

• PERSONAL INFORMATION

Name: Chen, Jiajia
 Gender: Female
 Nationality: Sweden
 Homepage: <https://www.kth.se/profile/jiajiac>



• EDUCATION

2009 PhD, in Microelectronics and Applied Physics, KTH Royal Institute of Technology, Sweden (Leading Europe's technical and engineering university)
 PhD Supervisor: Lena Wosinska
 2004 Bachelor (Top 3%) in Information Engineering, Zhejiang University, China

• CURRENT POSITION(S)

04/2019 – Professor, Electrical Engineering, Chalmers University of Technology, Sweden (Leading Europe's technical and engineering university)
 02/2015 – 04/2019 Associate Professor, Communication Systems, KTH, Sweden
*Heading a research group on **interconnect and transport networks for telecom and datacom***
 Through tight international collaborations, the research group is currently holding two *latest world records*: 1) *Real-time 100 Gbps 3-level duobinary based optical interconnect*; 2) *204 Gbps on-off keying optical interconnect*.
 2015/01 – 2015/12 Director of Bachelor Program in Information and Communication Technology
 Responsible for coordinating the program, refining the program syllabus, and organizing periodical meetings with the teachers, students and other program directors, etc.

• PREVIOUS POSITIONS

11/2012 – 01/2015 Assistant Professor (tenure-track), KTH, Sweden
 05/2014 – 10/2014 Adjunct Assistant Professor, Linköping University, Sweden
 06/2009 – 10/2012 Postdoctoral Researcher, KTH, Sweden

• VISITING EXPERIENCE

Winter 2018 Princeton University, USA (Host: Prof. Mung Chiang)
 Spring/Autumn 2017&2018 Shanghai Jiaotong University, China (Host: Prof. Lilin Yi)
 Spring 2015 École de Technologie Supérieure, Canada (Host: Prof. Christine Trembley)
 Summer 2008 Warsaw University of Technology, Poland (Host: Prof. Michal Piorek)
 Spring 2008 University of Zagreb, Croatia (Host: Prof. Branko Mikac)
 Autumn 2007 University of Texas at Dallas, USA (Host: Prof. Andrea Fumagalli)

• FELLOWSHIPS AND AWARDS

- Board Member of the IEEE Photonics Sweden Chapter, since 2018
- Best Paper Award at IEEE ICAIT 2018: X. Shen, 2018.
- Three Best Student Paper Awards at IEEE/OSA/SPIE Asia Communications and Photonics Conference ACP for supervised students: R. Lin, 2014; M. Cen, 2015; J. Li, 2017.
- Two Best Student Paper Awards Winner at SPIE Asia-Pacific Optical Communications Conference APOC, in 2007 and 2008

• SUPERVISION OF GRADUATE STUDENTS AND POSTDOCTORAL FELLOWS

12 PhD students: M. Mahloo (2010-2015), P. Wiatr (2011-2016), R. Lin (2014-2016), K. Wang (2014-2017), Y. Hong (2013-2018), Y. Gong (2013-2018), F. Yaghoubi (2014-2019), X. Shen (2014-2019), Y. Cheng (2015-2019), J. Li (2015-2019), L. Xue (2018-2021) and X. Jin (2018-2021)

7 postdocs/researchers: D. Pham Van (2015-2016), Y. Lu, (2016-2017), X. Hong (2016-2017), R. Lin (2016-2021), L. Zhang (2016-2019), X. Pang (2017-2018) and Y. Hong (2018-2020)

14 master students: M. Jose Peroza (2010), P. Uthairat (2010), M. Cen (2011), A. Getaneh (2012), S. Khanmohamadi (2012), F. Abtahi (2013), S. Poudel (2013), S. Sadat Banijamali (2013), Y. Cheng (2015), H. Chen (2015), B. Xing (2018), W. Song (2018), V. Papageorgiou (2018) and M. Farahnaki (2018).

- **TEACHING ACTIVITIES**

- IK1611 (2B1315) Dimensioning of Communication Systems, undergraduate course, KTH Royal Institute of Technology
 - 2012- present, course responsible and examiner
 - 2011-2012, lecturer
 - 2007-2010, teaching assistant
- FIK3611 Dimensioning of Advanced Communication Systems, graduate course, KTH Royal Institute of Technology
 - 2012-present, course responsible and examiner
 - 2011-2012, lecturer
- IO2654 (2B1824) Optical Networking, undergraduate course, KTH Royal Institute of Technology, 2012, guest lecturer.
- FIO3654 Advances in Optical Networking, postgraduate course, KTH Royal Institute of Technology, 2012, guest lecturer.
- “Optical networks for data centers”, tutorials at
 - The Hong Kong Polytechnic University, Sept. 2017
 - University of Science and Technology of China, Oct. 2016
 - Workshop on Frontiers and Challenges in Optical Communication, Sweden Chapter of IEEE Photonics Society, Sept. 2015
 - McGill University, Montreal Chapter of IEEE Photonics Society, June 2015
 - City University of Hong Kong, Aug. 2014
- “Next Generation Optical Networks: Design, Analysis and Simulation”, tutorial at
 - Sun Yat-sen University, China, Sep. 2016
 - École de technologie sup érieure, Canada, June 2015
 - Guest courses in Zhejiang University, China, Nov. 2015
 - Shanghai Jiao Tong University, China, Dec. 2015
 - Doctoral school of the "Photonics@be" in Belgium, May 2014
- “Next generation fiber access networks”, invited tutorials given at
 - Link öping University, Sweden, Feb. 2014
 - Soochow University, China, Jan. 2014
 - Zhejiang University, China, Nov. 2013
 - Munich University of Technology (TUM), Germany, Jun. 2010 and May 2011
- Optical Networking, 2004-2006, postgraduate course, Zhejiang University, teaching assistant
- Communication Theory, 2005-2006, postgraduate course, Zhejiang University, teaching assistant

- **ORGANISATION OF SCIENTIFIC MEETINGS**

- | | |
|-------------|---|
| 2019 | <u>Subcommittee Chair at IEEE/OSA OFC (flagship conference with 20,000+ attendants)</u> |
| 2018 | Chair of Workshop at ECOC |
| 2018 | General Chair of IEEE ICAIT 2018 |
| 2018 | Co-Chair of Session I SPIE ICOCN |
| 2015 – 2018 | Chair of workshop at IEEE ICTON |
| 2015 | Co-Chair of Optical Networking and Switching Technologies Symposium at OECC |
| 2014 – 2016 | Chair of Focus Sessions at PIERS |
| 2014 | Chair of the Local Organizing Committee of IEEE ONDM |
| 2014 | Chair of Swedish National Computer Networking Workshop (SNCNW) |
| 2013 – 2014 | Chair of workshop at IEEE/OSA/SPIE ACP |
| 2010 – 2012 | Co-Chair of workshops at IEEE/OSA/SPIE ACP |
| 2011 | Co-Chair of the Local Organizing Committee of IEEE ICTON |

- **REVIEWING ACTIVITIES**

TPC Members

IEEE/OSA OFC 2016-2018 (*flagship conference with 20,000+ attendants*); IEEE/OSA Photonics in Switching 2015, IEEE RNDM 2015; IEEE ICOCN 2014; IEEE GLOBECOM, Workshop on SDN-Optics 2013, Symposium on Optical Networks and Systems 2015-2018 (*flagship IEEE conference in*

communication society); IEEE/OSA/SPIE ACP 2013-2015; IEEE ONDM 2013-2015; ACM/IEEE/IFAC/TRB ICCVE 2012; IEEE ICC, Symposium on Optical Networks and Systems 2012-2019 (*flagship IEEE conference in communication society*); International workshop on FOAN 2010-2012; IEEE HPSR 2011; IEEE ICNC, Symposium on Optical and Grid Networking 2013.

Reviewer of project proposals

Technology Foundation STW, Netherland, 2010, 2018; NSERC Natural Sciences and Engineering Research Council of Canada, 2014; NCN National Science Center, Poland, 2014 and 2015; Research Grants Council (RGC) of Hong Kong, 2017; National Natural Science Foundation of China, 2017; Science Foundation Ireland, 2017; Academy of Finland, 2018.

PhD thesis external reviewer/committee member:

Guang Yang, KTH, Sweden, 2018; Fangyuan Zhang, McGill University, Canada, 2018; Xian Xu, McGill University, Canada, 2015; Min Cen, University de Mons, Belgium, 2016

Associate editor for the following international journal

2015 – Journal of The Franklin Institute, Elsevier

• **MEMBERSHIPS OF SCIENTIFIC SOCIETIES**

2014 – IEEE Senior Member (Communication Society, Photonics Society)

• **ONGOING AND PREVIOUS GRANTS**

- **PI:** SJTU-KTH Collaborative Research and Development Seed Grants: Green Communication and Networking Technologies for Data Centers (200,000 SEK, 2017-2018).
- **PI:** Swedish Research Council VR starting project: GO-iData: Green Optical Interconnects for Data Centers (3.6 million SEK, 2017-2020)
- **PI:** Göran Gustafssons stora pris till yngre forskare (2.5 million SEK, 2015-2018)
- **PI:** Swedish Foundation for Strategic Research SSF-project for *career development*: Enabling Scalable and Sustainable Data Center Networks (6 million SEK, 2014-2019)
- **Co-PI:** Swedish Research Council VR framework project: Towards Flexible and Energy-Efficient Datacenter Networks (9 million SEK, 2015-2018)
- **Co-PI:** Vinnova project: Optisk fiber med ytbeläggning innehållande Grafen (50,000 SEK, 2018)
- **PI:** Faculty starting packet funded by KTH (150,000 Euros, 2014-2016)
- **Grant holder:** EU EIT-ICT project Energy-efficient M2M and Xhaul (25,000 Euros, 2015)
- **Task leader:** EU EIT-ICT project: Mobile Backhaul (160,000 Euros, 2013 - 2014)
- **Task leader:** EU FP7 large scale integrated project: The DIStributed Core for unlimited bandwidth supply for all Users and Services (DISCUS) (2012 – 2015, the grant received by KTH: 578,014 Euros)
- **Work package leader and technical coordinator at KTH:** EU FP7 large scale integrated project, Optical Access Seamless Evolution (OASE) (2010 – 2013, the grant received by KTH: 609,439 Euros)

• **MAJOR COLLABORATIONS**

The applicant has established extensive national and international collaborations in academia and industry, which are reflected in the applicant's publication list. Some examples are listed here:

- *Prof. M. Wuilpart*, Network monitoring, Université de Mons, Belgium;
- *Prof. X. (Scott) Yin*, Optical interconnects for datacenters, Ghent University, Belgium;
- *Prof. H. Hu and Prof. L. K. Oxenløwe*, Beyond 5G: THz, Technical University of Denmark, Denmark;
- *Dr. S. Bigo*, Cloud computing, Nokia Bell Labs, France;
- *Dr. X. Pang*, Optical interconnects for datacenters, Infinera, Sweden;
- *Prof. E. Agrell*, Datacenter networks, Chalmers University of Technology, Sweden;
- *Prof. Y. Zhao*, Cybersecurity, Beijing University of Post and Telecommunication, China;
- *Prof. G. Xavier*, Quantum techniques, Linköping University, Sweden.
- *Dr. W. Tong*, SDM fibers, Yangtze Optical Fibre and Cable Joint Stock Limited Company, China
- *Prof. M. Tang*, Space division multiplexing, Huazhong University of Science and Technology,

China

- *Dr. L. Yi*, Social robots for autism, Peking University, China
- *Prof. Xiaobing Zou and Dr. Huilin Zhu*, Social robots for autism, Sun Yat-sen University, China
- *Prof. C. Tremblay*, Filterless networks, École de Technologie Supérieure, Canada;
- *Prof. B. Mukherjee*, Access networks, University of California, Davis, USA;
- *Prof. A. Fumagalli*, Control plane, University of Texas at Dallas, USA;
- *Dr. C. Mas Machuca*, Techno-economic study, Technische Universität München, Germany;
- *Prof. D. Payne and Dr. M. Ruffini*, Access networks, Trinity College Dublin, Ireland;
- *Prof. S. He*, Optical interconnects, Zhejiang University, China;
- *Dr. B. Skubic and Dr. P. Urban*, 5G transport networks, Ericsson, Sweden;
- *Dr. M. P. Béanger*, Filterless networks, Ciena, Canada;
- *Dr. D. Breuer*, 5G transport networks, Deutsche Telecom, Germany;
- *Dr. K. Grobe*, 5G transport networks, ADVA, Germany;
- *Dr. M. Schiano*, 5G transport networks, Telecom Italia, Italy;
- *Dr. J. Montalvo*, 5G transport networks, Telefonica, Spain;
- *Dr. T. Pfeiffer*, 5G transport networks, Nokia Bell Labs, Germany;
- *Mr. R. Jensen and N. Parsons*, Optical switch, Polatis, UK;

• **PUBLICATION LIST A COMPLETE LIST OF PUBLICATIONS**

Google scholar statistics (Latest updated: 2018-12-27)

- Sum of the times cited: 2074

- h-index: 24

Peer-reviewed journal papers

- [1] P. Wiatr, **J. Chen**, P. Monti, L. Wosinska, and D. Yuan, "Routing and wavelength assignment vs. EDFA reliability performance in optical backbone networks: An operational cost perspective" Elsevier Optical Switching and Networking, vol. 31, pp. 211-217, Jan. 2019.
- [2] J. Li, X. Shen, L. Chen, J. Ou, L. Wosinska, and **J. Chen**, "Delay-Aware Bandwidth Slicing for Service Migration in Mobile Backhaul Networks," IEEE/OSA Journal of Optical Communications and Networking, vol. 11, pp. B1-B9, April. 2019.
- [3] L. Zhang, A. Udalcovs, R. Lin, O. Ozolins, X. Pang, L. Gan, R. Schatz, M. Tang, S. Fu, D. Liu, W. Tong, S. Popov, G. Jacobsen, W. Hu, S. Xiao, and **J. Chen**, "Towards Terabit Digital Radio over Fiber Systems: Architecture and Key Technologies", IEEE Communications Magazine, accepted.
- [4] Y. Cao, Y. Zhao, R. Lin, X. Yu, J. Zhang, and **J. Chen**, "Multi-tenant secret-key assignment (MTKA) over quantum key distribution networks", OSA Optics Express, accepted.
- [5] F. Yaghoubi, M. Mahloo, L. Wosinska, P. Monti, F. de Souza Farias, J. Crisóstomo Weyl Albuquerque Costa, and **J. Chen**, "A Techno-Economic Framework for 5G Transport Networks", IEEE Wireless Communications, vol. 25, pp. 56-63, Oct. 2018.
- [6] Y. Zhang, W. Song, Z. Tan, H. Zhu, Y. Wang, L. Cheuk Man, Y. Weng, S. Xu, H. Lu, B. Chen, **J. Chen**, and L. Yi, "Could Social Robots Facilitate Children with Autism Spectrum Disorders in Learning Distrust and Deception?", Journal of Computers In Human Behavior, accepted.
- [7] J. M. Estaran, H. Mardoyan, F. Jorge, O. Ozolins, A. Udalcovs, A. Konczykowska, M. Riet, B. Duval, V. Nodjiadjim, J.-Y. Dupuy, X. Pang, U. Westergren, **J. Chen**, S. Popov, and B. Sebastien, "140/180/204-Gbaud OOK Transceiver for Inter- and Intra-Data Center Connectivity", IEEE/OSA Journal of Lightwave Technology, accepted.
- [8] J. Van Kerrebrouck, X. Pang, O. Ozolins, R. Lin, A. Udalcovs, L. Zhang, H. Li, S. Spiga, M. Amann, L. Gan, M. Tang, S. Fu, R. Schatz, G. Jacobsen, S. Popov, D. Liu, W. Tong, G. Torfs, J. Bauwelinck, **J. Chen**, and X. Yin, "High-speed PAM4-based Optical SDM Interconnects with Directly Modulated Long-wavelength VCSEL, IEEE/OSA Journal of Lightwave Technology, accepted.
- [9] X. Chen, R. Lin, J. Cui, L. Gan, X. Pang, O. Ozolins, A. Udalcovs, T. Jiang, R. Schatz, S. Popov, **J. Chen**, M. Tang, S. Fu, and D. Liu, "TDHQ Enabling Fine-granularity Adaptive Loading for SSB-DMT Systems", IEEE Photonics Technology Letters, available on line.
- [10] R. Lin, X. Pang, J. Van Kerrebrouck, M. Verplaetse, O. Ozolins, A. Udalcovs, L. Zhang, L. Gan, M. Tang, S. Fu, R. J Schatz, U. Westergren, S. Popov, D. Liu, T. D. Keulenaer, G. Torfs, J. Bauwelinck, X. Yin, and **J. Chen**, "Real-time 100 Gbps/ λ /core NRZ and EDB IM/DD Transmission over Multicore Fiber for Intra-Datacenter Communication Networks", OSA Optics Express, vol. 8, pp. 10519-10526, April 2018.

- [11] L. Zhang, X. Pang, O. Ozolins, A. Udalcovs, S. Popov, S. Xiao, W. Hu, and **J. Chen**, "A Spectrally Efficient Digitized Radio-over-fiber System with K-means Clustering based Multidimensional Quantization", *OSA Optics Letters*, vol. 43, pp.1546-1549, April 2018.
- [12] L. Zhang, X. Hong, X. Pang, O. Ozolins, A. Udalcovs, R. Schatz, C. Guo, J. Zhang, F. Nordwall, K. M. Engenhardt, U. Westergren, S. Popov, G. Jacobsen, S. Xiao, W. Hu, and **J. Chen**, "Nonlinearity-aware 200-Gbit/s discrete multi-tone transmission for C-band short-reach optical interconnects with a single packaged EML", *OSA Optics Letters*, vol. 43, pp.182-185, Jan. 2018.
- [13] L. Zhang, J. Van Kerrebrouck, R. Lin, X. Pang, A. Udalcovs, O. Ozolins, S. Spiga, M. Amann, G. Van Steenberge, L. Gan, M. Tang, S. Fu, R. Schatz, S. Popov, D. Liu, W. Tong, S. Xiao, G. Torfs, **J. Chen**, J. Bauwelinck, and X. Yin, "Nonlinearity Tolerant High-speed DMT Transmission with 1.5- μ m Single-mode VCSEL and Multi-core Fibers for Optical Interconnects," *IEEE/OSA Journal of Lightwave Technology*, available on line.
- [14] Y. Gong, B. Yang, D. Zhang, X. Hong, Y. Lu, S. He, **J. Chen**, "Crosstalk-Aware Multiple-AWG Based Optical Interconnects for Datacenter Networks", *Optics Communications*, vol.426, pp. 151-157, Nov. 2018.
- [15] Y. Lu, E. Agrell, X. Pang, O. Ozolins, X. Hong, R. Lin, Y. Cheng, A. Udalcovs, S. Popov, G. Jacobsen, and **J. Chen**, "Multi-channel collision-free reception for optical interconnects", *OSA Optics Express*, vol. 26, pp. 13214-13222, May 2018.
- [16] Y. Hong, X. Hong, S. He and **J. Chen**, "Hybrid Routing and Adaptive Spectrum Allocation for Flex-grid Optical Interconnects", *IEEE/OSA Journal of Optical Communications and Networking*, vol. 10, pp. 506-514, May 2018.
- [17] J. Li and **J. Chen**, "Passive Optical Network Based Mobile Backhaul Enabling Ultra-Low Latency for Communications among Base Stations", *IEEE/OSA Journal of Optical Communications and Networking*, vol. 9, pp. 855-863, Oct. 2017. (Top download JOCN paper)
- [18] R. Lin, K. Szczerba, E. Agrell, L. Wosinsk, M. Tang, D. Liu, and **J. Chen**, "Scalability Analysis Methodology for Passive Optical Interconnects in Data Center Networks Using PAM", *Optics Communications*, vol. 403, pp. 283-289, Nov. 2017.
- [19] R. Lin, Y. Cheng, X. Guan, M. Tang, D. Liu, C. Chan, and **J. Chen**, "Physical-Layer Network Coding for Passive Optical Interconnect in Datacenter Networks", *OSA Optics Express*, vol. 25, pp. 17788-17797, July 2017.
- [20] D. Pham Van, M. Fiorani, L. Wosinska, and **J. Chen**, "Adaptive OpenShop Scheduling for Optical Interconnection Networks", *OSA/IEEE Journal of Lightwave Technology*, vol. 35, pp. 2503-2513 July 2017.
- [21] X. Shen, S. He and **J. Chen**, "Medium Access Control protocol and Resource Allocation for Passive Optical Interconnects", *IEEE/OSA Journal of Optical Communications and Networking*, vol. 9, pp. 555-562, July 2017.
- [22] Y. Cheng, M. Fiorani, R. Lin, L. Wosinska, and **J. Chen**, "POTORI: A Passive Optical Top-of-Rack Interconnect Architecture for Data Centers" *IEEE/OSA Journal of Optical Communications and Networking*, vol. 9, pp. 401-411, May 2017.
- [23] K. Wang, C. Mas Machuca, L. Wosinska, P. J. Urban, A. Gavler, K. Brunnström and **J. Chen**, "A Techno-Economic Analysis of Active Optical Network Migration Towards the Next Generation Optical Access", *IEEE/OSA Journal of Optical Communications and Networking*, vol. 9, pp. 327-341, April 2017.
- [24] X. Hong, Y. Yang, Y. Gong, and **J. Chen**, "Passive Optical Interconnects based on Cascading Wavelength Routing Devices for Datacenters: A Cross-layer Perspective", *IEEE/OSA Journal of Optical Communications and Networking*, vol. 9, pp. C45-C53, April 2017.
- [25] M. Verplaetse, R. Lin, J. Van Kerrebrouck, O. Ozolins, T. De Keulenaer, X. Pang, R. Pierco, R. Vaernewyck, A. Vyncke, R. Schatz, U. Westergren, G. Jacobsen, S. Popov, **J. Chen**, G. Torfs, J. Bauwelinck and X. Yin, "Real-Time 100 Gb/s Transmission using 3-Level Electrical Duobinary Modulation for Short-reach Optical Interconnects", *OSA/IEEE Journal of Lightwave Technology*, vol. 35, pp. 1313-1319, April 2017.
- [26] M. Cen, **J. Chen**, V. Moeyaert, P. Mégret, M. Wuilpart, "Advanced Fault Monitoring Scheme for Ring based Long-Reach Optical Access Networks", *OSA/IEEE Journal of Lightwave Technology*, vol. 35, pp. 1876-1886, May 2017.
- [27] Y. Hong, X. Hong, **J. Chen**, and S. He, "Elastic All-Optical Multi-Hop Interconnection in Data Centers with Adaptive Spectrum Allocation", *Optics Communications*, vol. 383, pp. 478-484, Jan. 2017.
- [28] M. Fiorani, M. Tornatore, **J. Chen**, L. Wosinska and B. Mukherjee, "Spatial Division Multiplexing for High Capacity Optical Interconnects in Modular Data Centers", *IEEE/OSA Journal of Optical Communications and Networking*, vol. 9, pp. A143-153, Feb. 2017.

- [29] D. Pham Van, B. Prasad Rimal, **J. Chen**, P. Monti, L. Wosinska, and M. Maier, "Power-Saving Methods for Internet of Things over Converged Fiber-Wireless Access Networks", *IEEE Communications Magazine*, vol. 55, pp.166-175, Nov. 2016.
- [30] M. Cen, **J. Chen**, V. Moeyaert, P. Mégret, M. Wuilpart, "Full monitoring for long-reach TWDM passive optical networks", *OSA Optics Express*, vol. 24, pp. 15782-15797, July, 2016.
- [31] A. Muhammad, M. Fiorani, L. Wosinska, and **J. Chen**, "Joint Optimization of Resource Allocation for Elastic Optical Intra-Datacenter Network", *IEEE Communications Letters*, vol. 20, pp.1760-1763, June, 2016.
- [32] K. Wang, A. Gavler, C. Mas Machuca, L. Wosinska, K. Brunnström and **J. Chen**, "Migration Strategies for FTTx Solutions based on Active Optical Networks", *IEEE Communications Magazine*, vol. 54, pp. 78-85, Feb. 2016.
- [33] É Archambault, N. Alloune, M. Furdek, Z. Xu, C. Tremblay, A. Muhammad, **J. Chen**, L. Wosinska, P. Littlewood, and M. P. Bédanger, "Routing and Spectrum Assignment in Elastic Filterless Optical Networks," *IEEE/ACM Transactions on Networking*, vol. 24 pp. 3578-3592, Mar. 2016.
- [34] R. Lin, Z. Feng, M. Tang, R. Wang, S. Fu, P. Shum, D. Liu, **J. Chen**, "Palm-shaped Spectrum Generation for Dual-band Millimeter Wave and Baseband Signals over Fiber", *Optics Communications*, vol. 367, pp. 137-143, May 2016.
- [35] D. Villafani Caballero, R. P Almeida, P. J. Urban, J. C Costa, J. P von der Weid and **J. Chen**, "SCM/WDM-PON with In-Service Baseband Embedded OTDR Monitoring", Elsevier, *Optics Communications*, vol. 356, pp. 250-255, Dec. 2015.
- [36] C. Mas. Machuca, Lena Wosinska, and **J. Chen**, "Assessment methodology of protection schemes for next generation optical access networks", Elsevier *Optical Fiber Technology*, vol. 26, pp. 82-93, Dec. 2015.
- [37] **J. Chen**, Y. Gong, M. Fiorani and S. Aleksic, "Optical Interconnects at the Top of the Rack for Energy-Efficient Datacenters", *IEEE Communications Magazine*, vol. 53, pp. 140-148, Aug. 2015.
- [38] Y. Gong, X. Hong, Y. Lu, S. He and **J. Chen**, "Passive Optical Interconnects at Top of the Rack: Offering High Energy Efficiency for Datacenters", *OSA Optics Express*, vol. 23, pp. 7957-7970, Mar. 2015.
- [39] Y. Cheng, M. Fiorani, L. Wosinska and **J. Chen**, "Reliable and Cost Efficient Passive Optical Interconnects for Data Centers", *IEEE Communications Letters*, vol. 19, pp. 1913-1916, Nov. 2015.
- [40] L. Chiaraviglio, P. Wiatr, P. Monti, **J. Chen**, J. Lorincz, and F. Idzikowski, M. Listanti, and L. Wosinska "Is Green Networking Beneficial in Terms of Device Lifetime", *IEEE Communications Magazine*, vol. 53, pp.232-240, May, 2015.
- [41] M. Forzati, A. Bianchi, **J. Chen**, K. Grobe, B. Lannoo, C. Mas Machuca, J.-C. Point, B. Skubic, S. Verbrugge, E. Weis, L. Wosinska, D. Breuer, "Next-Generation Optical Access Seamless Evolution: Concluding Results of the European FP7 Project OASE", *IEEE/OSA Journal of Optical Communications and Networking*, vol. 7, pp. 109-123, Mar. 2015.
- [42] P. Wiatr, **J. Chen**, P. Monti, and L. Wosinska, "Energy Efficiency versus Reliability Performance in Optical Backbone Networks", *IEEE/OSA Journal of Optical Communications and Networking*, vol. 7, pp. A482-A491, Mar. 2015.
- [43] M. Mahloo, **J. Chen** and L. Wosinska, "PON versus AON: Which is the best solution to offload core network by peer-to-peer traffic localization", Elsevier *Optical Switching and Networking*, vol. 15, pp. 1-9, Jan. 2015.
- [44] Z. Xu, E. Archambault, C. Tremblay, **J. Chen**, M. Furdek, L. Wosinska, M.P, Belanger, and P. Littlewood, "Flexible Bandwidth Allocation in Filterless Optical Networks", *IEEE Communications Letters*, vol. 19, pp.565-568, Jan. 2015.
- [45] M. Cen, **J. Chen**, V. Moeyaert, P. Mégret, and M. Wuilpart, "Multi-wavelength transmission-reflection analysis for fiber monitoring", *OSA Optics Express*, vol. 22, pp. 31248-31262, Dec. 2014.
- [46] Y. Yang, K. W. Sung, L. Wosinska and **J. Chen**, "Hybrid Fiber and Microwave Protection for Mobile Backhauling", *IEEE/OSA Journal of Optical Communications and Networking*, vol. 6, pp. 869-878, Oct. 2014.
- [47] M. Fiorani, S. Aleksic, M. Casoni, L. Wosinska and **J. Chen**, "Energy-Efficient Elastic Optical Interconnect Architecture for Data Centers", *IEEE Communications Letters*, vol. 18, pp. 1531-1534, Sept. 2014.
- [48] M. Fiorani, S. Aleksic, P. Monti, **J. Chen**, M. Casoni and L. Wosinska, "Energy Efficiency of an Integrated Intra-Data-Center and Core Network with Edge Caching", *IEEE/OSA Journal of Optical Communications and Networking*, vol. 6, pp. 421-432, Apr. 2014.
- [49] M. Ruffini, L. Wosinska, M. Achouche, **J. Chen**, N. Doran, F. Farjady, J. Montalvo, P. Ossieur, B. O'Sullivan, N. Parsons, T. Pfeiffer, X.Z. Qiu, C. Raack, H. Rohde, M. Schiano, P. Townsend, R. Wessaly,

- X. Yin and D. B. Payne, "DISCUS: An end-to-end solution for ubiquitous broadband optical access", *IEEE Communications Magazine*, vol. 52, pp. S24-S32, Feb. 2014.
- [50] M. Mahloo, **J. Chen**, L. Wosinska, A. Dixit, C. M. Machuca, D. Colle, and B. Lannoo, "Toward Reliable Hybrid WDM/TDM Passive Optical Networks", *IEEE Communications Magazine*, vol. 52, pp. S14-S23, Feb. 2014.
- [51] Z. Xu, E. Archambault, C. Tremblay, **J. Chen**, L. Wosinska, M. P. Belanger, and P. Littlewood, "1+1 Dedicated Optical-Layer Protection Strategy for Filterless Optical Networks", *IEEE Communications Letters*, vol. 18, pp.98-101, Jan. 2014.
- [52] C. Mas Machuca, M. Kind, K. Wang, K. Casier, M. Mahloo, **J. Chen**, "Methodology for a Cost Evaluation of Migration Towards NGOA Networks", *IEEE/OSA Journal of Optical Communications and Networking*, vol. 5, pp.1456 – 1466, Dec. 2013.
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- [2] B. Yang, L. Zhang, Y. Xu, D. Zhang, Q. Chen, S. Xiao, C. Guo, X. Hong, and **J. Chen**, "Experimental Evaluation of Heatsink Topology based Optical Interconnects", International Conference on Optical Communications and Networks (ICOON), Nov. 2018.
- [3] J. Li, L. Wosinska and **J. Chen**, "Dynamic Bandwidth Slicing to Support Service Migration in Passive Optical Network Based Mobile backhaul" (ACP), Oct. 2018 (**invited**).
- [4] Q. Chen, B. Yang, D. Zhang, Q. Zhang, and **J. Chen**, "Flexible Service Chain Mapping in Server-Centric Optical Datacenter Networks", Aisa Communications and Photonics Conference (ACP), Oct. 2018 (Nominated to be best student paper award competition).
- [5] O. Ozolins, J. Manuel Estaran, A. Udalcovs, F. Jorge, H. Mardoyan, A. Konczykowska, M. Riet, B. Duval, V. Nodjiadjim, J-Y. Dupuy, X. Pang, U. Westergren, **J. Chen**, S. Popov, S. Bigo, "140 Gbaud On-Off Keying Links in C-Band for Short-Reach Optical Interconnects", in European Conference on Optical Communication (ECOC), Sept. 2018.
- [6] Y. Cheng, M. D. Andrade, L. Wosinska, and **J. Chen**, "Resource Disaggregation versus Integrated Servers in Data Center: Impact of Internal Transmission Capacity Limitation", in European Conference on Optical Communication (ECOC), Sept. 2018.
- [7] A. Udalcovs, R. Lin, O. Ozolins, L. Gan, L. Zhang, X. Pang, R. Schatz, A. Djupsjöbacka, M. Tang, S. Fu, D. Liu, W. Tong, S. Popov, G. Jacobsen, and **J. Chen**, "Inter-core crosstalk in multicore fibers: impact on 56-Gbaud/ λ /Core PAM-4 transmission," in European Conference on Optical Communication (ECOC), Sept. 2018.
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- [9] L. Zhang, A. Udalcovs, R. Lin, O. Ozolins, X. Pang, L. Gan, R. Schatz, A. Djupsjöbacka, J. Mårtensson, M. Tang, S. Fu, D. Liu, W. Tong, S. Popov, G. Jacobsen, W. Hu, S. Xiao and **J. Chen**, “Digital Radio-over-Multicore-Fiber System with Self-Homodyne Coherent Detection and Entropy Coding for Mobile Fronthaul,” in European Conference on Optical Communication (ECOC), Sept. 2018.
- [10] L. Zhang, O. Ozolins, R. Lin, A. Udalcovs, X. Pang, L. Gan, R. Schatz, A. Djupsjöbacka, J. Mårtensson, U. Westergren, M. Tang, S. Fu, D. Liu, W. Tong, S. Popov, G. Jacobsen, W. Hu, S. Xiao and **J. Chen**, “Kernel Adaptive Filtering for Nonlinearity-Tolerant Optical Direct Detection Systems,” in European Conference on Optical Communication (ECOC), Sept. 2018.
- [11] L. Zhang, J. Van Kerrebrouck, O. Ozolins, R. Lin, X. Pang, A. Udalcovs, S. Spiga, M. C. Amann, G. Van Steenberge, L. Gan, M. Tang, S. Fu, R. Schatz, S. Popov, D. Liu, W. Tong, G. Torfs, J. Bauwelinck, X. Yin, S. Xiao and **J. Chen**, “Experimental Demonstration of 503.61-Gbit/s DMT over 10-km 7-Core Fiber with 1.5- μm SM-VCSEL for Optical Interconnects,” in European Conference on Optical Communication (ECOC), Sept. 2018.
- [12] X. Shen, J. Li, L. Chen, J. Chen and S. He, “Heterogeneous LTE/DSRC Approach to Support Real-time Vehicular Communications”, IEEE International Conference on Advanced Infocomm Technology (ICAIT), Aug. 2018. (Best paper award)
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- [14] Z. Tan, B. Xing, W. Song, W. Cao, H. Zhu, L. Yi and **J. Chen**, “Cloud Computing Enabled Social Robot Platform for Children with Autism Spectrum Disorders”, International Society for Autism Research Annual Meeting, INSAR, May, 2018.
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- [18] A. Udalcovs, X. Pang, O. Ozolins, R. Lin, L. Gan, R. Schatz, A. Djupsjöbacka, J. Mårtensson, M. Tang, S. Fu, D. Liu, W. Tong, **J. Chen**, S. Popov, and G. Jacobsen, “MCF-Enabled Self-Homodyne 16/64QAM Transmission for SDM Optical Access Networks,” in *Conference on Lasers and Electro-Optics*, SM4C.5, May 2018.
- [19] R. Lin, X. Pang, J. Van Kerrebrouck, M. Verplaetse, O. Ozolins, A. Udalcovs, L. Zhang, L. Gan, M. Tang, S. Fu, R. Schatz, U. Westergren, S. Popov, D. Liu, W. Tong, T. De Keulenaer, G. Torfs, J. Bauwelinck, X. Yin, and **J. Chen**, “Real-time 100 Gbps/ λ /core NRZ and EDB IM/DD Transmission over 10 km Multicore Fiber,” IEEE/OSA Optical Fiber Communication Conference and Exposition (OFC), Mar. 2018.
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- [22] L. Zhang, X. Pang, O. Ozolins, A. Udalcovs, S. Popov, S. Xiao, and **J. Chen**, “K-means Clustering based Multi-Dimensional Quantization Scheme for Digital Mobile Fronthaul,” IEEE/OSA Optical Fiber Communication Conference and Exposition (OFC), Mar. 2018.
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- 7-core Fiber using 1.5- μm SM-VCSEL," IEEE/OSA Optical Fiber Communication Conference and Exposition (OFC), Mar. 2018. **(Top scored)**
- [24] J. Ou, J. Li, L. Yi and **J. Chen**, "Resource Allocation in Passive Optical Network based Mobile Backhaul for User Mobility and Fog Computing", Asia Communications and Photonics Conference ACP, Nov. 2017. **(invited)**
- [25] B. Yang, Y. Gong, X. Hong, and **J. Chen**, "Heatsink topology based optical interconnect for datacenters", Asia Communications and Photonics Conference ACP, November, 2017.
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- [28] R. Lin, Y. Lu, X. Pang, O. Ozolins, Y. Cheng, A. Udalcovs, S. Popov, G. Jacobsen, M. Tang, D. Liu, and **J. Chen**, "First Experimental Demonstration of Physical-Layer Network Coding in PAM4 System for Passive Optical Interconnects", European Conference and Exhibition on Optical Communication ECOC, Sept. 2017.
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- [30] L. Zhang, X. Pang, O. Ozolins, A. Udalcovs, R. Schatz, U. Westergren, G. Jacobsen, S. Popov, S. Xiao, and **J. Chen**, "15-Gbaud PAM4 Digital Mobile Fronthaul with Enhanced Differential Pulse Coding Modulation supporting 122 LTE-A Channels with up to 4096QAM", European Conference and Exhibition on Optical Communication ECOC, Sept. 2017.
- [31] O. Ozolins, X. Pang, A. Udalcovs, R. Schatz, U. Westergren, J. Rodrigo Navarro, A. Kakkar, F. Nordwall, K. M. Engenhardt, **J. Chen**, S. Popov, G. Jacobsen, "100 Gbaud 4PAM Link for High Speed Optical Interconnects", European Conference and Exhibition on Optical Communication ECOC, Sept. 2017.
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- [33] X. Pang, O. Ozolins, L. Zhang, R. Schatz, A. Udalcovs, J. Storck, G. Maisons, M. Carras, S. Xiao, G. Jacobsen, S. Popov, **J. Chen**, and S. Lourduoss "4 Gbps PAM-4 and DMT Free Space Transmission using A 4.65- μm Quantum Cascaded Laser at Room Temperature", European Conference and Exhibition on Optical Communication ECOC, Sept. 2017.
- [34] X. Yin, M. Verplaetse, L. Breyne, J. Van Kerrebrouck, T. De Keulenaer, A. Vyncke, R. Pierco, R. Vaernewyck, S. Spiga, M-C Amann, **J. Chen**, G. Van Steenberge, G. Torfs, J. Bauwelinck, "Towards efficient 100 Gb/s serial rate optical interconnects: A duobinary way", IEEE Optical Interconnects Conference (OI), 2017.
- [35] C. Tremblay, P. Littlewood, M. P. Bédanger, L. Wosinska, **J. Chen**, "Agile filterless optical networking", Optical Network Design and Modeling (ONDM), 2017.
- [36] R. Lin, Y. Cheng, M. Tang, D. Liu, and **J. Chen**, "Physical-layer Network Coding for Passive Optical Interconnects in Datacenter Networks", IEEE International Conference on Transparent Optical Networks, July 2017. **(invited)**
- [37] R. Lin, Y. Cheng and **J. Chen**, "Physical-Layer Network Coding over Passive Optical Interconnect in Datacenter Networks", PIERS Progress in Electromagnetics Research Symposium, May, 2017. **(invited)**
- [38] X. Shen, S. He and **J. Chen**, "Minimizing Registration Overhead for Multipoint-to-Multipoint Communication in Passive Optical Interconnects", OptoElectronics and Communications Conference, OECC, Jul. 2017. **(invited)**
- [39] X. Hong, O. Ozolins, C. Guo, X. Pang, J. Zhang, J. Navarro, A. Kakkar, R. Schatz; U. Westergren, G. Jacobsen, S. Popov, and **J. Chen**, "1.55- μm EML-based DMT Transmission with Nonlinearity-Aware Time Domain Super-Nyquist Image Induced Aliasing", IEEE/OSA Optical Fiber Communication Conference and Exposition (OFC), Mar. 2017.
- [40] J. Li and **J. Chen**, "Optical Transport Network Architecture Enabling Ultra-Low Latency for Communications among Base Stations", IEEE/OSA Optical Fiber Communication Conference and Exposition (OFC), Mar. 2017.
- [41] Y. Cheng, M. Fiorani, L. Wosinska, and **J. Chen**, "Centralized Control Plane for Passive Optical Top-of-Rack Interconnects in Data Centers", IEEE Global Communications Conference, Exhibition and Industry Forum GLOBECOM, Dec. 2016.

- [42] D. Pham Van, M. Fiorani, L. Wosinska, and **J. Chen**, “Resource Management for Optical Interconnects in Data Centre Networks”, IEEE Global Communications Conference, Exhibition and Industry Forum GLOBECOM, Dec. 2016.
- [43] Y. Yang and **J. Chen**, “Network Performance Analysis of An AWG-based Passive Optical Interconnect for Datacenters”, Asia Communications and Photonics Conference, ACP, Nov. 2016. (**invited**)
- [44] Sergei Popov, Xiaodan Pang, O. Ozolins, M. Olmedo, A. Kakkar, S. Gaiarin, A. Udalcovs, R. Lin, R. Schatz, J. R Navarro, A. Djupsjöbacka, D. Zibar, **J. Chen**, U. Westergren, and G. Jacobsen, “Ultra-Broadband High-Linear Integrated Transmitter for Low Complexity Optical Interconnect Applications” Asia Communications and Photonics Conference, ACP, Nov. 2016.
- [45] R. Lin, K. Szczerba, E. Agrell, L. Wosinska, M. Tang, and **J. Chen**, “To Overcome the Scalability Limitation of Passive Optical Interconnects in Datacentres”, Asia Communications and Photonics Conference, ACP, Nov. 2016.
- [46] X. Yin, M. Verplaetse, R. Lin, J. Van Kerrebrouck, O. Ozolins, T. De Keulenaer, X. Pang, R. Pierco, R. Vaernewyck, A. Vyncke, R. Schatz, U. Westergren, G. Jacobsen, S. Popov, **J. Chen**, G. Torfs, and J. Bauwelinck, “First Demonstration of Real-Time 100 Gbit/s 3-Level Duobinary Transmission for Optical Interconnects”, European Conference and Exhibition on Optical Communication ECOC, Sept. 2016, **postdeadline**.
- [47] R. Lin, X. Pang, O. Ozolins, Z. Feng, A. Djupsjöbacka, U. Westergren, R. Schatz, G. Jacobsen, M. Tang, S. Fu, D. Liu, S. Popov and **J. Chen**, “Experimental Validation of Scalability Improvement for Passive Optical Interconnect by Implementing Digital Equalization”, European Conference and Exhibition on Optical Communication ECOC, Sept. 2016.
- [48] **J. Chen** and J. Li, “Efficient Mobile Backhaul Architecture Offering Ultra-Short Latency for Handovers”, IEEE International Conference on Transparent Optical Networks, July 2016. (**invited**)
- [49] X. Hong, Y. Gong, Y. Yang and **J. Chen**, “AWG based Passive Optical Interconnects for Datacenters”, OSA Advanced Photonics Congress, Aug. 2016. (**invited**)
- [50] M. Cen, **J. Chen**, V. Moeyaert, P. Mégret and M. Wuilpart, “Full Monitoring for Long-Reach TWDM Passive Optical Networks based on TRA Technique”, IEEE International Conference on Transparent Optical Networks, July 2016.
- [51] F. Yaghoubi, **J. Chen**, A. Rostami, and L. Wosinska, “Mitigation of Rain Impact on Microwave Backhaul Networks”, IEEE International Conference on Communications, May 2016.
- [52] M. Fiorani, M. Tornatore, **J. Chen**, L. Wosinska, and B. Mukherjee, "Optical Spatial Division Multiplexing for Ultra-High-Capacity Modular Data Centers", *IEEE/OSA Optical Fiber Communication Conference and Exposition (OFC)*, March 20-24, 2016, Anaheim, USA. (**Top 10% ranking**)
- [53] R. Lin, X. Pang, O. Ozolins, Z. Feng, A. Djupsjöbacka, U. Westergren, R. Schatz, G. Jacobsen, M. Tang, S. Fu, D. Liu, S. Popov, and **J. Chen**, “Performance Evaluation of PAM and DMT for Short-range Optical Transmission with High Speed InGaAsP DFB-TWEAM”, *IEEE/OSA Optical Fiber Communication Conference and Exposition (OFC)*, March 20-24, 2016, Los Angeles, USA.
- [54] A. Shahid, C. Mas Machuca, L. Wosinska, and **J. Chen**, “Comparative analysis of protection schemes for fixed mobile converged access networks based on hybrid PON”, Telecommunication, Media and Internet Techno-Economics (CTTE), 2015 Conference of, Nov. 2015.
- [55] M. Mahloo, L. Wosinska, and **J. Chen**, “Efficient Architecture Supporting Coordinated Multipoint Transmission in Mobile Networks”, (**invited**) IEEE/OSA/SPIE Asia Communications and Photonics Conference and Exhibition (ACP), Nov. 2015.
- [56] M. Cen, **J. Chen**, V. Moeyaert, P. Mégret, M. Wuilpart, “A Full Monitoring Scheme for Long-reach TWDM PONs”, IEEE/OSA/SPIE Asia Communications and Photonics Conference and Exhibition (ACP), Nov. 2015. (Best Student Paper Award)
- [57] Y. Cheng, M. Fiorani, L. Wosinska, and **J. Chen**, “Reliability analysis of interconnects at edge tier in datacenters”, (**invited**) 17th International Conference on Transparent Optical Networks (ICTON), 2015.
- [58] M. Cen, **J. Chen**, V. Moeyaert, P. Megret, and M. Wuilpart, “Advanced Transmission-Reflection-Analysis (TRA) system for Long-Reach Passive Optical Network monitoring”, 17th International Conference on Transparent Optical Networks (ICTON), 2015.
- [59] Y. Hong, X. Hong, S. He and **J. Chen**, “Flex-grid All-optical Interconnect supporting Transparent Multi-hop Connection in Data Centers”, PIERS Progress in Electromagnetics Research Symposium, July, 2015. (**invited**)
- [60] M. Nooruzzaman, N. Alloune, F. Nabet, Z. Xu, C. Tremblay, M. Furdek, **J. Chen**, L. Wosinska, P. Littlewoodand, and M. P. B dänger, “Filterless architecture for coherent undersea networks” International Conference on Optical Network Design and Modeling (ONDM), 2015.

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- [62] L. Chiaraviglio, P. Wiatr, P. Monti, **J. Chen**, L. Wosinska, J. Lorincz, F. Idzikowski, and M. Listanti, “Impact of Energy-Efficient Techniques on a Device Lifetime”, *IEEE Online Conference on Green Communications (GreenCom)*, 2014.
- [63] **J. Chen**, P. J. Patryk and J. Montalvo, “Cost-Efficient Fault Supervision Schemes for Next Generation Optical Access Networks”, *IEEE/OSA/SPIE Asia Communications and Photonics Conference and Exhibition (ACP)*, Nov. 2014. **(invited)**
- [64] C. Tremblay, M. Nooruzzaman, N. Alloune, F. Nabet, É. Archambault, Z. Xu, L. Wosinska, **J. Chen**, P. Littlewood, and M. P. Bédanger, “Filterless Optical Network Architectures for Core and Submarine Applications”, *13th International Conference on Optical Communications and Networks (ICOON)*, Nov. 2014.
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