V. Barve, R. Honoré, N. Larsen, L. A. Coldren, and I. **Tafur Monroy**, "30 Gbps Bottom-Emitting 1060nm VCSEL," *Proceedings of ECOC 2014*, 2014.

[13] M. A. Usuga, F. Beltran-Mejia, C. Cordeiro, and I. **Tafur Monroy**, "OAM mode converter in twisted fibers." p. JM5A.4.

[14] J. J. Vegas Olmos, and I. **Tafur Monroy**, "High capacity wireless data links in the W-band using hybrid photonics-electronic techniques for signal generation and detection," *2014 IEEE Radio and Wireless Symposium (RWS 2014)*, IEEE, 2014.

[15] D. Zibar, L. Carvalho, M. Piels, A. Doberstein, J. Diniz, B. Nebendahl, C. Franciscangelis, J. M. Estaran Tolosa, H. Haisch, N. G. Gonzalez, J. F. R. de Oliveira, and I. **Tafur Monroy**, "Bayesian Filtering for Phase Noise Characterization and Carrier Synchronization of up to 192 Gb/s PDM 64-QAM," *Proceedings of ECOC 2014*, 2014.

[16] Othman, MB, Pham, T-T, Deng, L, Jensen, JB &**Tafur Monroy**, I 2014, 'Comparison of carrierless amplitude-phase (CAP) and discrete multitone (DMT) modulation'. in*Proceedings. of 2014 IEEE 5th International Conference on Photonics* . IEEE, pp. 214-216., 10.1109/ICP.2014.7002359

[17] Suhr, LF, Vegas Olmos, JJ, Mao, B, Xu, X, Liu, GN &**Tafur Monroy**, I, 'Direct modulation of 56 Gbps duobinary-4-PAM' Paper presented at 2014 Optical Fiber Communication Conference and Exposition and the National Fiber Optic Engineers Conference, San Francisco, California, United States, 09/03/14 - 13/03/14,

Conferences 2013

[1] R. Borkowski, D. Zibar, A. Caballero Jambrina, V. Arlunno, and I. **Tafur Monroy**, "Optical Modulation Format Recognition in Stokes Space for Digital Coherent Receivers," in OFC/NFOEC Technical Digest, ed: Optical Society of America, 2013, p. OTh3B.3.

[2] L. Deng, X. Pang, X. Zhang, X. Yu, D. Liu, and I. **Tafur Monroy**, "Nonlinearity and Phase Noise Tolerant 75-110 GHz Signal over Fiber System Using Phase Modulation Technique," in Proc. Optical Fiber Communication Conference 2013.

[3] J. M. Estaran Tolosa, D. Zibar, A. Caballero Jambrina, C. Peucheret, and I. **Tafur Monroy**, "Experimental Demonstration of Capacity-Achieving Phase-Shifted Superposition Modulation," in proc. ECOC 2013, paper We.4.D.5.

[4] M. Iglesias Olmedo, Z. Tianjian, J. B. Jensen, Z. Qiwen, X. Xu, and I. **Tafur Monroy**, "Towards 400GBASE 4-lane Solution Using Direct Detection of MultiCAP Signal in 14 GHz Bandwidth per Lane," in Proc. Optical Fiber Communication Conference and Exposition and the National Fiber Optic Engineers Conference, OFC/NFOEC, paper. PDP5C.10.

[5] J. B. Jensen, M. Iglesias Olmedo, and I. **Tafur Monroy**, "Modulation Formats for Beyond100Gbps Ethernet Optical Links – A Review of Research," in proc. ACP/IPOC 2013.

[6] A. Lebedev, X. Pang, J. J. Vegas Olmos, S. Forchhammer, I. **Tafur Monroy**, M. Beltrán, et al., "Fiber-supported 60 GHz mobile backhaul links for access/metropolitan deployment," in 17th International Conference on Optical Network Design and Modeling (ONDM 2013), Brest, France, 2013.

[7] A. Lebedev, X. Pang, J. J. Vegas Olmos, I. **Tafur Monroy**, and S. Forchhammer, "Tunable Photonic RF Generator for Dynamic Allocation and Multicast of 1.25 Gbps Channels in the 60 GHz Unlicensed Band," in International Microwave Symposium (IMS 2013), ed: IEEE, 2013.

[8] B. Li, K. J. Larsen, J. J. Vegas Olmos, D. Zibar, and I. **Tafur Monroy**, "Application of Beyond Bound Decoding for High Speed Optical Communications," in ACP/IPOC 2013, ed: Optical Society of America, 2013.

[9] G. A. R. Lopez, J. M. Estaran Tolosa, J. J. Vegas Olmos, and I. **Tafur Monroy**, "Energy Saving Scheme Based On Traffic Forwarding For Optical Fiber Access Networks," in 2013 18th OptoElectronics and Communications Conference held jointly with 2013 International Conference on Photonics in Switching (OECC/PS), ed: IEEE, 2013, pp. ThP1-1.

[10] J. Mata, Y. Ye, J. Lopez, and I. **Tafur Monroy**, "Influence of embodied energy in the energy efficiency of optical transport networks," in 39th European Conference and Exhibition on Optical Communication (ECOC 2013), ed: IEEE, 2013.

[11] J. R. Oliveira, A. Caballero Jambrina, E. Magalhães, U. Moura, R. Borkowski, G. Curiel, et al., "Demonstration of EDFA Cognitive Gain Control via GMPLS for Mixed Modulation Formats in Heterogeneous Optical Networks.," in The Optical Fiber Communication Conference and Exposition and the National Fiber Optic Engineers Conference, OFC/NFOEC, Anaheim, CA, USA, 2013.

[12] X. Pang, M. Beltrán, J. Sánchez, E. Pellicer, J. J. Vegas Olmos, R. Llorente, I. **Tafur Monroy**, "DWDM Fiber-Wireless Access System with Centralized Optical Frequency Comb-based RF Carrier Generation," in The Optical Fiber Communication Conference and Exposition and the National Fiber Optic Engineers Conference, OFC/NFOEC, 2013.

[13] X. Pang, A. Caballero Jambrina, L. Deng, X. Yu, R. Borkowski, V. Arlunno, I. **Tafur Monroy**, "100-Gbps hybrid optical fiber-wireless transmission," in 2013 18th OptoElectronics and Communications Conference held jointly with 2013 International Conference on Photonics in Switching (OECC/PS), ed: IEEE, 2013, pp. ThP3-1.

[14] X. Pang, A. Lebedev, J. J. Vegas Olmos, I. **Tafur Monroy**, M. Beltrán, and R. Llorente,

"Performance Evaluation for DFB and VCSEL-based 60 GHz Radio-over-Fiber System," in 17th International Conference on Optical Network Design and Modeling (ONDM 2013), Brest, France, 2013.

[15] X. Pang, J. J. Vegas Olmos, A. Lebedev, and I. **Tafur Monroy**, "A 15-meter Multi-Gigabit W-band Bidirectional Wireless Bridge in Fiber-Optic Access Networks," in Proceedings of MWP 2013, ed: IEEE, 2013.

[16] X. Pang, J. J. Vegas Olmos, A. Lebedev, and I. **Tafur Monroy**, "A multi-gigabit W-Band bidirectional seamless fiber-wireless transmission system with simple structured access point," in 39th European Conference and Exhibition on Optical Communication (ECOC 2013), ed: IEEE, 2013.

[17] S. Spolitis, J. J. Vegas Olmos, V. Bobrovs, G. Ivanovs, and I. **Tafur Monroy**, "A Novel Approach for Transmission of 56 Gbit/s NRZ Signal in Access Network Using Spectrum Slicing Technique," in ACP/IPOC 2013, ed: Optical Society of America, 2013.

[18] L. F. Suhr, J. J. Vegas Olmos, J. M. Estaran Tolosa, and I. **Tafur Monroy**, "Enabling low latency video distribution directly on the physical layer in passive optical networks," in ACP/IPOC 2013, ed: Optical Society of America, 2013.

[19] J. J. Vegas Olmos, X. Pang, A. Lebedev, and I. **Tafur Monroy**, "Multi-Gigabit Capacity W-band Hybrid Wireless-Photonic Transmission Link," in ACP/IPOC 2013, ed: Optical Society of America, 2013.

[20] J. J. Vegas Olmos, X. Pang, A. Lebedev, and I. **Tafur Monroy**, "VCSEL sources for optical fiber-wireless composite data links at 60GHz," in 2013 18th OptoElectronics and Communications Conference held jointly with 2013 International Conference on Photonics in Switching (OECC/PS), ed: IEEE, 2013.

[21] J. J. Vegas Olmos, L. F. Suhr, B. Li, and I. **Tafur Monroy**, "10 Gbps Five Levels Polybinary Signaling for Short Range and Access Networks," in ACP/IPOC 2013, ed: Optical Society of America, 2013.

[22] J. J. Vegas Olmos and I. **Tafur Monroy**, "Fiber-wireless links supporting high-capacity W-band channels," in Proceedings of PIERS 2013, ed, 2013.

[23] D. Zibar, L. Carvalho, J. M. Estaran Tolosa, E. Silva, C. Franciscangelis, V. Ribeiro, I.**Tafur Monroy**, "Joint Iterative Carrier Synchronization and Signal Detection for Dual Carrier 448 Gb/s PDM 16-QAM," in 39th European Conference and Exhibition on Optical Communication (ECOC 2013), ed: IEEE, 2013.

Conferences 2012

[1] M. Binti Othman, X. Zhang, J. B. Jensen, and I. **Tafur Monroy**, "Using CAP Dimensionality for Service and User Allocation for Optical Access Networks," in Asia Communications and Photonics Conference (ACP 2012), Guangzhou, China, 2012, p. 3.

[2] R. Borkowski, F. Karinou, M. Angelou, V. Arlunno, D. Zibar, D. Klonidis, I. **Tafur Monroy**, "Experimental Demonstration of Mixed Formats and Bit Rates Signal Allocation for Spectrum-flexible Optical Networking," in OFC/NFOEC Technical Digest. Optical Society of America, 2012.

[3] A. Caballero Jambrina, J. C. Aguado, R. Borkowski, S. Saldaña Cercos, T. Jiménez, I. de Miguel, I.**Tafur Monroy**, "Experimental Demonstration of a Cognitive Quality of Transmission Estimator for Optical Communication Systems," in ECOC Technical Digest. Optical Society of America, 2012, Amsterdam, 2012.

[4] A. Caballero, J. C. Aguado, R. Borkowski, S. Saldana, T. Jimenez, I. de Miguel, I. **Tafur Monroy**, "Experimental demonstration of a cognitive quality of transmission estimator for optical communication systems," Optics Express, vol. 20, pp. B64-B70, Dec 2012.

[5] L. Deng, X. Pang, M. Beltrán, X. Zhang, V. Arlunno, Y. Zhao, et al., "38.2-Gb/s Optical-Wireless Transmission in 75-110 GHz Based on Electrical OFDM with Optical Comb Expansion," in OFC/NFOEC Technical Digest. Optical Society of America, Los Angeles,

CA, 2012.

[6] J. M. Estaran Tolosa, R. Rodes Lopez, T. T. Pham, M. Ortsiefer, C. Neumeyr, J. Rosskopf, I. **Tafur Monroy**, "Quad 14Gbps L-Band VCSEL-based System for WDM Migration of 4-lanes 56 Gbps Optical Data Links," in ECOC Technical Digest. Optical Society of America, 2012, Amsterdam, 2012.

[7] J. Estaran, J. J. V. Olmos, A. Rodes, I. **Tafur Monroy**, "Bidirectional uncompressed HD video distribution over fiber employing VCSELs," 2012 IEEE Photonics Conference (IPC), pp. 30-31, 2012.

[8] M. Iglesias Olmedo, R. Rodes Lopez, T. T. Pham, and I. **Tafur Monroy**, "4th International Congress on Ultra Modern Telecommunications and Control Systems and Workshops (ICUMT)," 2012.

[9] M. Iglesias Olmedo, R. Rodes Lopez, I. **Tafur Monroy**, and T. T. Pham, "Real time algorithm temperature compensation in tunable laser / VCSEL based WDM-PON system," in 4th International Congress on Ultra Modern Telecommunications and Control Systems (ICUMT 2012), St. Petersburg, Russia, 2012, pp. 240-242.

[10] F. Karinou, R. Borkowski, K. Prince, I. Roudas, I. **Tafur Monroy**, and K. Vlachos, "Performance Evaluation of a SOA-based Rack-To-Rack Switch for Optical Interconnects Exploiting NRZ-DPSK," in ECOC Technical Digest. Optical Society of America, Amsterdam, 2012.

[11] A. Lebedev, J. J. V. Olmos, M. Iglesias, S. Forchhammer, I. **Tafur Monroy**, "Enabling uncompressed video transmission in double-sideband 60 GHz radio-over-fiber links," 2012 IEEE Photonics Conference (IPC), pp. 578-579, 2012 2012.

[12] A. Lebedev, R. Rodes Lopez, X. Yu, J. J. Vegas Olmos, I. **Tafur Monroy**, and S. Forchhammer, "Simplified Fiber-Wireless Distribution of HD Video in Passive and Active W-band Close Proximity Terminals," in IEEE, 3rd Fiber Optics in Access Network - FOAN2012. , 2012, pp. 541-545.

[13] A. Lebedev, J. J. Vegas Olmos, M. Iglesias Olmedo, S. Forchhammer, and I. **Tafur Monroy**, "Enabling uncompressed video transmission in double-sideband 60 GHz radio-over-fiber links. ," in IEEE Proceedings of IEEE Photonics Conference (IPC). , Burlingame, CA, 2012, pp. 578-579.

[14] R. R. Lopez, E. Talosa, J. Manuel, B. Li, M. Muller, J. B. Jensen, I. **Tafur Monroy**, "100 Gb / s single VCSEL data transmission link," in OFC/NFOEC Postdeadline Papers. Optical Society of America, 2012., Los Angeles, CA, 2012, p. PDP5D.I0.

[15] T. T. Pham, R. Rodes Lopez, J. B. Jensen, J. Chang-Hasnain, and I. TafurMonroy, "Half-cycle QAM modulation for VCSEL-based optical links," in ECOC Technical Digest. Optical Society of America, Amsterdam, 2012.

[16] F. Pittala, M. Msallem, F. N. Hauske, Y. B. Ye, I. **Tafur Monroy**, J. A. Nossek, et al., "Frequency Domain Training-Aided Channel Estimation and Equalization in Time-Varying Optical Transmission Systems," 2012 IEEE Photonics Conference (IPC), pp. 455-456, 2012.

[17] F. Pittalà, F. N. Hauske, Y. Ye, N. Guerrero Gonzalez, and I. **Tafur Monroy**, "Data-Aided Frequency-Domain 2×2 MIMO Equalizer for 112 Gbit/s PDM-QPSK Coherent Transmission Systems," in OFC/NFOEC Technical Digest. Optical Society of America, Los Angeles CA, 2012.

[18] F. Pittalà, F. N. Hauske, Y. Ye, N. Guerrero Gonzalez, and I. **Tafur Monroy**, "Joint PDL and In-band OSNR Monitoring Supported by Data-Aided Channel Estimation," in OFC/NFOEC Technical Digest. Optical Society of America, Los Angeles, CA, 2012.

[19] F. Pittalà, F. N. Hauske, Y. Ye, I. **Tafur Monroy**, and J. A. Nossek, "Training-based Channel Estimation for Signal Equalization and OPM in 16-QAM Optical Transmission Systems," in ECOC Technical Digest, Amsterdam, 2012.

[20] G. A. Rodes Lopez, J. J. Vegas Olmos, F. Karinou, I. Roudas, L. Deng, X. Pang,.,I. **Tafaur Monroy**, "Optical Switching for Dynamic Distribution of Wireless-over-Fiber Signals," in IEEE, 16th International Conference on Optical Network Design and Modeling (ONDM),

2012.
[21] R. Rodes Lopez, N. Cheng, J. B. Jensen, and I. **Tafur Monroy,** "10 Gb/s Real-Time All-VCSEL Low Complexity Coherent scheme for PONs," in OFC/NFOEC Technical Digest. Optical Society of America, Los Angeles, CA, 2012.
[22] R. Rodes, D. Parekh, J. B. Jensen, C. J. Chang-Hasnain, I. **Tafur Monroy**, and Ieee, "Real time 1.55 mu m VCSEL-based coherent detection link," IEEE Photonics Conference (IPC), pp. 457-458, 2012.
[23] S. Saldaña Cercos, K. Prince, F. Roubeau, S. Lim, C. Neumeyr, E. Rönneberg,., I. **Tafur Monroy,** "Free-running L-band VCSEL for 1.25 Gbps hybrid radio-fiber cloud optical interconnects," in OFC/NFOEC Technical Digest. Optical Society of America, 2012, Los Angeles, CA, 2012.
[24] I. **Tafur Monroy**, "Photonic Research and International Collaboration at DTU Fotonik," presented at the Sino-Danish Photonics Workshop 2012, Shenzen, China, 2012.
[25] J. J. Vegas Olmos, R. Rodes Lopez, and I. **Tafur Monroy**, "Low power consumption O-band VCSEL sources for upstream channels in PON systems," in IEEE Proceedings of the 17th OptoElectronics and Communications Conference, 2012, pp. 130-131.
[26] J. L. Vizcaino, Y. Ye, I. **Tafur Monroy**, and IEEE, "Energy Efficiency Analysis for Dynamic Routing in Optical Transport Networks," in IEEE International Conference on Communications (ICC), Ottawa, CANADA, 2012.
[27] X. Yu, Y. Zhao, L. Deng, X. Pang, and I. **Tafur Monroy**, "Existing PON Infrastructure Supported Hybrid Fiber-Wireless Sensor Networks," in OFC/NFOEC Technical Digest. Optical Society of America, 2012., Los Angeles, CA, 2012.
[28] X. Zhang, X. Pang, A. K. Dogadaev, I. **Tafur Monroy,** D. Zibar, and R. Younce, "High Spectrum Narrowing Tolerant 112 Gb/s Dual Polarization QPSK Optical Communication Systems Using Digital Adaptive Channel Estimation," in OFC/NFOEC Technical Digest. Optical Society of America, Los Angeles, CA, 2012.
[29] D. Zibar, Winther, Ole , Franceschi, Niccolo , Borkowski, Robert, Caballero Jambrina, Antonio , Arlunno, Valeria , Schmidt, Mikkel Nørgaard , Gonzales, Neil Guerrero, Mao, Bangning, Larsen, Knud J. , I. **Tafur Monroy**, "Nonlinear Impairment Compensation Using Expectation Maximization for PDM 16-QAM Systems," in ECOC Technical Digest. Optical Society of America, Amsterdam, 2012.

Conferences 2011

[1] F. Amaya, A. Cárdenas, and I. **Tafur Monroy**, "Modeling the video distribution link in the Next Generation Optical Access Networks - DTU Orbit," presented at the Reunión Iberoamericana de Óptica & X Encuentro de Óptica, Láseres y Aplicaciones, Lima, Peru, 2011.
[2] V. Arlunno, N. Guerrero Gonzalez, A. Caballero Jambrina, R. Borkowski, T. T. Pham, R. Rodes Lopez, et al., "Reconfigurable Digital Coherent Receiver for Hybrid Optical Fiber/Wireless Metro-Access Networks," in Annual Workshop on Photonic Technologies for Access and Biophotonics. Stanford University, California, USA, 2011, 2011.
[3] V. Arlunno, X. Zhang, K. J. Larsen, D. Zibar, and I. **Tafur Monroy**, "Digital Non-Linear Equalization for Flexible Capacity Ultradense WDM Channels for Metro Core Networking," in proc. ECOC 2011.
[4] M. Binti Othman, L. Deng, X. Pang, J. Caminos, W. T. Kozuch, K. Prince, et al., "Directly-Modulated VCSELs for 2x2 MIMO-OFDM Radio over Fiber in WDM-PON," in proc. ECOC 2011.
[5] M. Binti Othman, J. B. Jensen, X. Zhang, and I. **Tafur Monroy**, "Performance Evaluation of Spectral Amplitude Codes for OCDMA PON," in ONDM 2011, Conference on Optical Network Design and Modeling. Bologna, Italy, 2011
[6] R. Borkowski, X. Zhang, D. Zibar, R. Younce, and I. **Tafur Monroy**, "Experimental

Adaptive Digital Performance Monitoring for Optical DP-QPSK Coherent Receiver," in Proc. ECOC 2011.

[7] A. Caballero Jambrina, R. Sambaraju, D. Zibar, J. Herrera, J. B. Jensen, A. Walber, I. **Tafur Monroy**, "High Speed Wireless Signal Generation and Demodulation," in Conference Proceedings of 2nd Annual Workshop on Photonic Technologies for Access and Biophotonics. Stanford University, USA, 2011, 2011.

[8] A. Caballero Jambrina, D. Zibar, R. Sambaraju, N. Guerrero Gonzalez, and I. **Tafur Monroy**, "Engineering Rules for Optical Generation and Detection of High Speed Wireless Millimeter-wave Band Signals," in Proc. The European Conference on Optical Communication. Geneva, Switzerland, 2011, 2011.

[9] A. Caballero, T. T. Pham, J. B. Jensen, I. **Tafur Monroy**, "Carrierless N-Dimensional Modulation Format for Multiple Service Differentiation in Optical In-home Networks," 2011 IEEE Photonics Conference (Pho), pp. 300-301, 2011.

[10] A. Caballero, S.-W. Wong, D. Zibar, L. G. Kazovsky, I. **Tafur Monroy**, "Distributed MIMO Antenna Architecture for Wireless-over-Fiber Backhaul with Multicarrier Optical Phase Modulation," 2011 Optical Fiber Communication Conference (OFC).

[11] L. Deng, Y. Zhao, X. D. Pang, X. B. Yu, J. B. Jensen, D. M. Liu, et al., "Colorless ONU Based on All-VCSEL Sources with Remote Optical Injection for WDM-PON," 2011 IEEE Photonics Conference, pp. 220-221, 2011.

[12] L. Deng, J. B. Jensen, X. Yu, D. Liu, I. **Tafur Monroy**, and Ieee, "In-building Unlicensed WiFi Band OFDM Signal Distribution over MMF&BIF Using VCSEL," 2011 IEEE Photonics Conference, pp. 200-201, 2011.

[13] L. Deng, Y. Zhao, X. Pang, X. Yu, D. Liu, and I. **Tafur Monroy**, "Intra and Inter-PON ONU to ONU Virtual Private Networking using OFDMA in a Ring Topology," in IEEE topical meeting on microwave photonic. Singapore, 2011, 2011, pp. 176-179.

[14] L. Deng, Y. Zhao, X. Yu, V. Arlunno, R. Borkowski, D. Li, I.**Tafur Monroy**, "Experimental Demonstration of a Bandwidth Scalable LAN Emulation over EPON Employing OFDMA," in CLEO 2011, Conference on Lasers and Electro-Optics. Baltimore, Maryland, USA, 2011.

[15] L. Deng, Y. Zhao, X. Yu, V. Arlunno, R. Borkowski, D. Liu, et al., "Experimental Demonstration of a Bandwidth Scalable LAN Emulation over EPON Employing OFDMA," 2011 Conference on Lasers and Electro-Optics (Cleo), 2011.

[16] A. Dogadaev, I. **Tafur Monroy**, and Ieee, "Challenges and Capacity Analysis of 100 Gbps Optical Fibre Wireless Links in 75-110 GHz Band," 2011 IEEE Photonics Conference, pp. 268-269, 2011.

[17] N. G. Gonzalez, A. C. Jambrina, R. Borkowski, V. Arlunno, T. T. Pham, R. Rodes,**.**, I. **Tafur Monroy** "Reconfigurable Digital Coherent Receiver for Metro-Access Networks Supporting Mixed Modulation Formats and Bit-rates," 2011 Optical Fiber Communication Conference (OFC), p. 3, 2011.

[18] J. B. Jensen, R. Rodes, D. Zibar, I. **Tafur Monroy**, and A. Optical Society of, "Coherent Detection for 1550 nm, 5 Gbit/s VCSEL Based 40 km Bidirectional PON Transmission," 2011 Optical Fiber Communication Conference (OFC), p. 3, 2011.

[19] J. A. Lazaro, V. Polo, B. Schrenk, F. Bonada, I. Cano, E. T. Lopez, et al., "Optical Subsystems for Next Generation Access Networks," in Proceedings of Access Networks and In-house Communications (ANIC): The Optical Society, 2011, Access Networks and In-house Communications. Toronto, Canada, 2011, 2011.

[20] A. Lebedev, T. T. Pham, M. Beltrán, X. Yu, A. Ukhanova, L. Deng, et al., "Optimization of high-definition video coding and hybrid fiber-wireless transmission in the 60 GHz band," in ECOC 2011, The European Conference on Optical Communication. Geneva, Switzerland, 2011, 2011.

[21] B. Li, K. J. Larsen, D. Zibar, and I. **Tafur Monroy**, "Over 10 dB Net Coding Gain Based on 20% Overhead Hard Decision Forward Error Correction in 100G Optical Communication

Systems," in The European Conference on Optical Communication. Geneva, Switzerland, 2011.

[22] R. Llorente, S. Walker, I. **Tafur Monroy**, M. Beltrán, M. Morant, T. Quinlan, et al., "Triple-Play and 60-GHz Radio-over-Fiber Techniques for Next-Generation Optical Access Networks," in European Conference on Networks and Optical Communications & Conference on Optical Cabling and Infrastructure. Newcastle upon Tyne, United Kingdom, 2011, 2011.

[23] I. **Tafur Monroy**, D. Zibar, N. G. Gonzalez, and R. Borkowski, "Cognitive Heterogeneous Reconfigurable Optical Networks (CHRON): Enabling Technologies and Techniques," 13th International Conference on Transparent Optical Networks (ICTON), p. 4, 2011.

[24] X. D. Pang, Y. Zhao, L. Deng, M. B. Othman, X. B. Yu, J. B. Jensen,., I. **Tafur Monroy**, "A Spectral Efficient PoIMux-QPSK-RoF System with CMA-Based Blind Estimation of a 2 x 2 MIMO Wireless Channel," 2011 Ieee Photonics Conference (Pho), pp. 296-297, 2011.

[25] X. Pang, X. Yu, Y. Zhao, L. Deng, D. Zibar, and I. **Tafur Monroy**, "Channel Measurements for a Optical Fiber-Wireless Transmission System in the 75-110 GHz Band," in IEEE topical meeting on microwave photonic. Singapore, 2011, 2011, pp. 21-24.

[26] X. Pang, Y. Zhao, L. Deng, M. Binti Othman, X. Yu, J. B. Jensen,., I. **Tafur Monroy,** "Seamless Translation of Optical Fiber PolMux-OFDM into a 2x2 MIMO Wireless Transmission Enabled by Digital Training-Based Fiber-Wireless Channel Estimation," in Asia Communications and Photonics Conference and Exhibition. Shanghai, China, 2011, 2011.

[27] T. T. Pham, A. Lebedev, M. Beltrán, X. Yu, R. Llorente, and I. **Tafur Monroy**, "SMF/MMF Based In-building Gigabit Wireless Access Systems Using Simplified 60-GHz Transceivers," in ECOC 2011, The European Conference on Optical Communication. Geneva, Switzerland, 2011, 2011.

[28] F. Pittala, F. N. Hauske, Y. B. Ye, N. G. Gonzalez, and I. **Tafur Monroy**, "Fast and Robust CD and DGD Estimation Based on Data-Aided Channel Estimation," 2011 13th International Conference on Transparent Optical Networks (ICTON), p. 4, 2011.

[29] F. Pittala, F. N. Hauske, Y. B. Ye, N. G. Gonzalez, I. **Tafur Monroy**, and Ieee, "Data-Aided Frequency-Domain Channel Estimation for CD and DGD Monitoring in Coherent Transmission Systems," IEEE Photonics Conference (Pho), pp. 897-898, 2011.

[30] F. Pittalà, F. N. Hauske, Y. Ye, N. Guerrero Gonzalez, and I. **Tafur Monroy**, "Combined CD and DGD Monitoring Based on Data-Aided Channel Estimation," in Signal Processing in Photonic Communications. Toronto, Canada, 2011, 2011.

[32] K. Prince, X. Yu, N. Guerrero Gonzalez, A. Caballero Jambrina, X. Zhang, R. Rodes Lopez, et al., "Ultra-high throughput converged optical wireless links: challenges and opportunities: [invited], ICTON 2011.

[31] R. Rodes Lopez, M. Wieckowski, T. T. Pham, J. B. Jensen, and I. **Tafur Monroy**, "VCSEL-Based DWDM PON With 4 Bit/s/Hz Spectral Efficiency Using Carrierless Amplitude Phase Modulation," in ECOC 2011, The European Conference on Optical Communication. Geneva, Switzerland, 2011, p. Mo.2.C.2.

[32] R. Rodes, J. B. Jensen, A. Caballero, I. **Tafur Monroy**, and A. Optical Society of, "1.3 mu m all-VCSEL low complexity coherent detection scheme for high bit rate and high splitting ratio PONs," 2011 Optical Fiber Communication Conference (OFC), p. 3, 2011.

[33] R. Rodes, P. Thang Tien, J. B. Jensen, I. **Tafur Monroy**, "Radio Frequency over Glass Integrated into FTTx by using 1,3 um VCSELs: Experimental Performance Assessment," IEEE Photonics Conference, pp. 767-768, 2011 2011.

[34] A. Saltykov, S. Glagolev, J. B. Jensen, I. **Tafur Monroy**, and Ieee, "Security Attacks in Optical Access Networks - Simultaneous Detection and Localization," IEEE Photonics Conference, pp. 935-936, 2011.

[35] P. Tien-Thang, N. G. Gonzalez, X. Yu, D. Zibar, L. Dittmann, I. **Tafur Monroy**, et al., "Robust BPSK Impulse Radio UWB-over-Fiber Systems Using Optical Phase Modulation,"

2011 Optical Fiber Communication Conference (OFC) 2011.
[36] J. L. Vizcaino, Y. Ye, and I. **Tafur Monroy**, "Energy efficiency in elastic-bandwidth optical networks," in International Conference on the Network of the Future. Paris, France, 2011, pp. 107-111.
[37] M. Wieckowski, J. B. Jensen, I. **Tafur Monroy**, J. Siuzdak, J. P. Turkiewicz, and A. Optical Society of, "300 Mbps Transmission with 4.6 bit/s/Hz Spectral Efficiency over 50 m PMMA POF Link Using RC-LED and Multi-Level Carrierless Amplitude Phase Modulation," Optical Fiber Communication Conference and Exposition (OFC), p. 3, 2011.
[38] X. B. Yu, I. **Tafur Monroy**, "5 Gbps IR-UWB Signal Generation and Fiber Transmission Based on Optical Pulse Compression," 2011 Optical Fiber Communication Conference and Exposition (OFC), p. 3, 2011.
[39] X. Zhang, V. Arlunno, J. B. Jensen, I. **Tafur Monroy**, D. Zibar, R. Younce, et al., "1.2 Tb/s Ultredense WDM Long Reach and Spectral Efficiency Access Link with Digital Detection," 2011 IEEE Photonics Conference, pp. 901-902, 2011.
[40] Y. Zhao, X. Pang, L. Deng, M. Binti Othman, X. Yu, Z. Xiaoping, I. **Tafur Monroy**, "Experimental Demonstration of 5-Gb/s Polarization-Multiplexed Fiber-Wireless MIMO Systems," in IEEE topical meeting on microwave photonics, Singapore, 2011.
[41] Y. Zhao, L. Deng, X. Pang, X. Yu, X. Zheng, B. Zhou, et al., "High Accuracy Microwave Frequency Measurement Based on Single-Drive Dual-Parallel Mach-Zehnder Modulator," in proc. ECOC 2011, 37th European conference and exhibition on optical communication, Geneva, Switzerland, 2011.
[42] Y. Zhao, X. Pang, L. Deng, X. Yu, X. Zheng, H. Zhang, I. **Tafur Monroy**, "Digital Predistortion of 75-110GHz W-Band Frequency Multiplier for Fiber Wireless Short Range Access Systems," in ECOC 2011, 37th European conference and exhibition on optical communication, Geneva, Switzerland, 2011.
[43] D. Zibar, R. Sambaraju, A. Caballero, J. Herrera, I. **Tafur Monroy**, "Carrier Recovery and Equalization for Photonic-Wireless Links with Capacities up to 40 Gb/s in 75-110 GHz Band," Optical Fiber Communication Conference and Exposition (OFC), p. 3, 2011.
[44] D. Zibar, A. Caballero Jambrina, X. Yu, X. Pang, A. K. Dogadaev, and I. **Tafur Monroy**, "Hybrid Optical Fibre-wireless Links at the 75-110 GHz Band Supporting 100 Gbps Transmission Capacities," in IEEE topical meeting on microwave photonic. Singapore, 2011, pp. 445-449.
[45] D. Zibar, J. C. R. de Oliviera, V. B. Ribeiro, A. Paradisi, J. C. Diniz, K. J. Larsen,**.,I Tafur Monroy,** "Experimental Investigation of Digital Compensation of DGD for 112 Gb/s PDM-QPSK Clock Recovery," in ECOC 2011, The European Conference on Optical Communication. Geneva, Switzerland, 2011.

Conferences 2010

[1] M. Beltran, J. B. Jensen, X. B. Yu, R. Llorente, I. **Tafur Monroy**, and Ieee, "Experimental Performance Comparison of 60 GHz DCM OFDM and Impulse BPSK Ultra-Wideband with Combined Optical Fibre and Wireless Transmission," 2010 36th European Conference and Exhibition on Optical Communication (Ecoc), Vols 1 and 2, p. 3, 2010.
[2] A. Caballero Jambrina, I. **Tafur Monroy**, D. Zibar, J. A. Lazaro, J. Prat, C. Kazmierski, et al., "Subsystems for future access networks: EURO-FOS project," in proceedings 1. Annual Workshop on Photonic Technologies for Access and Interconnects, 2010.
[3] A. Caballero Jambrina, D. Zibar, and I. **Tafur Monroy**, "Digital coherent detection of multi-gigabit 40 GHz carrier frequency radio-over-fiber signals using photonic downconversion," in Proceedings 1. Annual Workshop on Photonic Technologies for Access and Interconnects, 2010.
[4] T. B. Gibbon, T. T. Pham, C. Neumeyr, E. Ronneberg, M. Ortsiefer, I. **Tafur Monroy**, et al., "VCSEL-based Gigabit Impulse Radio UWB for Converged Wireless Sensor and

Communication In-Building Networks," 36th European Conference and Exhibition on Optical Communication (Ecoc), Vols 1 and 2, p. 3, 2010.

[5] T. B. Gibbon, K. Prince, C. Neumeyer, E. R [illegible] **Tafur Monroy**, M. Ortsiefer, and "10 Gb/s 1550 nm VCSEL transmission over 23.6 km SMF with no Dispersion Compensation and no Injection Locking for WDM PONs," in proceedings OFC/NFOEC, 2010.

[6] N. G. Gonzalez, D. Zibar, I. **Tafur Monroy**, and Ieee, "Cognitive Digital Receiver for Burst Mode Phase Modulated Radio over Fiber Links," 2010 36th European Conference and Exhibition on Optical Communication (Ecoc), Vols 1 and 2, p. 3, 2010.

[7] N. Guerrero Gonzalez, D. Zibar, X. Yu, and I. **Tafur Monroy**, "Optical phase-modulated radio-over-fiber links with k-means algorithm for digital demodulation of 8PSK subcarrier multiplexed signals," in proceedings OFC/NFOEC, 2010.

[8] J. B. Jensen, T. B. Gibbon, X. B. Yu, R. Rodes, I. **Tafur Monroy**, and Ieee, "Bidirectional 3.125 Gbps Downstream/2 Gbps Upstream Impulse Radio Ultrawide-band (UWB) over Combined Fiber and Wireless Link," 2010 Conference on Optical Fiber Communication Ofc Collocated National Fiber Optic Engineers Conference Ofc-Nfoec, p. 3, 2010.

[9] J. B. Jensen, A. V. Osadchiy, D. Zibar, R. Rodes, V. Arlunno, N. Guerrero,., I. **Tafur Monroy**, "Coherent Technologies for Next Generation Flexible Converged Wireless-Wireline Access Networks," presented at the Advanced Photonics & Renewable Energy (2010), paper AWC8, 2010.

[10] A. V. Osadchiy, X. Yu, X. Yin, and I. **Tafur Monroy**, "Spectral encoded optical label detection for dynamic routing of impulse radio ultra-wideband signals in metro-access networks," in Access Networks and In-house Communications. Karlsruhe, Germany, 2010, 2010.

[11] X. Pang, L. Deng, X. Yu, I. **Tafur Monroy**, and Y. Zhao, "MWP/APMP Microwave Photonics, 2011 International Topical Meeting on & Microwave Photonics Conference," 2011.

[12] K. Prince, M. Ma, T. B. Gibbon, I. **Tafur Monroy**, and Ieee, "Demonstration of 10.7-Gb/s transmission in 50-km PON with Uncooled Free-Running 1550-nm VCSEL," 2010 Conference on Lasers and Electro-Optics (Cleo) and Quantum Electronics and Laser Science Conference (Qels), p. 2, 2010.

[13] K. Prince, X. Yu, N. Guerrero Gonzalez, A. Caballero Jambrina, X. Zhang, R. Rodes Lopez, et al., "Ultra-high throughput converged optical wireless links: challenges and opportunities : [invited]," in FRUCT Conference. Lappeenranta, Finland, 2010, 2010.

[14] R. Rodes Lopez, T. B. Gibbon, and I. **Tafur Monroy**, "GigaWaM project overview: high Density WDM-PON based on tunable lasers and VCSEL Arrays," in Annual Workshop on Photonic Technologies for Access and Interconnects : Stanford, CA, USA, 2010, 2010.

[15] R. Rodes Lopez, T. B. Gibbon, X. Yu, N. Guerrero Gonzalez, J. B. Jensen, and I. **Tafur Monroy**, "Gigabit impulse radio UWB signal generation and fiber transmission," in Workshop on Photonic Technologies for Access and Interconnects : Stanford University, USA, 2010, 2010.

[16] R. Rodes, T.-T. Pham, J. B. Jensen, T. B. Gibbon, and I. **Tafur Monroy**, "Energy-efficient VCSEL-based multiGigabit IRUWB over Fiber with Airlink Transmission System.," in The 23rd Annual Meeting of the IEEE Photonics Society (Former LEOS). 2010.

[17] R. Sambaraju, D. Zibar, A. Caballero Jambrina, J. Herrera, I. **Tafur Monroy**, J. B. Jensen, et al., "Up to 40 Gb/s wireless signal generation and demodulation in 75-110 GHz band using photonic techniques," in Proceedings MWP IEEE International Topical Meeting on Microwave Photonics, Montreal, Quebec, Canada, 2010.

[18] R. Sambaraju, D. Zibar, A. Caballero Jambrina, I. **Tafur Monroy**, R. Alemany, and J. Herrera, "GHz wireless On-off-Keying link employing all photonic RF carrier generation and digital coherent detection.," in Proceedings of ANIC Presented at: Access Networks and In-house Communications, Karlsruhe, Germany , ATHA 4, 2010.

[19] X. B. Yu, X. Yin, and I. **Tafur Monroy**, "Experimental Evaluation of High Speed Impulse Radio UWB Interference on WiMAX Narrowband Systems," presented at the Microwave Photonics Conference (MWP2010), Montreal, Canada,, 2010.
[20] X. Yu, W. Kozuch, J. Turkiewicz, and I. **Tafur Monroy**, "A robust optical phase modulated 60 GHz RoF WDM system," Proceedings ACP 2010 Asia Communications and Photonics Conference, Shanghai, China, 2010.
[21] X. Yu, K. Prince, and I. **Tafur Monroy**, "Towards convergence of wireless and wireline signal transport in broadband access networks [invited]," in WOCC, 2010.
[22] X. Yu, X. Yin, T. B. Gibbon, and I. **Tafur Monroy**, "Simultaneous transmission of 256-QAM WIMAX at 5.7GHz and optically generated impulse radio UWB over fiber for indoor wireless multi-services," in Proceedings OFC/NFOEC, 2010.
[23] D. Zibar, A. C. Jambrina, N. G. Gonzalez, I. **Tafur Monroy**, and Ieee, "Hybrid Optical/Wireless Link with Software Defined Receiver for Simultaneous Baseband and Wireless Signal Detection," 2010 36th European Conference and Exhibition on Optical Communication (Ecoc), Vols 1 and 2, p. 3, 2010.
[24] D. Zibar, R. Sambaraju, A. C. Jambrina, R. Alemany, J. Herrera, I. **Tafur Monroy**, et al., "16 Gb/s QPSK Wireless-over-Fibre Link in 75-110GHz Band Employing Optical Heterodyne Generation and Coherent Detection," 2010 36th European Conference and Exhibition on Optical Communication (Ecoc), Vols 1 and 2, p. 3, 2010.
[25] D. Zibar, A. Caballero Jambrina, R. Sambaraju, R. Alemany, J. Herrea, and I. **Tafur Monroy**, "Multi-Gigabit Wireless over Fibre Links employing Photonics Downconversion and Digital coherent Detection.," in Conference Proceedings of Photonics Society Annual Meeting Presented at: Photonics Society annual Meeting, Denver, Colorado, 2010, p. 659.

Conferences 2009

[1] F. Amaya, A. Cardenas, and I. **Tafur Monroy**, "Optimizing the Next Generation Optical Access Networks," in IEEE Latin America Transactions, 2009, pp. 438-443.
[2] A. Caballero Jambrina, N. Guerrero Gonzalez, A. Fernandez, F. Orlando, D. Zibar, and I. **Tafur Monroy**, "Long reach and enhanced power budget DWDM radio-over-fibre link supported by Raman amplification and coherent detection," in 35th European Conference on Optical Communication, ECOC, Vienna, Austria, 2009.
[3] A. Caballero Jambrina, D. Zibar, and I. **Tafur Monroy**, "Digital coherent detection of multi-gigabit 16-QAM signals at 40 GHz carrier frequency using photonic downconversion," in 35th European Conference on Optical Communication, ECOC, 2009.
[4] A. Caballero, J. B. Jensen, X. B. Yu, and I. **Tafur Monroy**, "5 GHz 200 Mbit/s Radio Over Polymer Fiber Link with Envelope Detection at 650 nm Wavelength," in Conference on Optical Fiber Communication (OFC), 2009, pp. 1830-1832.
[5] A. Caballero, R. Rodes, J. B. Jensen, I. **Tafur Monroy**, "Impulse Radio Ultra Wide-Band over Multi-Mode Fiber for In-Home Signal Distribution," in MWP: 2009 International Topical Meeting on Microwave Photonics, 2009, pp. 232-234.
[6] T. B. Gibbon, X. B. Yu, R. Gamatham, N. G. Gonzalez, I. **Tafur Monroy**, "3.125 Gb/s Impulse Radio UWB over Fiber Transmission," 2009 35th European Conference on Optical Communication (ECOC), 2009.
[7] T. B. Gibbon, X. B. Yu, D. Zibar, and I. **Tafur Monroy**, "Novel Ultra-Wideband Photonic Signal Generation and Transmission Featuring Digital Signal Processing Bit Error Rate Measurements," in OFC 2009 Conference on Optical Fiber Communication, Vols 1-5, 2009, pp. 1836-1838.
[8] N. Guerrero Gonzalez, D. Zibar, K. J. Larsen, and I. **Tafur Monroy**, "Linewidth tolerance of digital coherent receiver using Viterbi & Viterbi RF carrier recovery for radio-over-fibre links," in European Conference on Lasers and Electro-Optics 2009 and the European Quantum Electronics Conference. CLEO Europe - EQEC 2009, 2009.

[9] N. Guerrero, A. Caballero, F. Amaya, D. Zibar, I. **Tafur Monroy**, and Ieee, "Experimental 2.5 Gbit/s QPSK WDM Coherent Phase Modulated Radio-over-Fibre Link with Digital Demodulation by a K-means Algorithm," 2009 35th European Conference on Optical Communication (Ecoc), p. 2, 2009.

[10] I. **Tafur Monroy**, K. Prince, A. Osadchiy, N. G. Gonzalez, A. Caballero, D. Zibar, et al., "Converged wireline and wireless signal transport over optical fibre access links," 2009 14th Optoelectronics and Communications Conference (Oecc 2009), pp. 558-559, 2009.

[11] M. Presi, K. Prince, A. Chiuchiarelli, I. Cerutti, G. Contestabile, I. **Tafur Monroy**, et al., "Adaptive antenna system for OFDMA WiMAX radio-over-fiber links using a directly modulated R-SOA and optical filtering," presented at the Conference on Optical Fiber Communication, OFC, 2009.

[12] K. Prince, A. V. Osadchiy, I. **Tafur Monroy**, "Full-Duplex Transmission of 256-QAM WiMAX Signals over an 80-km Long-Reach PON," in IEEE LEOS Annual Meeting Conference Proceedings, Vols 1and 2, 2009, pp. 547-548.

[13] K. Prince, A. V. Osadchiy, I. **Tafur Monroy**, and Ieee, "WiMAX Radio-on-Fibre in 118-km Long-Reach PON with Deployed Fibre," 2009 35th European Conference on Optical Communication (ECOC), p. 2, 2009.

[14] I. **Tafur Monroy**, "Present and future applications of analogue microwave photonics," in Conference proceedings, OFC, 2009.

[15] M. Wieckowski, A. V. Osadchiy, J. P. Turkiewicz, I. **Tafur Monroy**, and Ieee, "Performance Assessment of Flexible Time-Wavelength Routing for a Self-aggregating Transparent Metro-Access Interface," 2009 35th European Conference on Optical Communication (ECOC), p. 2, 2009.

[16] E. Wong, F. A. Amaya, I. **Tafur Monroy**, "Optical Technologies in Extended-Reach Access Networks," in 2009 Lasers & Electro-Optics & the Pacific Rim Conference on Lasers and Electro-Optics, Vols 1 and 2, 2009, pp. 271-272.

[17] X. B. Yu, T. B. Gibbon, D. Zibar, and I. **Tafur Monroy**, "A Novel Incoherent Scheme for Photonic Generation of Biphase Modulated UWB Signals," presented at the OFC 2009 Conference on Optical Fiber Communication, Vols 1-5, 2009.

[18] X. B. Yu, R. Rodes, J. B. Jensen, A. Caballero, T. B. Gibbon, I. **Tafur Monroy**, et al., "1Gbps Impulse Radio Ultrawideband Multi-hop System Employing a Single Mode Fiber Repeater," in 2009 IEEE LEOS Annual Meeting Conference Proceedings, Vols 1and 2, 2009, pp. 697-698.

[19] X. B. Yu, T. B. Gibbon, I. **Tafur Monroy**, "Compact Wireless Access Nodes for WDM Bidirectional Radio-over-Fiber System Based on RSOA," presented at the OFC 2009 Conference on Optical Fiber Communication, Vols 1-5, 2009.

[20] X. Yu, T. B. Gibbon, and I. **Tafur Monroy**, "High-speed ultra-wideband wireless signals over fiber systems: Photonic generation and DSP detection: [invited]," in Proceedings, APMP, 2009.

[21] E. B. Zhou, X. L. Zhang, X. B. Yu, J. J. Dong, W. Q. Xue, I. **Tafur Monroy**, et al., "Photonic Generation of UWB Monocycle Pulses Using a Cascaded Semiconductor Optical Amplifier and Electroabsorption Modulator," presented at the OFC 2009 Conference on Optical Fiber Communication, Vols 1-5, 2009.

[22] D. Zibar, A. Caballero, N. G. Gonzalez, C. G. Schaeffer, and I. **Tafur Monroy**, "Digital Coherent Receiver Employing Photonic Downconversion for Phase Modulated Radio-over-Fibre Links," in 2009 IEEE/MTT-S International Microwave Symposium, Vols 1-3, 2009, pp. 365-368.

[23] D. Zibar, K. J. Larsen, I. **Tafur Monroy**, and Ieee, "Digital Coherent Detection of Subcarrier Multiplexed Phase Modulated Radio-over-Fibre Signals," presented at the OFC 2009 Conference on Optical Fiber Communication, Vols 1-5, 2009.

Conferences 2008

[1] T. B. Gibbon, I. **Tafur Monroy**, "Multi-level Burst Power Transient Suppression using Semiconductor Optical Amplifiers in Gigabit Access Links," 2008 34th European Conference on Optical Communication (ECOC), 2008.

[2] N. Guerrero Gonzalez, D. Zibar, X. Yu, and I. **Tafur Monroy**, "Experimental demonstration of a digital maximum likelihood based feedforward carrier recovery scheme for phase-modulated radio-over-fibre links," in 21st Annual Meeting of the IEEE Lasers and Electro-Optics Society (LEOS), 2008, pp. 796 - 797.

[3] J. B. Jensen, X. B. Yu, I. **Tafur Monroy**, C. Peucheret, P. Jeppesen, "Combined Transmission of Baseband NRZ-DQPSK and Phase Modulated Radio-over-Fibre," 2008 34th European Conference on Optical Communication (ECOC), 2008.

[4] L. Kazvosky, I. **Tafur Monroy**, S. W. Wong, and S. H. Yen, "Future evolution of broadband access: Towards hybrid access networks," in Proceedings of the International Conference on Access Networks, 2008.

[5] A. V. Osadchiy, J. B. Jensen, P. Jeppesen, and I. **Tafur Monroy**, "Colorless receiver enabling crossconnect based metro-access interfacing nodes for optically labelled DQPSK payload signals," in 21st Annual Meeting of the IEEE Lasers and Electro-Optics Society. LEOS 2008, pp. 612-613.

[6] K. Prince, I. **Tafur Monroy**, "Converged fixed and radio-over-fiber link employing optical envelope detection and optically injected DFB laser," Conference on Optical Fiber Communication (OFC), 2008.

[7] K. Prince, A. Chiuchiarelli, M. Presi, I. **Tafur Monroy**, and E. Ciaramella, "All-optical delay technique for supporting multiple antennas in a hybrid optical - wireless transmission system," in 21st Annual Meeting of the IEEE Lasers and Electro-Optics Society (LEOS), Acapulco, 2008, pp. 85 - 86.

[8] K. Prince, D. Zibar, X. Yu, and I. **Tafur Monroy**, "Optical coherent and envelope detection for photonic wireless communication links," in FTTH, Wireless Communications and their interaction, 6th workshop organised by the Network of Excellence ISIS: Stockholm, Sweden, 2008, 2008.

[9] J. Seoane, I. **Tafur Monroy**, K. Prince, P. Jeppesen, and Osa, "Local-oscillator-free wireless-optical-wireless data link at 1.25 Gbit/s over a 40 GHz carrier employing carrier preservation and envelope detection, "Conference on Optical Fiber Communication (OFC), 2008.

[10] X. B. Yu, J. B. Jensen, I. **Tafur Monroy**, and Ieee, "Photonic Implementation of 4-QAM/QPSK Electrical Modulation at Millimeter-Wave Frequency," in International Topical Meetings on Microwave Photonics and 2008 Asia-Pacific Microwave Photonics Conference, 2008, pp. 114-116.

[11] X. Yu, T. B. Gibbon, D. Zibar, and I. **Tafur Monroy**, "UWB-over-Multimode-Fiber Technology for Short Range Communication Networks," in 13th Annual Symposium of the IEEE/LEOS, 2008.

[12] D. Zibar, I. **Tafur Monroy**, C. Peucheret, L. A. Johansson, J. E. Bowers, P. Jeppesen, et al., "DSP based coherent receiver for phase-modulated radio-over-fiber optical links, in Proc. Conference on Optical Fiber Communication (OFC), 2008.

[14] D. Zibar, X. Yu, C. Peucheret, P. Jeppesen, and I. **Tafur Monroy**, "Coherent Detection of Wavelength Division Multiplexed Phase-Modulated Radio-over-Fibre Signals," in European Conference on Optical Communication: ECOC 08, 2008.

Conferences 2007

[1] H. D. Jung, I. **Tafur Monroy**, and A. M. J. Koonen, "Demonstration of an all-optical data vortex switch node," in Conference on Optical Fiber Communication and the National Fiber Optic Engineers Conference, OFC/NFOEC, 2007.

[2] G. C. Kassar, N. Calabretta, I. **Tafur Monroy**, "Simultaneous optical carrier and radio frequency re-modulation in radio-over-fiber systems employing reflective SOA modulators," in 2007 IEEE Leos Annual Meeting Conference Proceedings, Vols 1 and 2, 2007, pp. 798-799.

[3] R. Kjaer, I. **Tafur Monroy**, J. B. Jensen, L. K. Oxenl we, P. Je "Performance Impairments due to Gain Transients in a Raman-based Bi-directional Long-reach PON Link," in European Conference on Lasers and Electro-Optics, and the International Quantum Electronics Conference. CLEOE-IQEC, 2007.

[4] I. **Tafur Monroy**, "All-optical self-routing packet switching," in APOC Conference, 2007.

[5] I. **Tafur Monroy**, R. Kjaer, J. Seoane, F. Ohman, K. Yvind, K. Prince, et al., "Long reach PON links for metro and access convergence," in APOC Conference, 2007.

[6] I. **Tafur Monroy**, J. Seoane, and P. Jeppesen, "All Optical envelope detection for wireless photonic communication," 2007, pp. 173-174.

[7] T. Vivero, N. Calabretta, I. **Tafur Monroy**, G. C. Kassar, F. Ohman, K. Yvind, et al., "10 Gb/s-NRZ optical 2R-regeneration in two-section SOA-EA chip," in 2007 IEEE LEOS Annual Meeting Conference Proceedings, Vols 1 and 2, 2007, pp. 806-807.

[8] N. Yan, H. D. Jung, I. **Tafur Monroy**, H. d. Waardt, and T. Koonen, "All-Optical Multi-Wavelength conversion with negative Power penalty by a Commercial SOA-MZI for WDM Wavelength Multicast," in OFC, 2007.

Conferences 2006

[1] J. M. Delgado Mendinueta, I. **Tafur Monroy**, J. J. Vegas Olmos, N. Yan, Y. Dimitriadis, I. de Miguel, et al., "Traffic performance study of all-optical label swapping isolated and full network topologies," in 11th European Conf. on Networks and Optical Comm., Berlin, Germany, 2006.

[2] O. M. Diaz, J. Prat, I. **Tafur Monroy**, and H. de Waardt, "Monitoring of mixed PMD and coherent crosstalk in a 10 Gb/s NRZ system with an electrical spectrum domain technique," presented at the ECOC, Cannes, France, 2006.

[3] R. Kjaer, I. **Tafur Monroy**, L. K. Oxenlowe, P. Jeppesen, B. Palsdottir, and Ieee, "Bi-directional 120 km long-reach PON link based on distributed raman amplification," in IEEE LEOS Annual Meeting Conference Proceedings, Vols 1 and 2, 2006, pp. 703-704.

[4] J. J. V. Olmos, N. Chi, G. Zervas, D. Simeonidou, S. Yu, A. Lopez Domenech, et al., "Optical node with time-space-and-wavelength domain contention resolution capacity," in ECOC 2006 Proceedings, 2006.

[5] J. J. V. Olmos, J. P. Turkiewicz, M. G. Larrode, I. **Tafur Monroy**, A. M. J. Koonen, V. Polo, et al., "FSK-WDM to IM-OTDM conversion for fiber-to-the-premises access networks," in Optical Fiber Communication Conference/National Fiber Optic Engineers Conference, 2006, pp. 2403-2405.

[6] J. J. V. Olmos, I. **Tafur Monroy**, and A. M. J. Koonen, "All-optical label and payload separator in a time-serial RZ-IM/IM scheme," presented at the Conference on Lasers and Electro-Optics (CLEO), Long Beach, California, 2006.

[7] I. **Tafur Monroy**, F. Ohman, K. Yvind, and R. Kjaer, "85 km long reach PON system using a reflective SOA-EA modulator and distributed Raman fiber amplification," in IEEE LEOS Annual Meeting Conference Proceedings, Vols 1 and 2, 2006, pp. 705-706.

[8] I. **Tafur Monroy**, S.-J. Kim, C. Peucheret, and P. Jeppesen, "Generation and Transmission of 35/Gb/s WSK with Wavelength Tone Reuse to Multiplex Two 40 Gb/s DPSK Signals," in Proc. of CLEO 2006.

[9] I. **Tafur Monroy**, R. Kjær, P. Jeppesen, B. Palsdottir, and A. M. J. Koonen, "10 Gb/s bidirectional single fibre long reach PON link with distributed Raman amplification," in Proc. ECOC, pp. 453-454, 2006.

[10] I. **Tafur Monroy**, A. M. J. Koonen, J. J. V. Olmos, N. Yan, C. Peucheret, and E.

Breusegem, "Optical Label Switching Functionalities Employing Semiconductor Optical Amplifiers (invited)," in Proc. of OAA 2006, 2006.
[11] N. Yan, I. **Tafur Monroy**, H. D. Jung, T. Koonen, A. Teixeira, and T. Silveira, "Optical multicast technologies by multi-wavelength conversion for optical routers," in 10th International Conference on Communication Technology 2006, pp. 380-383.
[12] N. Yan, A. Teixeira, T. Silveira, I. **Tafur Monroy**, P. Monteiro, G. T. Beleffi, et al., "Optical multicasting performance evaluation using multi-wavelength conversion by four-wave mixing in DSF at 10/20/40 Gb/s," in Proc. International Conference on Photonics in Switching, Proceedings, 2006, pp. 181-183.
[13] G. Zarris, L. M. Sadeghioon, K. M. Guild, D. Simeonidou, M. O'Mahony, C. G. Leburn, C.G.; Brown, C.T.A.; Sibbett, W.; Hyun-Do Jung; Koonen, A.M.J.; I. **Tafur Monroy**, "An all-optical time-slot interchange architecture," in Proc ECOC, 2006.

Conferences 2005

[1] J. P. A. v. Berkel, J. J. Vegas Olmos, I. **Tafur Monroy**, and A. M. J. Koonen, "Performance evaluation of a DPSK/SCM combined modulation scheme for optical label switching," presented at the ECOC, 2005.
[2] J. P. A. v. Berkel, J. J. Vegas Olmos, I. **Tafur Monroy**, and A. M. J. Koonen, "Effect of non-optimal filtering on the performance of FSK/IM transmission schemes," presented at the Proc. NOC London, UK, 2005.
[3] T. Flarup, C. Peucheret, J. J. V. Olmos, Y. Geng, J. Zhang, I. **Tafur Monroy**, et al., "Labeling of 40 Gbit/s DPSK payload using In-band subcarrier multiplexing," in Optical Fiber Communication Conference (OFC), 2005, pp. 53-55.
[4] M. Garcia Larrode, A. M. J. Koonen, J. J. Vegas Olmos, I. **Tafur Monroy**, and T. C. W. Schenk, "RF bandwidth capacity and SCM in a radio-over-fibre link employing optical frequency multiplication," presented at the ECOC, 2005.
[5] R. Geldenhuys, N. Chi, Z. Wang, I. **Tafur Monroy**, T. Koonen, H. J. S. Doman, et al., "Multiple packet recirculation in an optical buffer using a crosspoint switch," in IEEE LEOS Annual Meeting Conference Proceedings, Sydney, 2005, pp. 85-86.
[6] R. Geldenhuys, J. P. Tomillo, T. Koonen, and I. **Tafur Monroy**, "Optical feedback buffering strategies," in Optical Networks and Technologies, 2005, pp. 284-291.
[7] A. M. J. Koonen, J. J. V. Olmos, I. **Tafur Monroy**, J. G. J. Jennen, C. Peucheret, E. Van Breusegem, et al., "Optical packet routing using orthogonal labeling - results form the FP5 STOLAS Project," in Proc. of ECOC 2005 : Invited paper ; 1, 2005, pp. 93-96.
[8] T. Koonen, I. **Tafur Monroy**, J. J. V. Olmos, C. Peucheret, J. Jennen, E. Zouganeli, et al., "Optical label switched networks - the FP5-IST STOLAS project," in Proc. of NOC'2005, 2005, pp. 391-398.
[9] A. Ng'Oma, A. M. J. Koonen, I. **Tafur Monroy**, H. P. A. V. Boom, and G. D. Khoe, "Using Optical Frequency Multiplication to deliver a 17 GHz 64 QAM modulated signal to a simplified Radio Access Unit fed by Multimode Fiber," in OFC/NFOEC 2005 Optical Fiber Communication Conference, Anaheim, CA, 2005, pp. 33-35.
[10] J. J. V. Olmos, I. **Tafur Monroy**, E. Tangdiongga, J. P. A. van Berkel, A. M. J. Koonen, and J. Prat, "Influence of optical filters on the performance of FSK/AM transmission scheme," in Optical Networks and Technologies, 2005, pp. 364-370.
[11] J. J. Olmos, I. **Tafur Monroy**, Y. Liu, and A. M. J. Koonen, "Self-controlled all-optical label and payload separator for variable length bursts in a time-serial IM/DPSK scheme," presented at the Optical Fiber Communication Conference (OFC), Anaheim, California, 2005.
[12] R. Sanz Perez, I. **Tafur Monroy**, J. J. Vegas Olmos, and A. M. J. Koonen, "Performance analysis of an OLS STOLAS node and its scalability," in Proc. NOC 2005, London, UK, 2005.

[13] J. J. Vegas Olmos, E. J. M. Verdurmen, I. **Tafur Monroy**, J. P. Turkiewicz, H. d. Waardt, N. Yan, et al., "Wavelength conversion with multicasting capabilities deploying higly nonlinear fiber for time-serial labelled networks," in IEEE/LEOS Benelux Chapter, Belgium, 2005.
[14] N. Yan, A. M. J. Koonen, I. **Tafur Monroy**, A. Teixeira, T. Silveira, P. Monteiro, et al., "Simultaneous multi-wavelength signal conversion for transparent optical multicast," Proc. NOC 2005, London, UK, 2005.
[15] N. Yan, I. **Tafur Monroy**, and T. Koonen, "All-optical label swapping node architectures and contention resolution," in 2005 Conference on Optical Network Design and Modelling: Towards the broadband-for-all era, ONDM 2005, pp. 115-123.

Conferences 2004

[1] N. Chi, L. J. Christiansen, P. Jeppesen, P. V. Holm-Nielsen, I. **Tafur Monroy**, C. Peucheret, et al., "Optical label switching in telecommunication using semiconductor lasers, amplifiers and electro-absorption modulators," in Laser Optics 2003: Diode Lasers and Telecommunication Systems, Bellingham, 2004, pp. 144-152.
[2] N. Chi, P. V. Holm-Nielsen, P. Jeppesen, C. Peucheret, J. F. Zhang, J. J. V. Olmos, et al., "Optical label swapping of payloads up to 40 Gb/s using an orthogonally modulated label," in 2004 IEEE LEOS Annual Meeting Conference Proceedings, 2004, pp. 851-852.
[3] P. V. Holm-Nielsen, J. F. Zhang, J. V. Olmos, I. **Tafur Monroy**, C. Peucheret, V. Polo, et al., "Experimental investigation of WDM transmission properties of optical labeled signals using orthogonal IM/FSK modulation format," presented at the Telecommunications and Networking - ICT 2004, 2004.
[4] A. M. J. Koonen , v. d. Boom, H., A. Ng'oma, L. Bakker, I. **Tafur Monroy**, and K. G.-D., "Novel signal multiplexing methods for integration of services in in-building broadband multimode fibre networks," proc. ISSLS 2004. - Edinburgh, Scotland : ISSLS, 2004, 2004.
[5] A. M. J. Koonen, H. P. A. v. d. Boom, A. Ng'Oma, L. P. Bakker, I. **Tafur Monroy**, and G. D. Khoe, "Recent developments in broadband service delivery techniques for short-range networks," Proc. NOC 2004, 2004.
[6] A. M. J. Koonen, A. Ng'Oma, M. Garcia Larrode, F. M. Huijskens, I. **Tafur Monroy**, and G. D. Khoe, "Novel cost-efficient techniques for microwave signal delivery in fibre-wireless networks," in Proc. ECOC 2004.
[7] T. Koonen, H. Van Den Boom, I. **Tafur Monroy**, and G. D. Khoe, "High capacity multi-service in-house networks using mode group diversity multiplexing," in Optical Fiber Communication Conference (OFC 2004), pp. 483-485.
[8] P. Munoz, I. **Tafur Monroy**, R. Garcia, J. J. Vegas, F. M. Huijskens, S. Sales, et al., "Novel optical direct detection scheme for DPSK signals using fibre Bragg gratings," in Optical Networks and Technologies (OPNETEC), 2004, pp. 601-606.
[9] A. Ng'oma, A. M. J. Koonen, I. Tafur-Monroy, H. P. A. Van der Boom, P. F. M. Smulders, and G. D. Khoe, "Optical frequency up-conversion in multimode and single-mode fibre radio systems," in Microwave and Terahertz Photonics, Bellingham, 2004, pp. 169-177.
[10] A. Ng'Oma, A. M. J. Koonen, I. **Tafur Monroy**, H. P. A. v. d. Boom, P. F. M. Smulders, F. M. Huijskens, et al., "Optical frequency multiplication for low-phase noise microwave signal generation and delivery," in Proc. NOC 2004, 2004.
[11] R. Geldenhuys, J.P. Tomillo, T. Koonen, and I. **Tafur Monroy**, "Optical Feedback Buffering Strategies," in Proc. OpNeTec 2004, Pisa, Italy, 2004.
[12] I. **Tafur Monroy**, A. M. J. Koonen, G. D. Khoe, H. P. A. v. d. Boom, P. K. Bennekom, J. D. Tang, et al., "All-in-one broadband optical ring network: an undergraduate educational project at Eindhoven University of Technology," in Proc. NOC 2004.
[13] I. **Tafur Monroy**, M. Martinez Chisvert, J. J. Vegas Olmos, and A. M. J. Koonen, "Error-correcting coding for IM/FSK modulation format for optical labeling of signals," in

Proc. ONDM 2004, 2004.
[14] J. J. Vegas Olmos, I. **Tafur Monroy**, J. G. L. Jennen, A. Saenz Heras, B. L. G. Bastiaans, and A. M. J. Koonen, "Wide dynamic range 10 Gbit/s automatic gain control for combined FSK/IM modulation label swapping," in proc. NOC 2004, 2004.
[15] J. J. Vegas Olmos, I. **Tafur Monroy**, and A. M. J. Koonen, "Optical packet marking for fast discarding in an OLS scheme," presented at the ECOC 2004, 2004.
[16] J. J. Vegas Olmos, I. **Tafur Monroy**, E. Tangdiongga, J. P. A. v. Berkel, A. M. J. Koonen, and J. Prat, "Influence of optical filters on the performance of FSK/IM transmission schemes," in proc. Opnetec 2004, 2004.
[17] N. Yan, I. **Tafur Monroy**, and A. M. J. Koonen, "All-optical label swapping technologies and node architecture," presented at the Proc. London Communication Symposium, 2004.

Conferences 2003

[1] A. Ng'oma, I. **Tafur Monroy**, H. v. d. Boom, P. Smulders, G.-D. Khoe, and A. M. J. Koonen, "High-Frequency Carrier Delivery to Graded Index Polymer Optical Fibre Fed Next Generation Wireless LAN Radio Access Points," in proc. ECOC 2003, 2003.
[2] N. Chi, L. J. Christiansen, P. Jeppesen, P. V. Holm-Nielsen, I. **Tafur Monroy**, C. Peucheret, et al., "Optical label switching in telecommunication using semiconductor lasers, amplifiers and electro-absorption modulators," presented at the Laser Optics: Diode Lasers and Telecommunication Systems, 2003.
[3] E.J Verdurmen, Y. Liu, A.M.J. Koonen, H. de Waardt, and I. **Tafur Monroy**, "Chirp Properties of SOA-based Wavelength Converters for FSK/IM Combined Modulation Format," in proc. ECOC 2003, 2003.
[4] J. J. Vegas Olmos, I. **Tafur Monroy**, A. M. J. Koonen, and G. D. G. D. Khoe, "Combined FSK/IM modulation generated by using GSCR tunable laser sources," in proc. IEEE/LEOS Benelux Annual Symposium 2003, 2003.
[5] J.C. González, I. **Tafur Monroy**, I. de Miguel, A.M.J. Koonen, J.C. Aguado, and J. Blas, "Polymorphic Optical Networks: A Solution for Service Differentiation at the Optical Layer," in Proc. NOC 2003, 2003.
[6] A. M. J. Koonen, H. P. A. v. d. Boom, A. Ng'Oma, I. **Tafur Monroy**, and G. D. Khoe, "Integrated-services in-building POF networks using novel signal multiplexing methods. ," in Proc. 12th Int. POF Conference, 2003.
[7] A. M. J. Koonen, A. Ng'Oma, H. P. A. v. d. Boom, I. **Tafur Monroy**, and G. D. Khoe, "New techniques for extending the capabilities of multimode fibre networks," in Proc. NOC 2003, 2003.
[8] A. M. J. Koonen, I. **Tafur Monroy**, J. J. Vegas Olmos, H. Waardt, and G. D. Khoe, "The expected impact of new optical technologies on communication networks," in Proc. NOC, 2003.
[9] M. Macias, J. P. Turkiewicz, J. J. Vegas Olmos, Ton Koonen, and I. **Tafur Monroy**, "A Data Vortex Switch for Photonic Slot Routing," in proc. ECOC, 2003.
[10] A. Ng'Oma, A. M. J. Koonen, A. Giesberts, I. **Tafur Monroy**, H. P. A. v. d. Boom, P. F. M. Smulders, et al., "Feeding broadband wireless services over a multimode polymer optical fibre network," in Proceedings IEEE/LEOS Benelux Chapter, Workshop on Low-Cost Photonics, 2003.
[11] A. Ng'Oma, A. M. J. Koonen, I. **Tafur Monroy**, H. P. A. v. d. Boom, P. F. M. Smulders, and G. D. Khoe, "Using multimode fibres for broadband indoor wireless coverage," in proc. IEEE/LEOS Benelux Annual Symposium 2003, 2003.
[12] A. Ng'Oma, I. **Tafur Monroy**, A. M. J. Koonen, H. P. A. v. d. Boom, P. F. M. Smulders, and G. D. Khoe, "High-frequency carrier delivery to graded index polymer optical fibre fed next generation wireless LAN radio access points. ," presented at the ECOC 2003, 2003.
[13] P. V. Holm-Nielsen, J. Z. N. Chi, C. Peucheret, and I. **Tafur Monroy**, P. Jeppesen,

"Experimental investigation of transmission properties and all-optical label swapping of orthogonal IM/FSK labeled signals," in proc. OECC, 2003.
[14] Sulur, T. Koonen, I. **Tafur Monroy**, J. Jennen, H. de Waardt, and G. Morthier, "Combined ASK/FSK and ASK/DPSK modulation formats for optically labeled signals," in Next Generation Optical Network Design and Modelling, 2003, pp. 433-446.
[15] I. **Tafur Monroy**, A. M. J. Koonen, J. Zhang, N. Chi, P. V. Holm-Nielsen, C. Peucheret, et al., "Techniques for labeling of optical signals in bust switched networks," in First International Workshop on Optical Burst Switching WOBS, 2003.
[16] I. **Tafur Monroy**, A. M. J. Koonen, and G-D Khoe, "Labeled Optical Burst Switched Networks (Invited)," presented at the OPTOEL 2003 conference, 2003.

Conferences 2002

[1] G. D. Khoe, A. M. J. Koonen, P. K. v. Bennekom, H. P. A. v. d. Boom, A. Ng'Oma, and I. **Tafur Monroy**, "High capacity polymer optical fibre systems," in proc. ECOC 2002.
[2] G. D. Khoe, A. M. J. Koonen, I. **Tafur Monroy**, H. P. A. v. d. Boom, P. K. v. Bennekom, and A. Ng'Oma, "High capacity polymer optical fibre systems," in Proc. POF conference, 2002.
[3] A. M. J. Koonen, H. P. A. v. d. Boom, I. **Tafur Monroy**, J. S. Wellen, R. C. J. Smets, and G. D. Khoe, "Optical networking in the access and residential environment - technologies and challenges," in proc. ECOC 2002.
[4] A. M. J. Koonen and A. Ng'Oma, Boom, H.P.A. van den, **Tafur Monroy**, I., Smulders, P.F.M. & Khoe, G.D., "Microwave signal transport over multimode polymer optical fibre networks for feeding wireless LAN access points," in proc. ECOC 2002.
[5] A. M. J. Koonen and A. Ng'Oma, Smulders, P.F.M., Boom, H.P.A. van den, **Tafur Monroy**, I., Bennekom, P.K. van & Khoe, G.D, "In-house networks using Polymer Optical Fibre for broadband wireless applications.," presented at the The harmony of innovation and profit in access, Proc. XIVth intnl. symposium on services and local access, 2002.
[6] A. M. J. Koonen, A. Ng'Oma, H. P. A. v. d. Boom, I. **Tafur Monroy**, and P. F. M. K. Smulders, G.D, "Polymer optical fibre network for feeding wireless LAN antenna stations," presented at the Proc. of URSI General Assembly 2002.
[7] A. M. J. Koonen and S. Sulur, **Tafur Monroy**, I., Jennen, J.G.L. & Waardt, H. de,, "Optical labeling of packets in IP-over-WDM networks," proc. ECOC 2002.
[8] A. M. J. Koonen, S. Sulur, I. **Tafur Monroy**, J. G. L. a. Jennen, and H. d. Waardt, "Orthogonal optical labeling of packets in IP-over-WDM networks," in Proc. NOC 2002.
[9] A. Ng'Oma and A. M. J. Koonen, **Tafur Monroy**, I., Boom, H.P.A. van den, Smulders, P.F.M. & Khoe, G.D, "Low cost Polymer Optical Fibre based transmission system for feeding integrated broadband wireless in-house LANs," in Proc. Symposium IEEE/LEOS Benelux Chapter, 2002.
[10] Sulur and A. M. J. a. **Tafur Monroy**, Koonen, I., "Combined IM/FSK format for payload/orthogonal label of IP packets in WDM networks," in Proc. Symposium IEEE/LEOS Benelux Chapter, 2002.
[11] Sulur and A. M. J. Koonen, **Tafur Monroy**, I; Waardt, H. de, "Combined modulation formats for IP over WDM networks supported by GMPLS," in Proc. of URSI General Assembly, 2002.
[12] E. J. M. Verdurmen and F. M. Huijskens, Waardt, H. de, Koonen, A.M.J; **Tafur Monroy**, I., "Characterization of an all-optical label swapping node for IP over WDM," in Proc. Symposium IEEE/LEOS Benelux Chapter, 2002.

Conferences 2001

[1] A. M. J. Koonen, J. G. L. Jennen, H. d. Waardt, I. **Tafur Monroy**, S. Sulur, and G. Morthier, "An optical-label controlled packet router for IP-over-WDM networks," presented at the Proc. Symposium IEEE/LEOS Benelux Chapter, 2001.
[2] A. M. J. Koonen and A. Ng'Oma, Boom, H.P.A. van den, **Tafur Monroy**, I., Smulders, P.F.M. & Khoe, G.D., "Carrying microwave signals in a GIPOF-based wireless LAN. ," in proc. 10th International Plastic Optical Fibres Conference 2001, 2001.
[3] T. Koonen, H. Van den Boom, I. **Tafur Monroy**, and G. D. Khoe, "Broadband data communication techniques in POF-based networks," in Conference on Optical Communication, ECOC 2001, pp. 14-15.
[4] A. Ng'Oma and A. M. J. Koonen, **Tafur Monroy**, I., Boom, H.P.A. van den, Smulders, P.F.M. & Khoe, G.D.,, "Distributing microwave signals via polymer optical fiber (POF) systems," in Proc. Symposium IEEE/LEOS Benelux Chapter,, 2001.

Conferences 2000

[1] G. D. Khoe, L. Wei, G. S. Yabre, H. P. A. v. Boom, P. K. v. Bennekom, I. **Tafur Monroy**, et al., "High capacity transmission using GI-POF (Invited)," in Proceedings of the 9th International Conference on Plastic Optical Fibers (POF 2000), pp. 38-43.

Conferences 1999

[1] V. Chin Kwie Joe and I. **Tafur Monroy**, "Analysis of optically preamplified receivers," in proc. IEEE/LEOS Symposium Benelux Chapter, 1999.
[2] E. Tangdiongga, R. J. W. Jonker, H. d. Waardt , I. **Tafur Monroy**, T. Gyselings, G. Mortier, et al., "Complete assessment of crosstalk reduction in WDM networks by phase scrambling," in proc. ECOC 1999.

Conferences 1998

[1] I. **Tafur Monroy**, "Statistical analysis of interferometric noise in optical ASK/direct detection systems," in Broadband European Networks and Multimedia Services, 1998, pp. 178-182.
[2] I. **Tafur Monroy**, J. Siffels, H. de Waardt, and H. J. S. Dorren, "Scalability of all-optical networks: study of topology and crosstalk dependence," in Broadband European Networks and Multimedia Services, 1998, pp. 201-207.
[3] I. **Tafur Monroy**, "On the quantum limit for optically preamplified receivers," in Proc. Symposium IEEE/LEOS Benelux Chapter, 1998.
[4] I. **Tafur Monroy** and F. J. J. Kennis, "Television interactiva por cable," in Revista Colombiana de Telecomunicaciones, 1998.

Conferences 1997

[1] J. Siffels, I. **Tafur Monroy**, H. d. Waardt, and H. J. S. & Dorren, "How does optical cross-talk depend on the network topology?" in Proc. 1997 IEEE/LEOS Symposium Benelux Chapter, 1997.

Conferences 1996

[1] E. Tangdiongga, I. **Tafur Monroy**, H. d. Waardt, and M. O. v. Deventer, "Performance

analysis of cross-connects corrupted by in-band crosstalk," in Proc. 1996 IEEE/LEOS Benelux Chapter Symposium, 1996.

Idelfonso Tafur Monroy
Bookschapters and books

Bookchapters and books

[1] J. B. Jensen, I. **Tafur Monroy**, K. Prince, and N. Guerrero Gonzalez, "Building the photonic bridge: bringing people together with technology," *Beyond optical horizons: today and tomorrow with photonics, Chapter,* pp. 41-53: DTU Fotonik, 2009.

[2] G.-D. Khoe, H. v. Boom, and I. **Tafur Monroy**, "High Capacity Transmission Systems," *Polymer Optical Fibers*, H. S. Nalwa, ed.: American Scientific Publishers, *Chapter,* 2004.

[4] I. **Tafur Monroy**, "Dit vindue til verden: Fiber til hjemmene," *Optiske Horisonter: en rejse pa kommunikationsteknologiens vinger, Chapter,* pp. 159-169: COM.DTU, 2007.

[5] I. Tomkos, M. Angelou, R. J. D. Barroso, I. de Miguel, R. M. L. Toledo, D. Siracusa, E. Salvadori, A. Tymecki, Y. Ye, and I. **Tafur Monroy**, "Next Generation Flexible and Cognitive Heterogeneous Optical Networks : Supporting the Evolution to the Future Internet," *The Future Internet: Future Internet Assembly 2012: From Promises to Reality , Chapter,* Springer, ed., 2012.

[6] V. Torres-Company, K. Prince, X. Yu, T. B. Gibbon, and I. **Tafur Monroy**, "Ultrawideband-over-fiber technologies with directly-modulated semiconductor lasers," *Optical Fibre, new developments; Chapter 17 INTEH*, 2010.

[7] X. Yu, K. Prince, T. B. Gibbon, and I. **Tafur Monroy**, "WDM Phase-Modulated Millimeter-Wave Fiber Systems," *WDM Systems and Networks: Modeling, Simulation, Design and Engineering: Springer, Chapter*, 2012.

Books

[1] I. Tafur Monroy, and E. Tangdiongga, *Crosstalk in WDM Communications Networks*, Boston, MA: Kluwer International, Hardcover ISBN978-1-4020-7026-6, eBook ISBN978-1-4757- 3594-9, DOI 10.1007/978-1-4757-3594-9**,** 2002.

Idelfonso Tafur Monroy
Media presence

First 400 Gbps real-time PAM-4 demonstration
http://www.lightwaveonline.com/articles/2016/03/adva-touts-400-gbps-over-100-km-via-pam4-for-data-center-interconnect.html?cmpid=EnlDATACOMMarch12016
http://www.4-traders.com/news/Record-breaking-Reach-for-Low-cost-Data-Transmission-between-Data-Centers--21941739/

Danish UFM Ministry blog, ICDK Silicon Valley-on International cooperation in Photonics -2015

http://blogs.ufm.dk/indlaeg/mikkel-skovborg/opskriften-paa-det-gode-internationale-forskningssamarbejde

Record 1060 nm VCSEL data transmission
http://vis.temhota.de/2014/07/08/vi-systems-uc-santa-barbara-and-dtu-demo-1060nm-vcsel-link-at-30-gbits/
http://www.semiconductor-today.com/news_items/2014/JUL/VISYSTEMS_250714.shtml
http://www.stars-innovation.com/news/details/n/39/cHash/75aa9721856cecbc803c90e443bdfd06/

Danish newspaper ing.dk [on the first demonstration of quad-polarization optical fiber transmission]
DTU-forskere er først med firedobbelte polarisationssystemer
http://ing.dk/artikel/dtu-forskere-er-foerst-med-firedobbelte-polarisationssystemer-171483

Horizon2020 projects – research profile
Metro Access and Short range Communications led by Idelfonso **Tafur Monroy**
http://www.horizon2020publications.com/H2/#58

Danish radio dr.dk, 14 may 2013 on 5G wireless access technologies
http://www.dr.dk/Nyheder/Viden/Tech/2013/05/14/160322.htm
Samsung hævder stort gennembrud på vejen mod lynhurtig 5G-mobildata

DTU Avisen May 2014 [Danish and English]
Professor Idelfonso **Tafur Monroy** - profile
http://emagstudio.win.dtu.dk/E-books/DTU-Avisen/DTUavisen0514/141876_DTUavisen_05_2014_280413B/#/18/

World record 100 Gbit/s wireless data transmission [Danish]
Article in ing.dk about the first 100 Gbi/s wireless data transmission record in the 75-110 GHz fruency band.
http://ing.dk/artikel/dtu-rekord-et-vigtigt-skridt-mod-lynhurtigt-tradlost-internet-128563
http://ing.dk/artikel/dtu-rekord-et-vigtigt-skridt-mod-lynhurtigt-tradlost-internet-128497

Studerende fra DTU Fotonik på vej til Kina, 2011 [Danish]
Student study tour to China and Huawei technologies
http://www.dtu.dk/Nyheder/2011/04/Studerende-fra-DTU-Fotonik-paa-vej-til-Kina

Danish-US collaboration to provide elite internet solutions [English]
Danish research in photonics can place Denmark at the forefront of high-speed internet society. Danish research results are attracting much interest among leading American IT firms
Danish Ministry of Science and Technology, 02/03/2011.
http://en.vtu.dk/press/2011/danish-us-collaboration-to-provide-elite-internet-solutions

Quotation from the Danish Ministry of Science and Technology
The Government has an objective of making high-speed internet accessible to all Danes by 2020, giving Denmark the best conditions for knowledge and communication in the future. International cooperation such as this event helps us to reach that objective, while also strengthening Denmark's position as one of the leading knowledge countries, says Science Minister Charlotte Sahl-Madsen.

Quotation from Google James Kelly
The transition from dial-up to broadband led to online video, cloud computing, and countless other applications. We're excited to see what new and exciting innovations will emerge over ultra high-speed fiber, and several promising ideas were presented at the photonics workshop, says James Kelly.

Dansk-Californisk elitesamarbejde skal løse fremtidens trafikpropper på nettet [Danish]
Dansk forskning i fotonik placerer Danmark blandt verdens førende nationer indenfor højhastigheds-internet. Også amerikanske IT-giganter er interesserede i de danske resultater. Danish Ministry of science and Technology, 07/02/2011.
http://www.fi.dk/nyheder/pressemeddelelser/2011/dansk-californisk-elitesamarbejde-skal-loese-fremtidens-trafikpropper-paa-nettet

*Nyt dansk-californisk elitesamarbejde om fremtidens internet*03.02.2010 [Danish]
Danmark har positioneret sig som et af de førende videnslande inden for højhastighedskommunikation i optiske fibre. Den private amerikanske it-sektor viser samtidig stor interesse for de danske forskningsresultater.

New Danish-Californian knowledge collaboration on the future of the internet [English]
http://www.siliconvalley.um.dk/en/servicemenu/News/NewDanishCalifornianKnowledgeCollaborationOnTheFutureOfTheInternet.htm

Innovation Center Denmark, May 20, 2010 [English]
Denmark has positioned itself as one of the leading countries within high-speed communications in optical fibers. An example of Denmark's leading position can be seen by the collaboration between Danish researchers and Stanford University. A collaboration which recently resulted in the Danish-Californian workshop at Stanford University, where private sector American IT companies showed great interest in the Danish research.

DTU Fotonik I ny samarbejde med Stanford [Danish]
DTU Avisen, March 2010, page 19
http://ebook-creator.win.dtu.dk/E%2Dbooks/DTU%2DAvisen/2010%5F3/#/19/

Danish ing.dk new paper on wimax over fiber experiments in deployed Danish fiber network [Danish]
http://ing.dk/artikel/fiber-skal-give-wimax-oget-raekkevidde-105884
Fiber skal give Wimax øget rækkevidde 29/01/10.
Kamau Prince vil gøre det nemmere og billigere at få Wimax ud i småbyer.
[Bringing Wimax easier and a lower cost to small villages]

Forskere samler fire signaltyper i ét fiber *29/01/10 [Danish]*

Ph.d.-studerende Kamau Prince arbejder med at sende Wimax-signaler gennem fiber sammen med tre andre signaltyper.
http://ing.dk/artikel/forskere-samler-fire-signaltyper-i-et-fiber-105890

Social media of metro-access and short range group:

Youtube: MetroAccessGroup
LinkedIn: Metro Access Photonics Engineering
Google+: MetroAccess DTU Fotonik
Facebook: Metro-Access & Short Range Systems

Web: www.metroaccess.dk
Web: www.photonicsworkshop.com

CV for John Aasted Sørensen, Section for Information Technology, DTU Diplom, Ballerup Campus. 3 Feb. 2017.
Degrees 1982 Ph.D. EE, Technical University of Denmark (DTU); 1975 M.Sc. EE, DTU.

Positions

2008 – Associate Professor, Dept. of Information Technology and Electronics (CITE), Copenhagen University College of Engineering (CUCE) and from 1. January 2013 Section for Information Technology, DTU Diplom Ballerup Campus.
2009 –2015 Head of the BEng 3.5 years study program Healthcare Technology at CUCE and DTU Diplom.
2006-2008 Teaching assistant at Copenhagen University College of Engineering (CUCE), Dept. of Information Technology and affiliated Wireless Center at CUCE.
2000-2006: Associate Professor at IT University of Copenhagen.
1988-2000: Associate Professor at Electronics Institute and Department of Mathematical Modelling DTU.
1975-1988: Research Assistant, Ph.D. study, Ass. Prof. Control. Eng. Laboratory and Electronics Institute, DTU.

Research interests are wireless communication, signal estimation, filtering, detection and classification. Application of these methods, among others, within healthcare systems, sensor networks and general data acquisition and processing.

Research contributions are application of wireless local area network as a sensor network (1 US patent), infrastructures for location based systems, multi-microphone systems for acoustic beamforming targeting virtual conference rooms, speech coding, estimation of the subjective quality of speech signals, noise reduction of speech signals, systems for clinical analysis of electroencephalography and electromyography signals, dedicated field programmable hardware for efficient and fast FIR and IIR filters, electrical impedance tomography reconstruction for clinical analysis, signal processing applied in monitoring of errors in high voltage power distribution networks.
The research is published in 3 "edited books", 1 "US Patent" (with 28 citations), 9 "journal papers and abstracts in journals" and 37 "Conference Papers and Extended Abstracts with Peer Review".

Professional activities (examples)

General Co-Chair of IEEE International Workshop on Multimedia Signal Processing, 30 Oct. – 2 Nov. 2005, Shanghai, China. Technical Program Co-Chair and economically responsible for IEEE International Workshop on Multimedia Signal Processing, 1999, Elsinore, Denmark, 1999, with 120 participants from 24 countries. Technical Program Chair and economically responsible for the IEEE Workshop on Neural Networks for Signal Processing, 1992, Elsinore, Denmark with 150 participants from 17 different countries. Member of many program committees of IEEE and EUSIPCO international conferences within multimedia, signal processing, communication and neural networks.
Chair of Multimedia Signal Processing Technical Committee of IEEE Signal Processing Society, 2002-3.
Funding member of the IEEE Signal Processing Society Technical Committee on Multimedia Signal Processing 1996.
Funding member of the IEEE Signal Processing Society Technical Committee on Neural Networks for Signal Processing 1991-1995.
Have supervised approx. 100 master of science thesis projects and supervised and co-supervised 15 Ph.D. studies and have delivered courses, among others, within signal processing, digital communication, speech processing, wireless systems and applications. Have participated in assessment committees for assistant and associate professor positions, Ph.D. theses, and Board of Appeal (da. ankenævn) at the Danish Censors for Electrical Engineering.
The latest membership of Technical Program Committees, The 10th International Conference on Electrical and Electronics Engineering (ELECO) 2017, Bursa Turkey; Future Technologies Conference (FTC) 2016, San Francisco.

Latest Conference and Journals Papers and Abstracts in Journals

- John Aa. Sørensen, Ian Bridgwood, Jacob Nordfalk, "From Innovation to Implementation – SME Collaboration in Student Projects", The University-Industry Interaction Conference, June 7-9, 2017, Dublin.
- Jianjun Chen, Zoltan Safar, John Aasted Sørensen, "Multimodal Wireless Networks: Communication and Surveillance on the Same Infrastructure", IEEE Transactions on Information Forensics and Security, Vol. 2, No. 3, September 2007, pages 468 – 484.
-M. Nikolic, C. Krarup, K. Dahl, John Aa. Sørensen. "An EMG Decomposition System Aimed at Detailed Analysis of Motor Unit Activity". Electroenceph. Clin. Neurophysiol. Vol. 103, Number 1, July 1997, p. 220. (Abstract).
- Kim Tilgaard Petersen, Steffen Duus Hansen, John Aa. Sørensen. "Modeling and Evaluation of Multimodal Perceptual Quality" pp. 38-39, in "The Past, Present, and Future of Multimedia Signal Processing", Edited by Tsuhan Chen, Aggelos Katsaggelos, S.Y. Kung, IEEE Signal Processing Magazine, Vol. 14, No. 4, July 1997.
-C. Krarup, M. Nikolic, K. Dahl, John Aa. Sørensen. "Detection og Variability of the Motor Unit Action Potential Shape by Means of the Firing Patterns". Electroenceph. Clin. Neurophysiol. Vol. 103, Number 1, July 1997, p. 100. (Abstract).
- Søren Holdt Jensen, Per Christian Hansen, Steffen Duus Hansen, John Aasted Sørensen. "Noise Reduction by Truncated QSVD". IEEE Transactions on Speech and Audio Processing, Vol. 3. No. 6, Nov. 1995, pp. 439-448.
- C. Krarup, K. Dahl, L.S. Jakobsen, A. Talbot, John Aa. Sørensen. "Unbiased Acquisition of Motor Unit Action Potentials". Electroencephalograph. Clin. Neurophysiol. 1993; 87(2):S100. (Abstract).
- P. Jennum, J.S. Hansen, J. Aa. Sørensen, "Adaptive Segmentation and Clustering Analysis of EEGSignals", Royal Soc. Med. 1989, No. 152, pp. 50-54.

Patent John Aa. Sørensen, "A Method of and a System for Surveillance of an Environment Utilizing Electromagnetic Waves", 24 pages. No: PCT/DK 03/00438. US patent 2006 (28 citations).

Fortegnelse over bedømmelsesudvalg til
stilling Assistant Professor in impact assessment and stakeholder involvement (201702) ved PLAN

Navn: Associate Professor Karl Sperling
Arbejdssted: PLAN, AAU
E-mail: karl@plan.aau.dk

Navn: Senior Lecturer Matthew Cashmore
Arbejdssted: Department of Urban and Rural Development, Swedish University of Agricultural Sciences, Sweden

E-mail: matthew.cashmore@slu.se

Akademisk Råd har taget stilling til, at medlemmer af bedømmelsesudvalget er sagkyndige inden for stillingsområdet på et niveau, der mindst svarer til det, der forudsættes for stillingen, dog ikke under lektorniveau.

Assistant Professor in impact assessment and stakeholder involvement (201702)

Position No.
201702

At Technical Faculty of IT and Design, Department of Planning, Aalborg a position as Assistant Professor in impact assessment and stakeholder involvement is open for appointment from May 1 2017 or soon hereafter. The position is available for a period of 3 years.

The Department of Development and Planning conducts research and teaching on development and planning in a broad sense, including social science aspects as well as more technical aspects of development, and with a focus on environmental, international as well as administrative dimensions.

Job description

Research areas will be within the interplay between impact assessments in decision-making processes and stakeholder involvement. The research will investigate interactions between actors in impact assessments and societal decision-making processes with an aim of developing new methodologies as well as improving the theoretical understanding. A key part of the research will be public participation and understanding of the public's actions in societal decision-making processes. As part of the Danish Centre for Environmental Assessment, the research will be applied research in collaboration with a range of external partners.

Teaching will primarily be in the bachelor programme Urban-, Environmental and Energy Planning (Danish language needed) and the master programme Environmental Management and Sustainability Science, but also in other study programmes at the University. Competences within PBL teaching is a

You may obtain further professional information from Associate professor Ivar Lyhne, +45 51422310, lyhne@plan.aau.dk.

Qualification requirements:

Appointment as an Assistant Professor presupposes scientific qualifications at PhD-level or similar scientific qualifications. The research potential of each applicant will be emphasized in the overall assessment. Appointment as an Assistant Professor cannot exceed a period of four years in total at Aalborg University in a temporary position (appointment at Assistant Professor level cannot exceed a period of eight years in total in Denmark). The application must contain the following:

- A statement outlining your reasons for applying, and intentions and visions with, the position.
- Your curriculum vitae, including personal data, educational background, scientific qualifications, dissemination skills, participation in committees and boards, and additional qualifications relevant for the position.
- Copies of relevant diplomas (Master of Science and PhD). On request you could be asked for an official English translation.
- A complete list of publications.
- Publications you wish to be considered by the assessment committee. You may attach up to 5 publications.
- A specification of your teaching qualifications relative to the teaching portfolio. If this is not enclosed you must include an explanation for its absence.
- References/recommendations.

An assessment committee will assess all candidates. The applications are only to be submitted online by using the "Apply online" button below.

For further information concerning the application procedure please contact Nickie Hermansen by mail nkh@adm.aau.dk or phone (+45) 9940 7902 Information regarding guidelines, ministerial circular in force, teaching portfolio and procedures can be seen here.

Workplace
Aalborg

Agreement
Employment is in accordance with the Ministerial Order on the Appointment of Academic Staff at Universities (the Appointment Order) and the Ministry of Finance's current Job Structure for Academic Staff at Universities. Employment and salary are in accordance with the collective agreement for state-employed academics.

Deadline
15/02/2017

Apply online

Aalborg University (AAU) conducts teaching and research to the highest level in the fields of humanities, engineering, and natural, health, and social sciences.

top

Dr Matthew Cashmore
Curriculum Vitae

Store Valbyvej 209
Roskilde, 4000
Denmark
Tel: +46 18 67 26 47

Nationality: English **DOB: 27/02/1974**

Email: matthew.cashmore@slu.se
www.matthewcashmore.net / www.researchgate.net/profile/Matthew_Cashmore

EMPLOYMENT

2017 -	Senior Lecturer, Department of Urban and Rural Development, Swedish University of Agricultural Sciences, Sweden (part-time).
2011 - 2016	Associate Professor in Environmental Governance, Department of Development and Planning, Aalborg University, Denmark (part-time from 2015).
2003 - 2011	Lecturer in Environmental Management, School of Environmental Sciences, University of East Anglia, UK.
1998 - 2003	Senior Course Tutor, School of Environmental Sciences, University of East Anglia, UK.
1997 - 1998	Environmental Consultant, WS Atkins Environment, Epsom, UK.

EDUCATION

2007	Doctor of Philosophy (PhD), Environmental Science, University of East Anglia, UK.
1997	Master of Science (MSc), Environmental Assessment and Management, University of East Anglia, UK, awarded with distinction.
1995	Bachelor of Science (BSc Hons), Environmental Science, University of Southampton, UK.

RESEARCH ATTAINMENT

Journal articles

Lyhne, I., F. van Laerhoven, **M. Cashmore** & H. Runhaar (2016) Theorising EIA effectiveness: A contribution based on the Danish system. *Environmental Impact Assessment Review,* 62, 240-249. DOI: 10.1016/j.eiar.2015.12.002.

Jensen, J., C. Fratini & **M. Cashmore**, (2016) Urban governance of socio-technical systems: In between situated challenges and multi-scalar governance dynamics. *Journal of Environmental Policy and Planning*, 18 (2), 234-252. DOI: 10.1080/1523908X.2015.1074062.

Lyhne, I., **M. Cashmore**, H. Runhaar & F. van Laerhoven, (2016) Quality control for environmental policy appraisal tools: An empirical investigation of relations between quality, quality control and effectiveness. *Journal of Environmental Policy and Planning*, 18 (1), 121-140. DOI: 10.1080/1523908X.2015.1053438.

Cashmore, M., T. Richardson, J. Rozema & I. Lyhne, (2015) Environmental governance through guidance: The 'making up' of expert practitioners. *Geoforum*, 62, 84-95. DOI: 10.1016/j.geoforum.2015.03.011.

Rozema, J. G., **M. Cashmore**, A. J. Bond & J. Chilvers, (2015) Respatialization and local protest strategy formation: Investigating high-speed rail megaproject development in the UK. *Geoforum*, 59, 98-108. DOI: 10.1016/j.geoforum.2014.12.010.

Cashmore, M. & A. Wejs, (2014) Constructing legitimacy for climate change planning: A study of local government in Denmark. *Global Environmental Change*, 24 (1), 203-212, DOI: 10.1016/j.gloenvcha.2013.09.019.

Cashmore, M. & R. K. Morgan, (2014) The impact assessment 'arms race' and visions for the future. *Impact Assessment and Project Appraisal*, 32 (1), 25-26.

Cashmore, M., T. Richardson & A. Axelsson, (2014) Seeing power in international development co-operation: Environmental policy integration and the World Bank. *Transactions of the Institute of British Geographers*, 39 (1), 155-168, DOI: 10.1111/tran.12011.

Cashmore, M. & A. Axelsson, (2013) The mediation of environmental assessment's influence: What role for power? *Environmental Impact Assessment Review*, 39, 5-12, DOI: 10.1016/j.eiar.2012.06.008.

Cashmore, M. & T. Richardson, (2013) Power and environmental assessment: Introduction to the special issue. *Environmental Impact Assessment Review*, 39, 1-4, DOI: 10.1016/j.eiar.2012.08.002.

Hansen, A. M., L. Kørnov, **M. Cashmore** & T. Richardson, (2013) The significance of structural power in strategic environmental assessment. *Environmental Impact Assessment Review*, 39, 37-45, DOI: 10.1016/j.eiar.2012.10.004.

Axelsson, A., D. Annandale, **M. Cashmore**, D. Slunge, A. Ekbom, F. Loayza & R. Verheem, (2012) Practice report. Policy SEA: Lessons for development co-operation. *Impact Assessment and Project Appraisal*, 30 (2), 124-129, DOI: 10.1080/14615517.2012.659993.

Rozema, J., A. Bond, **M. Cashmore** & J. Chilvers, (2012) An investigation of environmental and sustainability discourses associated with the substantive purposes of environmental assessment. *Environmental Impact Assessment Review*, 33 (1), 80-90, DOI: 10.1016/j.eiar.2011.11.003.

Badr, E. S., A. A. Zahran, & **M. Cashmore**, (2011) Benchmarking performance: Environmental impact statements in Egypt. *Environmental Impact Assessment Review*, 31 (3), 279-285, DOI: 10.1016/j.eiar.2010.10.004.

Cashmore, M., T. Richardson, T. Hilding-Ryedvik, & L. Emmelin, (2010) Evaluating the effectiveness of impact assessment instruments: Theorising the nature and implications of their political constitution. *Environmental Impact Assessment Review*, 30, 371-379, DOI: 10.1016/j.eiar.2010.01.004.

Theophilous, V., A. Bond, & **M. Cashmore**, (2010) Application of the SEA Directive to EU structural funds: Perspectives on effectiveness. *Environmental Impact Assessment Review*, 30 (2), 136-144, DOI: 10.1016/j.eiar.2009.08.001.

Cashmore, M., A. Bond, & B. Sadler, (2009) Guest Editorial: The effectiveness of impact assessment instruments. *Impact Assessment and Project Appraisal*, 27 (2), 3-5, DOI: 10.3152/146155109X454285.

Cashmore, M., A. Bond, & D. Cobb, (2008) The role and functioning of environmental assessment: Theoretical reflections upon an empirical investigation of causation. *Journal of Environmental Management*, 88, 1233-1248, DOI: 10.1016/jenvman.2007.06.005.

Cashmore, M., A. Bond, & D. Cobb, (2007) The contribution of environmental assessment to sustainable development: Towards a richer empirical understanding. *Environmental Management*, 40 (3), 516-530, DOI: 10.1007/s00287-006-0234-6.

Brimblecombe, P. & **M. Cashmore**, (2005) Indoor air pollution. *Journal de Physique IV*, 117 (6), 209-221.

Tinker, L., D. Cobb, A. Bond, & **M. Cashmore**, (2005) Impact mitigation in EIA: Paper promises or the basis of consent conditions? *Impact Assessment and Project Appraisal*, 23 (4), 265-280.

Cashmore, M., (2004). The role of science in EIA: Process and procedure versus purpose in the development of theory. Environmental Impact Assessment Review, 24 (4), 403-426, DOI:10.1016/j.eiar.2003.12.002.

Cashmore, M., R. Gwilliam, R. Morgan, D. Cobb, & A. Bond, (2004) The interminable issue of effectiveness: Substantive purposes, outcomes and research challenges in the advancement of EIA theory. Impact Assessment and Project Appraisal, 22 (4), 295-310, DOI: 10.3152/147154604781765860.

Badr, E. S., **M. Cashmore**, & D. Cobb, (2004) The consideration of impacts upon the aquatic environment in EISs produced in England and Wales. *Journal of Environmental Assessment Policy and Management*, 6 (1), 19-49.

Wang, Y., R. Morgan, & **M. Cashmore**, (2003) Environmental impact assessment of projects in the People's Republic of China: New law, old problems. *Environmental Impact Assessment Review*, 23 (5), 543-579, DOI:10.1016/S0195-9255(03)00071-4.

Cashmore, M., E. Christophilopoulos, & D. Cobb, (2002) The quality of environmental impact statements in Thessaloniki, Greece. *Journal of Environmental Assessment Policy and Management*, 4 (4), 371-395.

Books, book chapters, journal special issues, etc.

Partidario, M. and **M. Cashmore** (2016) Strategic environmental assessment research and capacity development agenda. In Saddler, B. and J. Dusik, (Eds) European and international experiences of strategic environmental assessment: Recent progress and future progress. Routledge, London.

Cashmore, M. and J. Rozema, (2015) Governmentality in the State of California: Climate governance and the subjectification of the polity. In K. Backstrand and A. Kronsell, (Eds) Greening the State for climate transitions. Routledge, London, 193-208.

Richardson, T. and **M. Cashmore**, (Eds) (2013) Power and environmental assessment. Environmental Impact Assessment Review, 39, 1-45 (special issue).

Cashmore, M., (2012) Book review: Handbook of strategic environmental assessment by Barry Sadler et al. Journal of Integrative Environmental Sciences, 9 (1), 53-54, DOI: 10.1080/1943815X.2012.659425.

Cashmore, M. and L. Kornov, (2012) The changing theory of impact assessment. In Bond, A., A. Morrison-Saunders, and R. Howitt, (Eds) Sustainability assessment: Pluralism, practice and progress. Routledge, London, 18-33.

Cashmore, M., (2011) Book Review: Bo Elling, Rationality and the Environment: Decision Making in Environmental Politics and Assessment, Earthscan (2008 (Hardback) / June

2010 (Paperback)) ISBN 9781844075249 (HB, 304 pages), 9781849710787 (PB, 296 pages). Environmental Impact Assessment Review, 31 (1), 85-86.

World Bank, (2011) Strategic environmental assessment in policy and sector reform: Conceptual model and operational guidance. International Bank for Reconstruction and Development/ World Bank, Washington. [Contributing author]

Cashmore, M., A. Bond, and B. Saddler, (Eds) (2009) The effectiveness of impact assessment instruments. Impact Assessment and Project Appraisal, 27 (2), 91-172 (special issue).

Cashmore, M., (2007) The contribution of environmental assessment to sustainable development. In: George, C. and C. Kirkpatrick (eds.) Impact assessment and sustainable development, Edward Elgar, Cheltenham, 106-130.

Cashmore M., D. Cobb, A. Bond, and R. Gwilliam, (2004) Enhancing the 'substantive' effectiveness of EIA: A case for reform of the EIA research agenda? In: Hilding-Rydevik, T. and Á. H. Theodórsdóttir (eds.) Planning for sustainable development – the practice and potential of environmental assessment, Proceedings of the Fifth Nordic Environmental Assessment Conference, Nordregio, Stockholm, 157-181.

Popular science communications

Cashmore, M. & C. Nieslony, (2006) The contribution of EIA to sustainable development: Part 2 - Towards a richer conceptual understandings environmental assessment: An empirical study of theory and methods. *Environmental Impact Assessment Review*, 26, 643-662, DOI:10.1016/j.eiar.2006.06.004.

Cashmore, M., A. Bond, & T. Nitz, (2005) Theory is important to EA practice, *The Environmentalist*, 32, 18-20.

Nieslony, C. & **M. Cashmore**, (2005) The contribution of EIA to sustainable development: Part 1 - Stakeholder beliefs on the nature and effectiveness of the relationship, *UVP-Report*, 19 (3&4), 191-194.

Brimblecombe, P. & **M. Cashmore**, (2002) Air pollution perceptions and policy. *Clean Air Society of Australia and New Zealand, Quarterly Journal*, **36 (4)**, 31-34.

Bond, A. and **M. Cashmore**, (2003) Making the most of distance education – and its role in capacity building/ addressing the WSSD plan of implementation, Institute of Environmental Management and Assessment. In: EIA Centre and the International Association for Impact Assessment (eds.) Environmental assessment outlook, Volume 3. Capacity building and benchmarking good practice, IEMA and EIA Centre, Manchester, 63-65.

PhD Supervision (as main supervisor)

- Mngumi, L. (2016-) Integrated ecosystem management in peri-urban areas of Tanzania. Swedish University of Agricultural Science & Ardhi University.
- Dannevig, H. (2013-2015) Agenda-setting the unknown: A study of local and regional governance of adaptation in Norway. Aalborg University.
- Wejs, A. (2011-2013) Climate for change: Integrating climate change into cities' planning practices. Aalborg University.

Other measures of research esteem

- Member of the International Scientific Advisory Board, Sustainable Planning & Environmental Assessment Knowledge project, funded by the Swedish Environmental Protection Agency (Naturvårdsverket), Sweden, 2014-2017.
- Awarded a two year funded research fellowship at the Swedish EIA Centre, Swedish University of Agricultural Sciences, Sweden, 2008-2010.
- Member of conference organising committees: '*Strategic Environmental Assessment: Implementation and Practice*', 21-23 September 2011, Czech Republic; and, '*Climate Change and Impact Assessment: Special Symposium*', 25-26 October 2010, Denmark.
- Associate Editor, Impact Assessment and Project Appraisal, 2015-2016 (temporary assignment to assist main editor).
- Member of the Editorial Board, Environmental Impact Assessment Review, 2015-ongoing; Impact Assessment and Project Appraisal, 2015-ongoing.
- Awarded 'Best paper' in Impact Assessment and Project Appraisal, 2005.
- Peer review for a wide range of ISI journals: Journal of Environmental Management, Journal of Environmental Planning and Management, Journal of Environmental Planning and Policy, EIA Review, Environmental Management, Environment and Planning C, Landscape Research, and Society and Natural Resources.
- PhD examining: Lamorgese, L. (2014) 'Equity and the sustainability assessment of strategic actions', Department of Civil, Environmental and Mechanical Engineering, University of Trento. Davies, K. (2012), 'The role of knowledge in strategic environmental assessment', Department of Planning and Architecture, University of West England; Weston, J. (2009), 'Environmental Impact Assessment: A critical theory perspective', PhD by Publication, School of Planning, Oxford Brookes University.

TEACHING ATTAINMENT

Administration

- External Examiner, MSc in Environmental Resource Management, University College Dublin, Ireland, 2015-2018.
- External censor for PhD course on academic writing, Norwegian University of Life Sciences, Norway, 2016-ongoing.
- Member of the examinations board for MSc programmes, School of Environmental Sciences, University of East Anglia, 2000-2011.
- Co-ordinator, Semester 4 (Thesis), Environmental Management and Sustainability Science MSc, Aalborg University, 2011-2013.
- Overall Director of the Master's Programme, School of Environmental Sciences, University of East Anglia, 2010-2011.
- Director of Teaching and Learning (postgraduate), School of Environmental Sciences, University of East Anglia, 2010-2011.
- Director of an MSc course in Environmental Assessment and Management, School of Environmental Sciences, University of East Anglia, 2010-2011.
- Advisor to 10-18 postgraduate students annually, University of East Anglia, 1998-2008, 2010-2011.

Taught courses

PhD courses

- Joint-Convenor, Scholarly Writing, run in Dar es Salaam, Tanzania, 2017.
- Joint-Convenor, *Writing Interpretative Articles*, 3 ECTS, run annually 2012-2016.
- Convenor, Governmentality and the Governance of Sustainability Transitions, 4 ECTS, 2012.
- Contributor, Planning and Impact Assessment Theory, 2008 & 2010.
- Contributor, PhD School in environment and development, Uppsala University, Sweden, 2008-2010.

Bachelors & Masters level courses

- Convenor of, and principal lecturer on, the postgraduate course *Economic, Social and Environmental Impact Assessment*, Aalborg University, MSc course, 5 ECTS, 2013-2016.
- Contributor, *Countryside Management*, Aalborg University, BSc course, 5 ECTS, 2014-2016.
- Contributor, *Sustainability by Design*, Aalborg University, MSc course, 5 ECTS, 2012 & 2014.
- Convenor and principal lecturer, *Environmental Assessment Theory* and its forerunners, University of East Anglia, BSc & MSc, 2004-2008, and 2010-2011.
- Convenor and principal lecturer, *Research Skills*, University of East Anglia, MSc course, 2010-2011
- Convenor, *Environmental Management Field Course*, University of East Anglia, MSc, 2001-2008.
- Contributor, *Waste Management*, University of East Anglia, BSc & MSc, 2001 - 2008.
- Convenor, *Environmental Impact Assessment*, University of East Anglia, MSc (distance-learning), 1999-2004.
- Guest lecturer, MSc programmes at UEA, UK, 2012; KTH (Kungliga Tekniska Högskolan), Sweden, 2010; Örebro University, Sweden, 2009; and, Swedish Agricultural University, Sweden, 2008-2010.

Miscellaneous

- Supervision of three Assistant Professors during their pedagogic training, Aalborg University, 2011-present.
- Supervisor of project groups, theses research and internships, MSc in Sustainable Cities and MSc in Environmental Management and Sustainability Science, Aalborg University, 2011-present.
- Contributor, Orientation programmes for international students, University of East Anglia, MSc, 2000-2008.
- Authored distance learning courses on: Environmental Issues, Atmospheric Environmental Issues, Biodiversity and Conservation, Sustainable Development, and Environmental Impact Assessment for the University of East Anglia.
- Supervisor of between 5-10 MSc dissertation research projects annually, University of East Anglia, 1998-2008, 2010-2011.

Pedagogic training

- Awarded a Post Graduate Certificate in Higher Education Practices, University of East Anglia (2004).
- Attended pedagogic training courses on such subjects as: virtual learning environments, PhD supervision, the performance element of lecturing: one-to-one coaching, reducing assessment loads, motivating through feedback, and the mental wellbeing of students.

ENTERPRISE, ENGAGEMENT AND IMPACT

Committee Membership

2014 – 2017	Member of the International Scientific Advisory Committee, Sustainable Planning and Environmental Assessment Knowledge (SPEAK), funded by the Swedish Environmental Protection Agency (Naturvårdsverket, dnr 802-0345-13)
2013 - 2016	Member of the Board, Danish Development Research Network.
2011 -	Member of expert advisory committee, Swedish International Development Cooperation Agency's Help Desk on Environment and Climate.
2005 - 2011	Member of the Training and Professional Development Committee, International Association for Impact Assessment.
2006 - 2008	Committee member, Ireland-UK Branch of the International Association for Impact Assessment.
2004 - 2006	(Founding) Chair, Ireland-UK Branch of the International Association for Impact Assessment.
2002 - 2008	Member of scientific advisory committee for the Community Carbon Reduction Project (CRed), University of East Anglia.

Professional training

2015	National and regional training (two events) on EU environmental impact assessment and strategic environmental assessment law, Albania, Environment and Climate Regional Accession Network, EU TAIEX instrument.
2014 - 2015	Training of Trainers on EU environmental impact assessment and strategic environmental assessment law, Montenegro (2014) and Istanbul (2015), Environment and Climate Regional Accession Network, EU TAIEX instrument.
2011-2013	Training of local and national government officials on the integration of climate change into urban planning (six 1 day course and two 0.5 day courses), Vietnam.

Reports for governmental or international agencies

Dorland, J., M. S. Jørgensen, M. Skovgaard, M. Cashmore, and J. Meilstrup, (2014) *How to prepare a road map for the management of plastic waste*. Copenhagen Municipality, Copenhagen.

Dusik, J., M. Cashmore, L. Kornov, L. D. Cuong, (2013) *Guidelines on integration climate change adaptation and mitigation into the strategic environmental assessment of urban construction plans*. National Institute for Urban and Rural Development, Hanoi [In Vietnamese].

Axelsson, A., M. Cashmore, and U. G. Sandström, (2009) *Evaluation of the Dhaka Metropolitan Development Plan strategic environmental assessment.* Confidential report for the World Bank. Swedish EIA Centre, Uppsala.

Bond, A., M. Cashmore, D. Cobb, A. Lovell, and L. Taylor, (2005) *Evaluation in impact assessment areas other than HIA: Summary report.* National Health Service Health Development Agency, London.

Cashmore, M., D. Cobb, and D. Brown, (2003) *Alternatives in environmental impact assessment.* Report for the UK Parliamentary Office for Science and Technology. University of East Anglia, Norwich.