

- **EDUCATION**

- 09/2006-05/2009 PhD, in Microelectronics and Applied Physics, KTH Royal Institute of Technology, Sweden (Leading technical university in Europe)
 09/2001-06/2004 Bachelor (Top 3%) in Information Engineering, Zhejiang University, China

- **CURRENT AND PREVIOUS POSITIONS**

- 04/2019 – Professor, Department of Electrical Engineering, Chalmers University of Technology, Sweden (Leading technical university in Europe)
 01/2019 – 12/2019 Consultant, Ericsson, Sweden
 02/2015 – 12/2019 Associate Professor, School of Electrical Engineering and Computer Science, KTH, Sweden
 01/2015 – 12/2015 Director of Bachelor Program in Information and Communication Technology
 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

- **ONGOING AND PREVIOUS RESEARCH GRANTS**

- **PI:** GENIE funding: Platform for Gender Initiatives in Distributed Quantum Machine Learning (1 million SEK, 2020-2021)
- **PI:** SSF Grant: Cognitive Federated Learning (2 million SEK, 2020-2021)
- **PI:** Chalmers ICT Seed Project: O-iNet Optical Intelligent Optical Networks for Vision Zero (300,000 SEK, 2020)
- **PI:** STINT Joint China-Sweden Mobility Programm: High Capacity Optical Interconnects for Disaggregated Data Centers (600,000 SEK, 2019-2021)
- **PI:** Swedish Research Council VR starting project: GO-iData: Green Optical Interconnects for Data Centers (3.6 million SEK, 2017-2021)
- **PI:** Göran Gustafssons stora pris till yngre forskare (2.5 million SEK, 2015-2019)
- **PI:** Swedish Foundation for Strategic Research SSF-project for *career development*: Enabling Scalable and Sustainable Data Center Networks (6 million SEK, 2014-2021)
- **Co-PI:** Swedish Research Council VR framework project: Towards Flexible and Energy-Efficient Datacenter Networks (9 million SEK, 2015-2019)
- **Co-PI:** Vinnova project: Optisk fiber med ytbeläggning innehållande Grafen (50,000 SEK, 2018-2019)
- **PI:** SJTU-KTH Collaborative Research and Development Seed Grants: Green Communication and Networking Technologies for Data Centers (200,000 SEK, 2017-2019).
- **PI:** Faculty starting packet funded by KTH (1.5 million SEK, 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)

- **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 (2014-2020), Y. Cheng (2015-2019), J. Li (2015-2019), L. Xue (2018-2021), and X. Jin (2018-2021)

8 postdoctoral researchers/research engineers: 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), J. Li (2019-2021), and Y. Hong (2018-2021)

25 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), M. Farahnaki (2018), J. Jiang (2019), Y. Yang (2019), J. Ou (2019), Z. Tan (2019), D. Zhang (2019), B. Yang (2019), Q. Chen (2020), Z. Zhang (2020), Q. Peng (2020), J. Mate (2020), and I. Andersson (2020).

- **AWARDS**

- Göran Gustafssons Stora Pris till Yngre Forskare (a prize for young Swedish researchers at age below 36), 2015

- Best Paper Awards at IEEE ICAIT 2018: X. Shen and SPIE ICOCN 2018: D. Zhang.
- 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

• SKILLS and TRAINING

Training: Research leadership programs organized by Swedish Foundation for Strategic Research and KTH; Pedagogical training programs organized by KTH and Chalmers.

Programming Skills: Matlab, C&C++, Python, and Java.

Languages: English (professional), Swedish (basic), and Mandarin Chinese (native).

• ORGANISATION OF SCIENTIFIC MEETINGS

2020	Subcommittee Co-Chair at IEEE/OSA/SPIE ACP
2020	<u>Symposium Co-Chair at IEEE Globecom</u>
2019	<u>Subcommittee Chair at IEEE/OSA OFC (flagship conference with 20,000+ attendants)</u>
2019	Subcommittee Co-Chair at IEEE/OSA/SPIE ACP
2019	Poster Award Committee Chair at Optics & Photonics in Sweden conference
2018	Chair of Workshop at ECOC
2018	General Chair of IEEE ICAIT 2018
2018	Co-Chair of Session I SPIE ICOCN
2015 – 2019	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

ECOC 2020 (*flagship conference with 10,000+ attendants*); **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 2015-2019 (*flagship conference in IEEE communications 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 conference in IEEE communications 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, 2019 and 2020; National Natural Science Foundation of China, 2017, 2020; Science Foundation Ireland, 2017; Academy of Finland, 2018; Dutch Research Council, 2020; Swedish Foundation for Strategic Research SSF, 2020; EU H2020 Next Generation Internet NGI, 2020.

PhD thesis external reviewer/committee member:

Xuwei Xue, Eindhoven University of Technology, 2020; Hui Yuan, University College London, 2020; Xing Chang, City University of Hong Kong, 2019; Tamas Lengyel, Chalmers University of Technology, Sweden, 2019; Xiaowen Chen, KTH, Sweden, 2019; Guang Yang, KTH, Sweden, 2018; Fangyuan Zhang, McGill University, Canada, 2018; Min Cen, University de Mons, Belgium, 2016; Xian Xu, McGill University, Canada, 2015.

Faculty position external reviewer:

Chinese University of Hong Kong, 2020; Linköping University, Sweden, 2020.

Associate editor for the following international journal

2015 – Journal of The Franklin Institute, Elsevier

- **MEMBERSHIPS OF SCIENTIFIC SOCIETIES**

- 2014 – IEEE Senior Member (Communications Society, Photonics Society)
- 2018 – Board Member of the IEEE Photonics Society Sweden Chapter
- 2019 – OSA Member

- **PATENTS:**

- [1] **J. Chen** and L. Wosinska, “Improvements in optical communications networks”, worldwide patent, PCT/SE2009/051221, granted.
- [2] **J. Chen**, and P. Urban, “Arrangement at a remote node, a remote node, a central office and respective methods therein for supervision of a wavelength division multiplexed passive optical network”, worldwide patent, PCT/SE2012/050337, granted.
- [3] **J. Chen** and P. Urban, “Routing in a WDM-based PON”, worldwide patent, PCT/SE2012/051342, granted.
- [4] P. Urban, R. de Almeida and **J. Chen**, “Transceiver and method for monitoring of scm transmission on fibre cable”, worldwide patent, PCT/SE2014/050254, granted.
- [5] M. Mahloo, **J. Chen** and L. Wosinska, “A Passive Optical Networks Structure and A Remote Node in A Backhaul Communication Network”, filed worldwide patent, PCT/SE2014/051029, Sept. 2014.
- [6] F. Yaghoubi, A. Rostami, **J. Chen**, P. Ohlen, and L. Wosinska, “Routing Control in a Communication Network”, filed worldwide patent, PCT/EP2015/079815, Dec. 2015.
- [7] **J. Chen** and W. Mei, “Fast Fiber Fault Monitoring System”, filed Chinese patent, Apr. 2014. Application No. 201410159847.4.
- [8] **J. Chen**, Y. Gong and W. Mei, “Passive Optical Interconnect Architecture”, filed Chinese patent, Apr. 2014. Application No. 201410159689.2.
- [9] **J. Chen**, Y. Gong and W. Mei, “Optical Communication Networks for Mobile Backhauling”, filed Chinese patent, Apr. 2014. Application No. 201410159848.9.
- [10] L. Zhang, X. Pang, S. Xiao and **J. Chen**, “Optical communication channel equalization using a kernel”, filed US patent, 16038658, 2018.

- **TEACHING ACTIVITIES**

- IK1611 (2B1315) Dimensioning of Communication Systems, undergraduate course, KTH Royal Institute of Technology
 - 2012- 2019, course responsible and examiner
 - 2011-2012, lecturer
 - 2007-2010, teaching assistant
- FIK3611 Dimensioning of Advanced Communication Systems, graduate course, KTH Royal Institute of Technology
 - 2012-2019, 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”, invited tutorials at
 - Xidian University, May 2020
 - Peking University, Apr. 2020
 - 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”, invited tutorial at
 - Sun Yat-sen University, China, Sep. 2016
 - École de technologie supérieure, 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 at

- Linköping 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
- “5G Transport Networks”, seminars given at
 - Princeton University, USA, Jan. 2019
 - Rutgers, the State University of New Jersey, USA, Jan. 2019
- Optical Networking, 2004-2006, postgraduate course, Zhejiang University, teaching assistant
- Communication Theory, 2005-2006, postgraduate course, Zhejiang University, teaching assistant

• PUBLICATIONS

A full list of peer-reviewed journal papers

- [1] L. Zhang, **J. Chen**, A. Udalcovs, X. Pang, R. Schatz, U. Westergren, S. Popov, S. Xiao, O. Ozolins, "Kernel Affine Projection for Nonlinearity Tolerant Optical Short Reach Systems," in *IEEE Transactions on Communications*, doi: 10.1109/TCOMM.2020.3007643.
- [2] Y. Hong, D. Zhang, B. Yang, G. Chen, Y. Wang, Q. Chen, X. Hong and **J. Chen**, “A Multi-Floor Arrayed Waveguide Grating based Architecture with Grid Topology for Datacenter Networks”, *IEEE Access*, vol. 8, pp. 107134-107145, May 2020.
- [3] J. Li, X. Shen, L. Chen and **J. Chen**, “Bandwidth Slicing to Boost Federated Learning over Passive Optical Networks” *IEEE Communications Letters*, vol. 24, pp. 1492-1495, July 2020.
- [4] Y. Lu, X. Li, X. Pang, L. Hu, X. Wang, M. Bi and J. Chen, “Mark Ratio Modulation over Pulse Position Modulation”, *Elsevier Optical Fiber Technology*, vol. 57, July 2020. <https://doi.org/10.1016/j.yofte.2020.102201>.
- [5] R. Lin, A. Udalcovs, O. Ozolins, X. Pang, L. Gan, M. Tang, S. Fu, S. Popov, T. Ferreira da Silva, G. B. Xavier, and **J. Chen**, "Telecommunication Compatibility Evaluation for Co-existing Quantum Key Distribution in Homogenous Multicore Fiber," *IEEE Access*, vol. 8, pp. 78836-78846, April 2020.
- [6] R. Lin, Y. Cheng, M. De Andrade, L. Wosinska and **J. Chen**, “Disaggregated Data Centers: Challenges and Trade-offs”, *IEEE Communications Magazine*, vol. 58, pp. 20-26, Feb. 2020.
- [7] X. Pang, O. Ozolins, R. Lin, L. Zhang, A. Udalcovs, L. Xue, R. Schatz, U. Westergren, S. Xiao, W. Hu, G. Jacobsen, S. Popov, and **J. Chen**, “200 Gbps/lane IM/DD Technologies for Short Reach Optical Interconnects”, *Journal of Lightwave Technology*, vol. 38, pp. 492-503, Jan. 2020.
- [8] Y. Cao, Y. Zhao, J. Li, R. Lin, J. Zhang and **J. Chen**, “Multi-Tenant Provisioning for Quantum Key Distribution Networks with Heuristics and Reinforcement Learning: A Comparative Study”, *IEEE Transactions on Network and Service Management*, vol. 17, no. 2, pp. 946-957, June 2020.
- [9] L. Xue, L. Yi, W. Hu, R. Lin and **J. Chen**, "Optics-simplified DSP for 50 Gb/s PON downstream transmission using 10 Gb/s optical devices," *Journal of Lightwave Technology*, vol. 38, pp. 583-589, Feb. 2020.
- [10] L. Zhang, **J. Chen**, E. Agrell, R. Lin and L. Wosinska, "Enabling Technologies for Optical Data Center Networks: Spatial Division Multiplexing," *Journal of Lightwave Technology*, vol. 38, pp 18-30, Jan. 2020.
- [11] L. Zhang, X. Pang, A. Udalcovs, O. Ozolins, R. Lin, X. Yin, M. Tang, W. Tong, S. Xiao, and **J. Chen**, "Kernel mapping for mitigating nonlinear impairments in optical short-reach communications," *Opt. Express*, vol. 27, pp. 29567-29580, Oct. 2019. (Highlighted as an Editor’s Pick)
- [12] Y. Zhang, W. Song, Z. Tan, H. Zhu, Y. Wang, CM. Lam, Y. Weng, SP. Hoi, H. Lu, B. Chan, **J. Chen** and L. Yi, “Could social robots facilitate children with autism spectrum disorders in learning distrust and deception?”, *Elsevier Computers in Human Behavior*, vol. 98, pp.140-149, Sept. 2019.
- [13] Z. Zhang, Y. Zhu, W. Zhu, H. Chen, X. Hong, and **J. Chen**, "Iterative point-wise reinforcement learning for highly accurate indoor visible light positioning," *Opt. Express*, vol. 27, pp. 22161-22172, Aug. 2019.
- [14] Y. Zhang, W. Song, Z. Tan, Y. Wang, CM. Lam, SP. Hoi, Q. Xiong, **J. Chen** and L. Yi, “Theory of Robot Mind: False Belief Attribution to Social Robots in Children With and Without Autism”, *Front. Psychol.* vol. 10, pp. 1732-1739, Aug. 2019.
- [15] W. Cao, W. Song, X. Li, S. Zheng, G. Zhang, Y. Wu, S. He, H. Zhu and **J. Chen**, “Interaction With Social Robots: Improving Gaze Toward Face but Not Necessarily Joint Attention in Children With Autism Spectrum Disorder” *Front. Psychol.* vol. 10, pp.1503, July 2019.
- [16] 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*, vol. 57, pp. 131-137, April 2019.
- [17] 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.

- [18] J. Li, X. Shen, L. Chen, D.P. Van, J. Ou, L. Wosinska and **J. Chen**, "Service Migration in Fog Computing Enabled Cellular Networks to Support Real-Time Vehicular Communications," *IEEE Access*, vol. 7, pp. 13704-13714, 2019.
- [19] 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*, vol. 27, pp. 2544-2561, Feb. 2019.
- [20] 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*, vol. 37, pp. 380-388, Jan. 2019.
- [21] 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*, vol. 37, pp. 178-187, Jan. 2019.
- [22] 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*, vol. 37, pp. 356-362, Jan. 2019.
- [23] 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.
- [24] 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.
- [25] 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*, vol. 30, pp. 1687 – 1690, Oct. 2018.
- [26] 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.
- [27] 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.
- [28] 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.
- [29] 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.
- [30] 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.
- [31] 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.
- [32] 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)
- [33] 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.
- [34] 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.

- [35] 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.
- [36] 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.
- [37] 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.
- [38] 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.
- [39] 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.
- [40] 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.
- [41] 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.
- [42] 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.
- [43] 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.
- [44] 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.
- [45] 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.
- [46] A. Muhammad, M. Fiorani, L. Wosinska, and **J. Chen**, “Joint Optimization of Resource Allocation for Elastic Optical Intra-Datcenter Network”, *IEEE Communications Letters*, vol. 20, pp.1760-1763, June, 2016.
- [47] 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.
- [48] É Archambault, N. Alloune, M. Furdek, Z. Xu, C. Tremblay, A. Muhammad, **J. Chen**, L. Wosinska, P. Littlewood, and M. P. Bélanger, "Routing and Spectrum Assignment in Elastic Filterless Optical Networks," *IEEE/ACM Transactions on Networking*, vol. 24 pp. 3578-3592, Mar. 2016.
- [49] 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.
- [50] 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.
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A full list of conference papers

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- [2] O. Ozolins, L. Zhang, A. Udalcovs, H. Louchet, T. Dippon, M. Gruen, X. Pang, R. Schatz, U. Westergren, S. Xiao, S. Popov, and **J. Chen**, “300+ Gbps Short-Reach Optical Communications” in *OSA Conference on Lasers and Electro-Optics (CLEO)*, 2020.
- [3] L. Zhang, **J. Chen**, A. Udalcovs, X. Pang, R. Schatz, U. Westergren, S. Popov, S. Xiao and O. Ozolins, “Kernel Affine Projection for Compensating Nonlinear Impairments in Optical Direct Detection Systems”, in *European Conference on Optical Communication (ECOC)*, Sept. 2019.
- [4] L. Zhang, **J. Chen**, A. Udalcovs, H. Louchet, T. Dippon, M. Gruen, X. Pang, R. Schatz, U. Westergren, S. Popov, S. Xiao and O. Ozolins, “Lattice Pilot Aided DMT Transmission for Optical Interconnects Achieving 5.82-bits/Hz per Lane”, in *European Conference on Optical Communication (ECOC)*, Sept. 2019.
- [5] O. Ozolins, L. Zhang, A. Udalcovs, H. Louchet, T. Dippon, M. Gruen, X. Pang, R. Schatz, U. Westergren, S. Xiao, S. Popov and **J. Chen**, “100 Gbaud PAM4 Link without EDFA and Post Equalization for Optical Interconnects”, in *European Conference on Optical Communication (ECOC)*, Sept. 2019.
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- [7] **J. Chen**, "5G Transport Networks: Capacity, Latency and Cost," *OSA Advanced Photonics Congress (AP) 2019 (Invited)*
- [8] A. Udalcovs, L. Zhang, A. Djupsjöback, S. Xiao, **J. Chen**, and S. Popov, “Towards 25+ Gbps λ IM-DD PON: NRZ, Duobinary, PAM4, and DMT Transmission and Optical Budget Comparison”, *21st International Conference on Transparent Optical Networks (ICTON)*, Angers, France, 2019.
- [9] O. Ozolins, X. Pang, A. Udalcovs, L. Zhang, R. Schatz, U. Westergren, G. Jacobsen, **J. Chen**, and S. Popov, “Multilevel Modulation at 100 Gbaud for Short Reach C-Band Links” *21st International Conference on Transparent Optical Networks (ICTON)*, Angers, France, 2019.
- [10] R. Lin, A. Udalcovs, O. Ozolins, M. Tang, S. Fu, S. Popov, T. Ferreira da Silva, G. B. Xavier, **J. Chen**, "Embedding Quantum Key Distribution into Optical Telecom Communication Systems," *21st International Conference on Transparent Optical Networks (ICTON)*, Angers, France, 2019.
- [11] L. Xue, L. Yi, L. Zhang, O. Ozolins, A. Udalcovs, X. Pang, and **J. Chen**, "50-Gb/s Dispersion-unmanaged DMT Transmission with Injection Locked 10G-class 1.55- μ m DML," in *OSA Conference on Lasers and Electro-Optics (CLEO)*, 2019.
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- [38] J. Van Kerrebrouck, L. Zhang, R. Lin, X. Pang, A. Udalcovs, O. Ozolins, S. Spiga, M. C. 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, "726.7-Gb/s 1.5- μ m Single-Mode VCSEL Discrete Multi-Tone Transmission over 2.5-km Multicore Fiber," *IEEE/OSA Optical Fiber Communication Conference and Exposition (OFC)*, Mar. 2018. **(Top scored)**
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- [41] 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)**
- [42] B. Yang, Y. Gong, X. Hong, and **J. Chen**, "Heatsink topology based optical interconnect for datacenters", *Asia Communications and Photonics Conference ACP*, November, 2017.
- [43] Y. Yang and **J. Chen**, "Service Chain Placement in Server-centric Optical Datacenter Networks", *Asia Communications and Photonics Conference ACP*, November, 2017.
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- [45] 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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