



## Marija Furdek – Curriculum Vitae

Work address:  
Chalmers University of Technology  
Hörsalsvägen 11  
S-412 96 Gothenburg, Sweden

Phone: +46 31772 6028; +46 70 087 7171  
E-mail: [furdek@chalmers.se](mailto:furdek@chalmers.se)

### Personal Information:

Citizenship Croatia  
Languages Croatian (mother tongue), English (proficient), Swedish, German, Spanish (basic)

### Summary:

Dr. Furdek is an assistant professor at the Department of Electrical Engineering at Chalmers, Gothenburg, Sweden. Previously she was with the Optical Networks Lab (ONLab) at KTH Royal Institute of Technology in Stockholm, Sweden. Her research interests include the design of high-performance networks supporting next generation services, encompassing issues related to the optical and wireless network architecture, data plane, and control plane. Her ambition is to contribute to the development of optimized, cognitive and autonomous communication networks with a focus on physical-layer security and resilience to a wide range of faults.

As a principal investigator, work group/package leader and researcher, Marija has participated in several European, Swedish and Croatian research projects with a wide network of collaborators from the industry and academia. She has co-authored more than 90 scientific publications in international journals and conferences, 5 of which received best paper awards. Marija is an editor of the Photonic Network Communications journal, and a Guest Editor of the IEEE/OSA Journal of Optical Communications and Networking, and IEEE/OSA Journal of Lightwave Technologies. She was a General Chair of the Photonic Networks and Devices conference, a part of the OSA Advanced Photonics Congress 2016-2019. She is a Senior Member of IEEE and OSA.

### Working experience:

- 2019 – present **Assistant Professor**  
Communications, Antennas and Optical Networks (CAOS) division  
Dept. of Electrical Engineering, Chalmers, Gothenburg, Sweden
- 2014 – 2019 **Senior Researcher**  
Optical Networks Laboratory (ONLab)  
KTH Royal Institute of Technology, Stockholm, Sweden
- 2016 – 2017 **Deputy Program Director** of the International Bachelor's Programme in  
Information and Communication Technology  
KTH Royal Institute of Technology, Stockholm, Sweden
- 2013 – 2014 **Postdoc**  
ONLab, KTH Royal Institute of Technology, Stockholm, Sweden
- 2009 – 2013 **Research and teaching assistant**  
Faculty of Electrical Engineering and Computing, University of Zagreb, Croatia

### Industrial and academic research stays:

- 12/2017 Telecom Italia Lab, Turin, Italy, host: Dr. Marco Schiano.
- 01 – 02 /2017 Auckland University of Technology, New Zealand, host: Dr. William Liu.
- 10/2015 Massachusetts Institute of Technology, USA, host: Prof. Vincent W.S. Chan.

### Education:

- 05/2017 **Docent in Optical Networks**  
KTH Royal Institute of Technology
- 2008 – 2012 **Doctor of Philosophy in Electrical Engineering**  
Faculty of Electrical Engineering and Computing, University of Zagreb, Croatia  
Dissertation: “*Routing and wavelength assignment for limiting jamming attack propagation in optical networks*”. Supervisor: Prof. Nina Skorin-Kapov.
- 2003 – 2008 **M.Sc. in Electrical Engineering (5-year Dipl. Ing. program)**

**Leadership in international and national scientific projects:**

- 2020 – 2023 *Safeguarding Optical Communication Networks from Cyber-Security Attacks*, funded by Swedish Research Council (Vetenskapsrådet, VR) Starting Grant. Role: **project leader**.
- 2016 – 2020 *COST Action CA15127: Resilient Communication Services Protecting End-User Applications from Disaster-Based Failures (ReCoDis)*. Role: Swedish representative, Management Committee member, **leader of working group WG 4: Resilience to malicious human activities**.
- 2017 – 2019 *Resilient controller and hypervisor placement for future communication networks (RESyST)*, funded by the Unity through Knowledge Fund (UKF), Croatian Science Foundation, Croatia. Role: **project co-leader**.
- 2014 – 2018 *Kista 5G backhaul Lab (K5)*, funded by VINNOVA (Swedish Governmental Agency for Innovation Systems). Role: **activity leader**.
- 2012 – 2015 *FP7-ICT-318137 The DIStributed Core for unlimited bandwidth supply for all Users and Services (DISCUS)*. Role: **task leader**.
- 2009 – 2011 *A Security planning Framework for optical networks (SAFE)*, funded by the Croatian Ministry of Science. Role: **work package leader**.

**Involvement in international and national scientific projects:**

- 2016 – 2019 *Celtic-Plus SENDATE EXTEND – Secure Networking for a Data Center Cloud in Europe – Extended Data Center Solutions*. Role: researcher.
- 2015 – 2018 *Towards flexible and energy-efficient datacenter networks*, Frame project funded by VR (Swedish Research Council). Role: researcher.
- 2015 *EIT Digital M2M and Xhaul (EXAM)*. Role: researcher.
- 2009 – 2013 *COST Action IC0806: Intelligent monitoring, Control and Security of critical infrastructure systems (IntelliCIS)*. Role: researcher
- 2008 – 2010 *FP7-ICT-216863 Building the future Optical Network in Europe (BONE)*. Role: researcher.
- 2009 – 2013 *Performance analysis and broadband network design*, funded by the Ministry of science, Croatia. Role: researcher.

**Awards and recognition:**

- OSA Senior Member since 2019.
- IEEE Senior Member since 2017 (status awarded to only ~9% of members worldwide).
- Best Student Paper Award at the OSA Advanced Photonics Congress, Photonic Networks and Devices, ETH Zurich, Switzerland, 2018. Lead author: Ph.D. student Vahid Abedifar.
- Best Paper Award at the 9<sup>th</sup> International Workshop on Resilient Networks Design and Modeling (RNDM), Alghero, Italy, 2017.
- 2013 Fabio Neri Best Paper Award of the Optical Switching and Networking journal.
- The Josip Lončar silver plaque of the Faculty of Electrical Engineering and Computing, University of Zagreb, Croatia, for a distinguished doctoral dissertation and research work in the academic year 2012/2013.
- Best Student Paper Award at the Asia Communications and Photonics conference (ACP) 2011, Shanghai, China.
- Exceptional Outstanding Paper Award at the 34<sup>th</sup> International Convention on Information and Communication Technology, Electronics and Microelectronics (MIPRO) 2011, Opatija, Croatia.
- The Josip Lončar acknowledgement of the Faculty of Electrical Engineering and Computing, University of Zagreb, Croatia, for excellence in the academic year 2006/2007.

**Teacher education:**

- 2018 *Learning for Sustainable Development*, KTH Royal Institute of Technology (4.5 credits)
- 2016 *Doctoral Supervision course*, KTH Royal Institute of Technology (3 credits)

### **Teaching experience:**

- **Chalmers University of Technology**
  - MSc thesis examiner
- **KTH Royal Institute of Technology**
  - 2015-2017 *Engineering Skills for ICT* (7.5 credits, bachelor course, whole-year course across three years, taught in English)
    - Teacher and course responsible
  - 2014-2017 *Optical Networks* (7.5 credits, graduate course, spring term, taught in English)
    - Assistant examiner
- **Faculty of Electrical Engineering and Computing, University of Zagreb**
  - 2009-2014 *Heuristic Optimization Methods* (6 credits, graduate course, taught in English and Croatian)
    - Lecturer (2013-2014); teaching assistant (2009-2012)
  - 2009-2014 *Reliability of Telecommunication Networks* (6 credits, graduate course, taught in Croatian)
    - Lecturer and lab responsible (2013-2014); Teaching assistant and Lab responsible (2009-2012)
  - 2009-2014 *Photonic Telecommunication Networks*, (6 credits, graduate course, taught in Croatian)
    - Teaching assistant and Lab responsible
  - 2009-2014 *Photonic Communication Technologies*, (6 credits, bachelor course, taught in Croatian)
    - Teaching assistant
  - 2009-2014 *Telecommunication Systems and Networks* (6 credits, bachelor course, taught in Croatian)
    - Teaching assistant and Lab responsible
  - 2010-2013 *Information Theory* (8 credits, bachelor course, taught in Croatian)
    - Teaching and Lab assistant

### **Supervision of students:**

- Main PhD supervisor of Ph.D. students:
  - Ehsan Etezadi (Chalmers) – *Secure and autonomous optical networks*, 2020 – present
  - Forough Yaghoubi (KTH) – *Resilient design and operation of wireless backhaul networks*, graduated March 18, 2019. Currently with the Global Artificial Intelligence Accelerator (GAIA), Ericsson AB, Sweden.
  - Wanlu Lei (KTH, industrial PhD student from Ericsson AB, Stockholm), 2017-2018.
- Co-supervisor of Ph.D. students:
  - Hao Chen (KTH), 2017-2018.
  - Matija Džanko (University of Zagreb, Croatia) – graduated in 2015;
- The host and main supervisor of guest Ph.D. students visiting KTH:
  - Jing Zhu (University of Science and Technology of China) – *Resilient, attack-aware control plane design*
  - Federico Pederzoli (University of Trento, Italy) – *Algorithms to enhance self-diagnostic abilities of optical networks*
  - Vahid Abedifar (Shahid Beheshti University, Iran) – *Routing, modulation format and spectrum assignment algorithms in programmable optical networks*
  - Zhenyu Xu (University of Quebec, Canada) – *Optimization algorithms for filterless optical networks*
- Co-supervisor of guest Ph.D. students visiting KTH:
  - Federico Tonini (University of Bologna, Italy) – *Optimization of centralized radio architectures in 5G indoor scenarios*

- Jose Luis Izquierdo Zaragoza (Polytechnic University of Cartagena, Spain) – *Optimization of fault-tolerant multi-layer IP/optical networks*
- Co-supervisor of 9 M.Sc. and 6 B.Sc. students at the University of Zagreb, Croatia.

**Production and development of teaching and learning materials:**

- M. Furdek, “Modelling,” Engineering Skills for ICT course, Lecture slides, KTH Royal Institute of Technology, 2016.
- M. Furdek, “Study Techniques,” Engineering Skills for ICT course, Lecture slides, KTH Royal Institute of Technology, 2016.
- M. Furdek, “Motivation Techniques,” Engineering Skills for ICT course, Lecture slides, KTH Royal Institute of Technology, 2016.
- M. Furdek, “Optical WDM Networks Key Components”, textbook for a module of the Photonic Telecommunication Networks course, Faculty of Electrical Engineering and Computing, University of Zagreb, Croatia, 2013 (33 pages).
- M. Furdek, Optical Components and Systems Laboratory, instructions for the lab exercises in the Telecommunication Systems and Networks course, Faculty of Electrical Engineering and Computing, University of Zagreb, Croatia, 2010 (8 pages).

**Doctoral dissertation referee:**

- Lang Xie, *Survivability Analysis of Infrastructure-based Wireless Networks under Natural Disasters*, Norwegian University of Science and Technology, Trondheim, Norway, 01/2020.

**Appointments as expert evaluator:**

- |             |                                                                                 |
|-------------|---------------------------------------------------------------------------------|
| 2018 – 2019 | External expert evaluator of European Research Council (ERC) project proposals. |
| 2018 – 2019 | External expert evaluator of Horizon 2020 projects.                             |
| 2017 – 2018 | External expert evaluator of Horizon 2020 project proposals.                    |

**Editorial and review activities:**

- Editor
  - Springer Photonic Communication Networks, 2019 – present.
- Guest Editor
  - *IEEE/OSA Journal of Optical Communications and Networking* – Special issue on Optical Network Design and Modelling, 2020.
  - *IEEE/OSA Journal of Optical Communications and Networking* – Special issue on Photonic Networks and Devices, 2019.
  - *IEEE/OSA Journal of Lightwave Technology* – Special issue on Photonic Networks and Devices, 2018.
  - *IEEE/OSA Journal of Optical Communications and Networking* – Special issue on Photonic Networks and Devices, 2016.
- Reviewer for scientific journals:
  - IEEE Communications Magazine,
  - IEEE Transactions on Communications,
  - IEEE Transactions on Networking,
  - IEEE Transactions on Network and Service Management,
  - IEEE Transactions on Information Forensics and Security,
  - IEEE Communications Letters,
  - IEEE Networking Letters,
  - IEEE/OSA Journal of Lightwave Technology,
  - IEEE/OSA Journal of Optical Networking and Communications,
  - IEEE Access,
  - European Journal on Operational Research,
  - OSA Optics Letters,
  - OSA Optics Express,
  - Optical Switching and Networking,

- Photonic Network Communications,
- Optical Engineering,
- Computer Networks,
- Security and Communication Networks.
- Reviewer of book proposals for Oxford University Press.
- Reviewer for international conferences: IEEE ICC, ECOC, IEEE GLOBECOM, IEEE ONDM, IEEE CLEO, IEEE HPSR, IEEE/OSA ACP, IEEE DRCN, IEEE NOC, IEEE RNDM, OPTICS, ICOCN, ICSPCS, ENIC, IEEE EUROCON, MIPRO.

**Chairing, technical program committee and workshop organizing activities:**

- Strategic Planning Committee member: OSA Advanced Photonics Congress 2020.
- General Chair:
  - RONEXT (Reliability Issues in Next Generation Optical Networks) workshop, IEEE Intl. Conference on Transparent Optical Networks (ICTON), Bari, Italy, 2020.
  - Photonic Networks and Devices (NETWORKS), part of the Optical Society (OSA) Advanced Photonic Congress (APC), San Francisco, USA, 2019.
  - ICTON RONEXT, Angers, France, 2019.
  - OSA APC NETWORKS, Zurich, Switzerland, 2018.
  - ICTON RONEXT, Bucharest, Romania, 2018.
  - OSA APC NETWORKS, New Orleans, USA, 2017.
  - ICTON RONEXT, Girona, Spain, 2017.
  - OSA APC NETWORKS, Vancouver, Canada, 2016.
- Program Chair:
  - IEEE Optical Network Design and Modeling (ONDM), Barcelona, Spain, 2020.
  - Asia Communications and Photonics Conference, Network Architecture, Management and Applications Track, Hangzhou, China, 2018.
  - OSA APC NETWORKS, Boston, USA, 2015.
- Publication Chair:
  - IEEE Online GreenComm 2016.
  - IEEE Optical Network Optimization and Modeling (ONDM) 2014, Stockholm, Sweden.
- Web Chair: IEEE Region 8 Flagship Conference EuroCon 2013, Zagreb, Croatia.
- Technical Program Committee member:
  - IEEE Photonics Conference 2020.
  - SPIE Photonics West 2020.
  - IEEE Conference on Lasers and ElectroOptics (CLEO) 2018-2021.
  - IEEE Intl. Conference on Communications (ICC) 2017-2020.
  - Intl. Conference on Optical Network Design and Modeling (ONDM) 2018-2020.
  - Intl. Telecommunication Networks and Applications Conference (ITNAC) 2018-2019.
  - Intl. Conference on Optical Communication Systems (OPTICS) 2016-2019.
  - Intl. Conference on Signal Processing and Communication Systems (ICSPCS) 2015-2019.
  - OptoElectronics and Communications Conference (OECC) 2017.
  - ICTON RONEXT 2016.
  - IEEE European Conference on Networks and Optical Communications (NOC) 2015.
  - OSA NETWORKS 2014.
  - IEEE Region 8 Flagship Conference EuroCon 2013.
- Symposium organizer:
  - Quantum Symposium, Advanced Photonics Congress, San Francisco, July 2019.
- Workshop organizer:
  - “5G Optical Transport Networks - How to Face Reliability with Virtualization?” – co-located with the ACP conference, Hangzhou, China, Oct. 2018.
- Tutorial organizer:

- “Hands-on introduction to data analytics and machine learning in optical networks”, Advanced Photonics Congress, San Francisco, July 2019.

**Public outreach and community service:**

- Member of the OSA Meetings Council, 2019-2021.
- Referee for the Corning Women in Optical Communications Scholarship (OFC), 2019.
- Panelist at the OSA APC Lunch & Learn Young Professionals event, San Francisco, USA, July 2019.
- Organization board member for OSA APC 2018 Young Professionals event, ETH Zurich, Switzerland, July 2018.
- Speaker at the Campus 100 lecture marathon for the 100-year anniversary of KTH, October 2017: “Optical Networks as an Enabler of the Networked Society”. Available at: <https://www.youtube.com/watch?v=IlGaD2joeJ8&t=351s>
- Organization board member for OSA APC 2017 Lunch & Learn Young Professionals event, New Orleans, USA, July 2017.
- Panelist at the OSA Advanced Photonics Congress event “International Year of Light Networking Social: A Discussion for Luminaries, Students and Young Professionals”, Boston, USA, July 2015.
- Speaker at the KTH Future Friday career day 2014: “Optiska nätverk – lyser upp telekommunikation” (*Eng.* Optical networks – lighting up telecommunications). Broadcasted by the Swedish TV channel Kunskapskanalen.
- Co-author of the Croatian Open Access Declaration, Zagreb, Croatia, 2012.
- Workshop organizer: “Open access to scientific information”, Zagreb, Croatia, 2012.

Annex: List of publications.

## List of publications

Dr. Furdek has published 23 journal papers, 62 conference papers, 7 book chapters, 2 guest editorials, and has given more than a dozen of invited talks at international conferences and public events. According to [Google Scholar](#), as of January 2020, the publications have received a total of 683 citations, yielding an h-index of 15.

### Journal papers:

- [J1] Carlos Natalino Silva, Amaro de Sousa, Lena Wosinska, Marija Furdek, "Content Placement in 5G-enabled Edge/Core Datacenter Networks Resilient to Link Cut Attacks," accepted for publication in *Wiley Networks*.
- [J2] Carlos Natalino Silva, Marco Schiano, Andrea Di Giglio, Lena Wosinska, Marija Furdek, "Experimental study of machine-learning-based detection and identification of physical-layer attacks in optical networks," *IEEE/OSA Journal of Lightwave Technology*, vol. 37, no. 16, pp. 4173-4182, August 2019.
- [J3] Chaturika Ranaweera, Paolo Monti, Björn Skubic, Elaine Wong, Marija Furdek, Lena Wosinska, Carmen Mas Machuca, Ampalanavanapillai Nirmalathas, Christina Lim, "Optical transport network design for 5G fixed wireless access," *IEEE/OSA Journal of Lightwave Technology*, vol. 37, no. 16, pp. 3893-3901, August 2019.
- [J4] Carlos Natalino Silva, Aysegul Yayimli, Lena Wosinska, Marija Furdek, "Infrastructure upgrade framework for content delivery networks robust to targeted attacks," *Optical Switching and Networking*, vol. 31, pp. 202-210, Jan 2019.
- [J5] Vahid Abedifar, Marija Furdek, Ajmal Muhammad, Mohammad Eshghi, Lena Wosinska, "Routing, Modulation and Spectrum Assignment in programmable networks based on optical white boxes," *IEEE/OSA Journal of Optical Communications and Networking*, vol. 10, no. 9, pp. 723-735, Sept. 2018.
- [J6] Forough Yaghoubi, Marija Furdek, Ahmad Rostami, Peter Öhlén, Lena Wosinska, "Consistency-aware weather disruption-tolerant routing in SDN-based wireless mesh networks," *IEEE Transactions on Network and Service Management*, vol. 15, no. 2, pp. 582-595, June 2018.
- [J7] Hui Yuan, Marija Furdek, Ajmal Muhammad, Lena Wosinska, Georgios Zervas, "Space Division Multiplexing in data centre networks: On multi-core fibre solutions and crosstalk suppressed resource allocation," *IEEE/OSA Journal of Optical Communications and Networking*, vol. 10, no. 4, pp. 272-288, Apr. 2018. **Among top downloaded papers of JOCN.**
- [J8] Matija Džanko, Branko Mikac, Marija Furdek, "Dedicated path protection for optical networks based on function programmable nodes," *Optical Switching and Networking*, vol. 27, pp. 79-87, Jan. 2018.
- [J9] Ajmal Muhammad, Nina Skorin-Kapov, Marija Furdek, "MANYCAST, ANYCAST and REPLICAS (MARPs) in optical inter-datacenter networks," *IEEE/OSA Journal of Optical Communications and Networking*, vol. 9, no. 12, pp. 1161-1171, Dec. 2017.
- [J10] Federico Tonini, Matteo Fiorani, Marija Furdek, Carla Rafaelli, Lena Wosinska, and Paolo Monti, "Radio and transport planning of centralized radio architectures in 5G indoor scenarios," *IEEE Journal on Selected Areas in Communications*, special issue on Deployment issues and performance challenges for 5G, vol. 35, no. 8, pp. 1837-1848, Aug. 2017.
- [J11] M. Ruffini, M. Achouche, A. Arbelaez, R. Bonk, A. Di Giglio, N. J. Doran, M. Furdek, R. Jensen, J. Montalvo, N. Parsons, T. Pfeiffer, L. Quesada, C. Raack, H. Rohde, M. Schiano, G. Talli, P. Townsend, R. Wessaly, L. Wosinska, X. Yin and D.B. Payne, "Access and metro network convergence for flexible end to end network design [invited]," *IEEE/OSA Journal of Optical Communications and Networking*, vol. 9, no. 6, pp. 524-535, June 2017.
- [J12] Elena Grigoreva, Elaine Wong, Marija Furdek, Lena Wosinska, and Carmen Mas Machuca, "Energy Consumption and Reliability Performance of Survivable Passive Optical Converged Networks: Public ITS Case Study," *IEEE/OSA Journal of Optical Communications and Networking*, special issue on Photonic Networks and Devices, vol. 9, no. 4, pp. C98-C107, April 2017.
- [J13] Avishek Nag, Marija Furdek, Paolo Monti, Lena Wosinska, Marco Ruffini, "Exploiting dual homing in access networks to improve resiliency in core networks," *IEEE/OSA Journal of Optical Communications and Networking*, vol. 8, no. 11, pp. 854-862, Nov. 2016.
- [J14] Émile Archambault, Nabih Alloune, Marija Furdek, Zhenyu Xu, Christine Tremblay, Ajmal Muhammad, Jiajia Chen, Lena Wosinska, Paul Littlewood, and Michel P. Bélanger, "Routing and spectrum assignment in elastic filterless optical networks," *IEEE Transactions on Networking*, vol. 24, no. 6, pp. 3578-3592, Dec. 2016.
- [J15] Sandu Abeywickrama, Marija Furdek, Paolo Monti, Lena Wosinska, and Elaine Wong, "Protecting core networks with dual-homing: A study on enhanced network availability, resource efficiency, and energy-savings," *Optics Communications*, vol. 381, pp. 327-335, Dec. 2016.
- [J16] Nina Skorin-Kapov, Marija Furdek, Szilard Zsigmond, and Lena Wosinska, "Physical-layer security in evolving optical networks," *IEEE Communications Magazine*, vol. 54, no. 8, pp. 110-117, Aug. 2016.

- [J17] Marija Furdek, Nina Skorin-Kapov, and Lena Wosinska, "Attack-aware dedicated path protection in optical networks," *IEEE/OSA Journal of Lightwave Technology*, vol. 34, no. 4, pp. 1050-1061, Feb. 2016.
- [J18] Zhenyu Xu, Christine Tremblay, Émile Archambault, Marija Furdek, Jiajia Chen, Lena Wosinska, Paul Littlewood, and Michel P. Bélanger, "Flexible bandwidth assignment in filterless optical networks," *IEEE Communication Letters*, vol. 19, no. 4, pp. 565-568, Apr. 2015.
- [J19] Matija Džanko, Marija Furdek, Georgios Zervas, and Dimitra Simeonidou, "Evaluating availability of optical networks based on self-healing network function programmable ROADMs," *IEEE/OSA Journal of Optical Communications and Networking*, vol. 6, no. 11, pp. 974-987, Nov. 2014.
- [J20] Ramon Aparicio Pardo, Belen Garcia Manrubia, Pablo Pavon Marino, Nina Skorin-Kapov, and Marija Furdek, "Balancing CapEx reduction and network stability with stable routing-virtual topology capacity adjustment (SR-VTCA)," *Optical Switching and Networking*, vol. 10, no. 4, pp. 343-353, Nov. 2013. **Winner of the 2013 Fabio Neri Best Paper award.**
- [J21] Nina Skorin-Kapov, Marija Furdek, Ramon Aparicio Pardo, and Pablo Pavon Marino, "Wavelength assignment for reducing in-band crosstalk attack propagation in optical networks: ILP formulations and heuristic algorithms," *European Journal of Operational Research*, vol. 222, no. 3, pp. 418-429, Nov. 2012.
- [J22] Amornrat Jirratigalachote, Nina Skorin-Kapov, Marija Furdek, Jiajia Chen, Paolo Monti, and Lena Wosinska, "Sparse power equalization placement for limiting jamming attack propagation in transparent optical networks," *Optical Switching and Networking*, vol. 8, no. 4, pp. 249-258, Dec. 2011.
- [J23] Marija Furdek, Nina Skorin-Kapov, and Maša Grbac, "Attack-aware wavelength assignment for localization of in-band crosstalk attack propagation," *IEEE/OSA Journal of Optical Communications and Networking*, vol. 2, no. 11, pp. 1000-1009, Nov. 2010.

#### Guest editorials:

- [E1] Marija Furdek, Nicolas Fontaine, Werner Klaus, Domenico Siracusa, Nick Parsons, "Guest Editorial: Photonic Networks and Devices," *IEEE/OSA Journal of Lightwave Technology*, pp. 3872-3874, vol. 37, no. 16, August 2019.
- [E2] Jesse Simsarian, Nicolas Fontaine, Marija Furdek, Georgios Zervas, "Photonic Networks and Devices Feature: Introduction," *IEEE/OSA Journal of Optical Communications and Networking*, vol. 9, no. 4, pp. PND1-PND1, April 2017.

#### Conference papers:

- [C1] Marija Furdek, Carlos Natalino, Fabian Lipp, David Hock, Nieke Aerts, Marco Schiano, Andrea Di Giglio, Lena Wosinska, "Demonstration of Machine-Learning-Assisted Security Monitoring in Optical Networks," in Proc. ECOC, Dublin, Ireland, September 2019, *invited demo*. Accompanying video available at: [https://www.youtube.com/watch?v=Egw\\_6RgPUhQ](https://www.youtube.com/watch?v=Egw_6RgPUhQ)
- [C2] Carlos Natalino, Aleksajs Udalcovs, Lena Wosinska, Oskars Ozolins, Marija Furdek, "One-Shot Learning for Modulation Format Identification in Evolving Optical Networks," OSA APC Photonic Networks and Devices, San Francisco, USA, July 2019, *postdeadline paper*.
- [C3] Marija Furdek, Vincent W.S. Chan, Carlos Natalino Silva, Lena Wosinska, "Network-Wide Localization of Optical-Layer Attacks," in Proc. IEEE Optical Network Design and Modeling (ONDM), Athens, Greece, May 2019, *invited paper*.
- [C4] Jing Zhu, Marija Furdek, Carlos Natalino, Lena Wosinska, Zhuqing Zhu, "How to Survive Targeted Fiber Cuts: A Game Theoretic Approach for Resilient SDON Control Plane Design," in Proc. IEEE Optical Network Design and Modeling (ONDM), Athens, Greece, May 2019.
- [C5] Marija Furdek, Carlos Natalino Silva, Marco Schiano, Andrea Di Giglio, "Experiment-based identification of service disruption attacks in optical networks", in Proc. SPIE Photonics West, Feb. 2019, *invited paper*.
- [C6] Marija Furdek, "Towards secure and self-diagnosable optical networks", in Proc. IEEE Photonics in Switching and Computing, Limassol, Cyprus, Sept. 2018, *invited paper*.
- [C7] Carlos Natalino Silva, Marco Schiano, Andrea Di Giglio, Lena Wosinska, Marija Furdek, "Field Demonstration of Machine-Learning-Aided Detection and Identification of Jamming Attacks in Optical Networks," in Proc. ECOC, Rome, Italy, Sept. 2018.
- [C8] Ognjen Dobrijević, Carlos Natalino Silva, Marija Furdek, Haris Hodžić, Matija Džanko, Lena Wosinska, "Another Price to Pay: An Availability Analysis for SDN Virtualization with Network Hypervisors," in Proc. IEEE RNDM, Longyearbyen, Norway, Aug. 2018.
- [C9] Carlos Natalino, Amaro de Sousa, Lena Wosinska, Marija Furdek, "On the Trade-offs between User-to-Replica Distance and CDN Robustness to Link Cut Attacks," in Proc. IEEE RNDM, Longyearbyen, Norway, Aug. 2018.
- [C10] Vahid Abedifar, Marija Furdek, Ajmal Muhammad, Mohammad Eshghi, Lena Wosinska, "Routing, Modulation Format, Spectrum and Core Assignment in SDM Networks Based on Programmable Filterless Nodes," in Proc. OSA APC Photonic Networks and Devices, Zurich, Switzerland, July 2018. **Winner of a Best Student Paper Award.**



- [C11] Róża Goścień, Carlos Natalino Silva, Lena Wosinska, Marija Furdek, "Impact of High-Power Jamming Attacks on SDM Networks," in Proc. IEEE ONDM, Dublin, Ireland, May 2018.
- [C12] Jing Zhu, Carlos Natalino Silva, Marija Furdek, Lena Wosinska, Zuqing Zhu, "Control Plane Robustness in Software-Defined Optical Networks Under Targeted Fiber Cuts," in Proc. IEEE ONDM, Dublin, Ireland, May 2018.
- [C13] Forough Yaghoubi, Marija Furdek, Ahmad Rostami, Peter Öhlén, Lena Wosinska, "Reliable Topology Design of Wireless Networks under Correlated Failures," in Proc. IEEE ICC, Kansas City, USA, May 2018.
- [C14] Chathurika Ranaweera, Paolo Monti, Björn Skubic, Marija Furdek, Lena Wosinska, Ampalavanapillai Nirmalathas, Christina Lim, Elaine Wong, "Optical X-haul Options for 5G Fixed Wireless Access: Which one to Choose?," IEEE INFOCOM Poster/Demo Session, Honolulu, Hawaii, USA, April 2018.
- [C15] Christine Tremblay, Émile Archambault, Michel P. Bélanger, Paul Littlewood, William Clelland, Marija Furdek, Lena Wosinska, "Agile optical networking: Beyond filterless solutions," in Proc. OFC, San Diego, USA, Mar. 2018, *invited paper*.
- [C16] Federico Pederzoli, Marija Furdek, Domenico Siracusa, Lena Wosinska, "Towards Secure Optical Networks: A Framework to Aid Localization of Harmful Connections," in Proc. OFC, San Diego, USA, Mar. 2018.
- [C17] Rashmi Munjal, William Liu, Xue Jun Li, Jairo Gutierrez, Marija Furdek, "Sustainable massive data dissemination by using software defined connectivity approach," in Proc. ITNAC, Sydney, Australia, Nov. 2017.
- [C18] Carlos Natalino, Aysegül Yayimli, Lena Wosinska, Marija Furdek, "Link addition framework for optical CDNs robust to targeted link cut attacks," in Proc. IEEE RNDM, Alghero, Italy, Sept. 2017. **Winner of the Best Paper Award.**
- [C19] Paweł Wiatr, Robert Forchheimer, Marija Furdek, Jiajia Chen, Lena Wosinska, and Di Yuan, "Hierarchical optical interconnects saving spectrum resources in data center networks," in Proc. OSA APC Photonic Networks and Devices, New Orleans, USA, July 2017.
- [C20] Marija Furdek, Ajmal Muhammad, Nina Skorin-Kapov, "Survivable anycast, anycast and replica placement in optical inter-datacenter networks," in Proc. ICTON, Girona, Spain, July 2017, *invited paper*.
- [C21] D.B. Payne, A. Arbelaez, R. Bonk, N.J. Doran, M. Furdek, R. Jensen, N. Parsons, T. Pfeiffer, L. Quesada, C. Raack, G. Talli, P. Townsend, R. Wessälly, L. Wosinska, X. Yin, and M. Ruffini, "End-to-end network design and experimentation in the DISCUS project," in Proc. ICTON, Girona, Spain, July 2017, *invited paper*.
- [C22] Melissa Licciardello, Matteo Fiorani, Marija Furdek, Paolo Monti, Carla Raffaelli, Lena Wosinska, "Performance evaluation of abstraction models for orchestration of distributed data center networks," in Proc. ICTON, Girona, Spain, July 2017.
- [C23] Carlos Natalino, Aysegül Yayimli, Lena Wosinska, Marija Furdek, "Content accessibility in optical cloud networks under targeted link cuts," in Proc. ONDM, Budapest, Hungary, May 2017, *invited paper*.
- [C24] Md. Nooruzzaman, Nabih Alloune, Ferial Nabet, Émile Archambault, Christine Tremblay, Marija Furdek, Jiajia Chen, Lena Wosinska, Paul Littlewood, Michel P. Bélanger, "Agile filterless submarine networks," in Proc. of IEEE Intl. Network Strategy and Planning Symposium (NETWORKS), Montreal, Canada, Sept. 2016.
- [C25] Ajmal Muhammad, Marija Furdek, Georgios Zervas, Lena Wosinska, "Filterless networks based on optical white boxes and SDM," in Proc. of European Conference on Optical Communications (ECOC), Dusseldorf, Germany, Sept. 2016.
- [C26] Marija Furdek, Lena Wosinska, Róża Goścień, Konstantinos Manousakis, Michał Aibin, Krzysztof Walkowiak, Sashko Ristov, Marjan Gushev, José L. Marzo, "An overview of security challenges in communication networks," in Proc. of IEEE Intl. Workshop on Resilient Networks Design and Modeling (RNDM), COST-RECODIS special session, Halmstad, Sweden, Sept. 2016.
- [C27] Massimo Tornatore, Marija Furdek, 17 other authors, "A survey on network resiliency methodologies against weather-based disruptions," in Proc. of IEEE Intl. Workshop on Resilient Networks Design and Modeling (RNDM), COST-RECODIS special session, Halmstad, Sweden, Sept. 2016.
- [C28] Carmen Mas Machuca, Elaine Wong, Marija Furdek, Lena Wosinska, "Energy consumption and reliability performance of survivable hybrid passive optical converged network," in Proc. OSA Advanced Photonic Congress, Photonic Networks and Devices (NETWORKS), Vancouver, Canada, July 2016.
- [C29] Carla Raffaelli, Federico Tonini, Matteo Fiorani, Marija Furdek, Paolo Monti, Lena Wosinska, "Optimization of centralized radio access networks in indoor areas," in Proc. IEEE Intl. Conference on Transparent Optical Networks (ICTON), Trento, Italy, July 2016, *invited paper*.
- [C30] Meiqian Wang, Marija Furdek, Lena Wosinska, Paolo Monti, "Wavelength overprovisioning strategies for enhanced optical path restoration," in Proc. IEEE Intl. Conference on Transparent Optical Networks (ICTON), Trento, Italy, July 2016, *invited paper*.
- [C31] Marija Furdek, Ajmal Muhammad, Georgios Zervas, Nabih Alloune, Christine Tremblay, Lena Wosinska, "Programmable Filterless Network Architecture Based on Optical White Boxes," in Proc. IEEE Intl. Conf. on Optical Network Design and Modeling (ONDM), Cartagena, Spain, May 2016, *invited paper*.
- [C32] Md. Nooruzzaman, Ferial Nabet, Nabih Alloune, Émile Archambault, Christine Tremblay, Marija Furdek, Jiajia Chen, Lena Wosinska, Paul Littlewood and Michel P. Bélanger, "Resource savings using gridless submarine networks based on filterless coherent transmission technologies," in Proc. SubOptic, Dubai, UAE, April 2016.

- [C33] Federico Tonini, Matteo Fiorani, Marija Furdek, Lena Wosinska, Carla Rafaelli and Paolo Monti, “Minimum cost deployment of radio and transport resources in centralized radio architectures,” in *Proc. IEEE Intl. Conf. on Computing, Networking and Communication (ICNC)*, Kauai, Hawaii, USA, Feb. 2016.
- [C34] Marija Furdek, Matija Džanko, Nina Skorin-Kapov and Lena Wosinska, “Planning of optical networks based on programmable ROADMs,” in *Proc. IEEE/OSA/SPIE Asia Communications and Photonics Conference (ACP)*, Hong Kong, China, Nov. 2015, **invited paper**.
- [C35] Meiqian Wang, Marija Furdek, Paolo Monti, Lena Wosinska, “Restoration with service degradation and relocation in optical cloud networks,” in *Proc. IEEE/OSA/SPIE Asia Communications and Photonics Conference (ACP)*, Hong Kong, China, Nov. 2015, **invited paper**.
- [C36] Sandu Abeywickrama, Elaine Wong, Marija Furdek, Paolo Monti, Lena Wosinska, “Energy-efficient survivability for core networks using dual-homing,” in *Proc. IEEE/OSA/SPIE Asia Communications and Photonics Conference (ACP)*, Hong Kong, China, Nov. 2015.
- [C37] Matija Džanko, Marija Furdek, Branko Mikac, Georgios Zervas, Emilio Hugues-Salas, and Dimitra Simeonidou, “Synthesis, resiliency and power efficiency of function programmable optical nodes”, in *Proc. IEEE Intl. Conf. on Telecommunications (ConTEL)*, Graz, Austria, July 2015.
- [C38] Marija Furdek, Matija Džanko, Mario Matanić, Ivan Borić, Lena Wosinska, and Branko Mikac, “Multi-hour network provisioning utilizing function programmable ROADMs,” in *Proc. IEEE Intl. Conference on Transparent Optical Networks (ICTON)*, July 2015, **invited paper**.
- [C39] Carlos Natalino, Paolo Monti, Luis Franca, Marija Furdek, Lena Wosinska, Carlos R. Frances, and Joao W. Costa, “Dimensioning optical clouds with Shared-Path Shared-Computing (SPSC) Protection,” in *Proc. IEEE Intl. Conf. on High Performance Switching and Routing (HPSR)*, Budapest, Hungary, July 2015, **invited paper**.
- [C40] José-Luis Izquierdo Zaragoza, Marija Furdek, Avishek Nag, Paolo Monti, Lena Wosinska, and Pablo Pavon-Marino, “On the dimensioning of survivable optical metro/core networks with dual-homed access”, in *Proc. IEEE Intl. Conf. on High Performance Switching and Routing (HPSR)*, Budapest, Hungary, July 2015.
- [C41] Nooruzzaman, Nabih Alloune, Feriel Nabet, Zhenyu Xu, Émile Archambault, Christine Tremblay, Marija Furdek, Jiajia Chen, Lena Wosinska, Paul Littlewood, and Michel P. Bélanger, “Filterless architecture for coherent undersea networks” in *IEEE Intl. Conf. on Optical Network Design and Modeling (ONDM)*, Pisa, Italy, May 2015.
- [C42] Sandu Abeywickrama, Marija Furdek, Paolo Monti, Lena Wosinska, Avishek Nag, and Elaine Wong, “Dual-homing based protection for enhanced network availability and resource efficiency”, in *Proc. IEEE/OSA/SPIE Asia Communications and Photonics Conf. (ACP)*, Beijing, China, Nov. 2014.
- [C43] Ajmal Muhammad, Marija Furdek, Paolo Monti, Lena Wosinska, and Robert Forchheimer, “An optimization model for dynamic bulk provisioning in elastic optical networks”, in *Proc. IEEE/OSA/SPIE Asia Communications and Photonics Conf. (ACP)*, Beijing, China, Nov. 2014.
- [C44] Ajmal Muhammad, Marija Furdek, Paolo Monti, Lena Wosinska, and Robert Forchheimer, “Dynamic provisioning utilizing redundant modules in elastic optical networks based on Architecture on Demand nodes”, in *Proc. of European Conf. on Optical Communications (ECOC)*, Valencia, Spain, Sept. 2014.
- [C45] Marija Furdek, Matija Džanko, Patrik Glavica, and Lena Wosinska, “Can Architecture on Demand nodes with self-healing capabilities improve reliability of optical networks?”, in *Proc. OSA Advanced Photonics for Communications, Photonics in Switching*, San Diego, USA, July 2014, **invited paper**.
- [C46] Branko Mikac, Matija Džanko, Marija Furdek, Emilio Hugues-Salas, Georgios Zervas, and Dimitra Simeonidou, “Availability aspects of self-healing optical nodes designed by Architecture on Demand”, in *Proc. IEEE Intl. Conf. on Transparent Optical Networks (ICTON)*, July 2014, **invited paper**.
- [C47] Marija Furdek, Nina Skorin-Kapov, Szilard Zsigmond, and Lena Wosinska, “Vulnerabilities and security issues in optical networks”, in *Proc. IEEE Intl. Conf. on Transparent Optical Networks (ICTON)*, Graz, Austria, July 2014, **invited paper**.
- [C48] Marija Furdek, Matija Džanko, and Lena Wosinska, “Resilience of optical networks based on Architecture on Demand nodes”, in *Proc. European Conf. on Networks and Communication (EuCNC)*, Bologna, Italy, June 2014, **invited paper**.
- [C49] Marija Furdek, Nina Skorin-Kapov, and Lena Wosinska, “Shared path protection under the risk of high-power jamming”, in *Proc. European Conf. on Networks and Optical Communications (NOC)*, Milano, Italy, June 2014, **invited paper**.
- [C50] Marija Furdek, Matija Džanko, Patrik Glavica, Lena Wosinska, Branko Mikac, Norberto Amaya, Georgios Zervas, and Dimitra Simeonidou, “Efficient optical amplification in self-healing synthetic ROADMs”, in *IEEE Intl. Conf. on Optical Network Design and Modeling (ONDM)*, Stockholm, Sweden, May 2014.
- [C51] Matija Džanko, Marija Furdek, Norberto Amaya, Georgios Zervas, Branko Mikac, and Dimitra Simeonidou, “Experimental demonstration and benefits of self-healing hard-wired and synthetic ROADMs”, in *Proc. IEEE/OSA Optical Fiber Communication Conference and Exposition (OFC)*, San Francisco, USA, Mar. 2014.
- [C52] Matija Džanko, Marija Furdek, Norberto Amaya, Georgios Zervas, Branko Mikac, and Dimitra Simeonidou, “Self-healing optical networks with Architecture on Demand nodes”, in *Proc. of European Conf. on Optical Communications (ECOC)*, London, UK, Sept. 2013.

- [C53] Marija Furdek and Nina Skorin-Kapov, "Attack-survivable routing and wavelength assignment for high-power jamming", in *IEEE Intl. Conf. on Optical Network Design and Modeling (ONDM)*, Brest, France, May 2013.
- [C54] Marija Furdek, Nina Skorin-Kapov, and Anna Tzanakaki, "Survivable routing and wavelength assignment considering high-powered jamming attacks", in *Proc. IEEE/OSA/SPIE Asia Communications and Photonics Conference (ACP)*, Shanghai, China, Nov. 2011, **post-deadline paper**.
- [C55] Marija Furdek, Jiajia Chen, Nina Skorin-Kapov, and Lena Wosinska, "Compound attack-aware routing and wavelength assignment against power jamming", in *Proc. IEEE/OSA/SPIE Asia Communications and Photonics Conference (ACP)*, Shanghai, China, Nov. 2011.
- [C56] Marija Furdek, and Nina Skorin-Kapov, "Physical-layer attacks in all-optical WDM networks", in *Proc. IEEE Intl. Convention on Information and Communication Technology, Electronics and Microelectronics (MIPRO)*, Opatija, Croatia, May 2011. **Winner of the Outstanding Excellent Paper Award**.
- [C57] Amornrat Jirattigalachote, Nina Skorin-Kapov, Marija Furdek, Jiajia Chen, Paolo Monti, and Lena Wosinska, "Limiting physical-layer attack propagation with power equalization placement in transparent WDM networks", in *Proc. IEEE/OSA/SPIE Asia Communications and Photonics Conference (ACP)*, Shanghai, China, Dec. 2010. **Winner of the Best Student Paper Award**.
- [C58] Marija Furdek, Marko Bosiljevac, Nina Skorin-Kapov, and Zvonimir Šipuš, "Gain competition in optical amplifiers: A case study", in *Proc. IEEE Intl. Convention on Information and Communication Technology, Electronics and Microelectronics (MIPRO)*, Opatija, Croatia, May 2010.
- [C59] Marija Furdek, Nina Skorin-Kapov, Marko Bosiljevac, and Zvonimir Šipuš, "Analysis of crosstalk in optical couplers and associated vulnerabilities", in *Proc. IEEE Intl. Convention on Information and Communication Technology, Electronics and Microelectronics (MIPRO)*, Opatija, Croatia, May 2010.
- [C60] Marija Furdek and Nina Skorin-Kapov, "A scalable wavelength assignment approach for preventive crosstalk attack localization in optical networks", in *Proc. IEEE Intl. Conf. on Telecommunications (ConTEL)*, Zagreb, Croatia, July 2009.
- [C61] Nina Skorin-Kapov and Marija Furdek, "Limiting the propagation of intra-channel crosstalk attacks in optical networks through wavelength assignment", in *Proc. IEEE/OSA Optical Fiber Communication Conference and Exposition (OFC)*, San Diego, USA, March 2009.
- [C62] Goran Tomaš, Marija Furdek, Siniša Fajt, Vladimir Olujčić, and Karlo Bruči, "Perceptibility of aggressive dynamics processing in digital audio broadcasting", in *Proc. 3rd Congress of the Alps Adria Acoustics Association*, Graz, Austria, Sept. 2007.

#### Abstracts in conference proceedings:

- [A1] Marija Furdek, Carlos Natalino Silva, "Machine learning for physical-layer security in optical networks: Progress and challenges," in *Proc. Asia Communications and Photonics (ACP)*, Chengdu, China, November 2019, **invited talk**.
- [A2] Marija Furdek, Carlos Natalino Silva, "Enhancing optical network security with machine learning," in *Proc. IEEE Intl. Conf. on Transparent Optical Networks (ICTON)*, Angers, France, July 2019, **invited talk**.
- [A3] Carlos Natalino Silva, Aysegul Yayimli, Lena Wosinska, Marija Furdek, "Effects of physical layer attacks on content accessibility and latency in optical CDNs," in *Proc. IEEE Intl. Conf. on Transparent Optical Networks (ICTON)*, Girona, Spain, July 2017, **invited talk**.
- [A4] Marija Furdek, Ajmal Muhammad, Georgios Zervas, Christine Tremblay, Lena Wosinska, "Performance evaluation of programmable filterless networks implemented by optical white boxes," in *Proc. IEEE Intl. Conf. on Transparent Optical Networks (ICTON)*, Trento, Italy, July 2016, **invited talk**.
- [A5] Lena Wosinska, Marija Furdek, Matija Džanko, "Reliability performance of optical networks based on programmable ROADMs," in *Proc. IEEE Intl. Conf. on Transparent Optical Networks (ICTON)*, Trento, Italy, July 2016.
- [A6] Marija Furdek, Amornrat Jirattigalachote, Nina Skorin-Kapov, Lena Wosinska, "Attack-aware optical networks planning: A cost analysis," in *Proc. IEEE Intl. Conf. on Transparent Optical Networks (ICTON)*, Stockholm Sweden, July 2011, **invited talk**.

#### Book Chapters:

- [B1] Jacek Rak, David Hutchison, Janos Tapolcai, Rasa Bruzgiene, Massimo Tornatore, Carmen Mas Machuca, Marija Furdek, Paul Smith, "Fundamentals of Communication Networks Resilience to Disasters and Disruptions," *Guide to Disaster-Resilient Communication Networks*, Springer, J. Rak and D. Hutchinson (Eds), 2020, in press.
- [B2] Marija Furdek, Federico Pederzoli, Vincent Chan, "Detection of attacks and attack-survivable routing in carrier networks," *Guide to Disaster-Resilient Communication Networks*, Springer, J. Rak and D. Hutchinson (Eds), 2020.
- [B3] Forough Yaghoubi, Marija Furdek, Peter Öhlén, Ahmad Rostami, Lena Wosinska, "Resilient routing against rain disruptions for wireless networks," *Guide to Disaster-Resilient Communication Networks* Springer, J. Rak and D. Hutchinson (Eds), 2020, in press.

- [B4] Róża Goścień, Georgios Ellinas, Marija Furdek, Panayiotis Kolios, Piotr Lechowicz, Konstantinos Manousakis, Giannis Savva, Nina Skorin-Kapov, Krzysztof Walkowiak, "Security-aware carrier network planning," Guide to Disaster-Resilient Communication Networks Springer, J. Rak and D. Hutchinson (Eds), 2020, in press.
- [B5] Amaro de Sousa, Dorabella Santos, Carlos Natalino, Lena Wosinska, Carmen Mas Machuca, Marija Furdek, "Structural Methods to Improve the Robustness of Anycast Communications to Large-Scale Failures," Guide to Disaster-Resilient Communication Networks, Springer, J. Rak and D. Hutchinson (Eds), 2020, in press.
- [B6] Carlos Natalino, Sashko Ristov, Lena Wosinska, Marija Furdek, "Functional metrics to evaluate network vulnerability to disasters," Guide to Disaster-Resilient Communication Networks, Springer, J. Rak and D. Hutchinson (Eds), 2020, in press.
- [B7] Marija Furdek and Nina Skorin-Kapov, "Physical-layer attacks in transparent optical networks", Optical Communication Systems, N. Das (Ed.), InTech, Rijeka, Croatia, 2012.

#### **Workshop, symposia and summer/training school participation**

- [S1] Marija Furdek, Carlos Natalino, "Machine-learning for optical network security management," The Role of Machine Learning for the Next-generation of Optical Communication Systems and Networks, OFC Symposium, San Diego, March 2020.
- [S2] Marija Furdek, Carlos Natalino, "Physical-layer security management in optical networks", COST Action RECODIS Training School, Brussels, December 2019.
- [S3] Marija Furdek, Amaro de Sousa, Carlos Natalino, "Structural methods to enhance the resilience of content delivery services to link cut attacks", COST Action RECODIS Training School, Brussels, December 2019.
- [S4] Marija Furdek, "Machine-learning-assisted security monitoring in optical networks," Artificial Intelligence assisted photonic applications workshop, Asia Communications and Photonics Conference (ACP), Chengdu, China, November 2-5, 2019.

#### **Non-published presentations, guest and popular science lectures:**

- [P1] Marija Furdek, "Resilience of optical network infrastructure to targeted attacks," Networks Research Group seminar, Norwegian University of Science and Technology (NTNU), Trondheim, Norway, January 28, 2020.
- [P2] Marija Furdek, "Machine-learning-assisted security monitoring in optical networks," Artificial Intelligence assisted photonic applications workshop, Asia Communications and Photonics Conference (ACP), Chengdu, China, November 2-5, 2019.
- [P3] Marija Furdek, "Optical network security: Security at the speed of light?", Optical networks – the next 25 years! 25-year anniversary workshop of the Optical Networks Group, University College London, United Kingdom, September 19-20, 2019.
- [P4] Marija Furdek, "Programmable and secure data center networks: Challenges and current results," IEEE Communications Society seminar, University of Zagreb, Croatia, December 20, 2017.
- [P5] Marija Furdek, "Optical data center network design," Linköping University, December 1, 2017.
- [P6] Marija Furdek, "Optical Networks as an Enabler of the Networked Society," Campus 100 lecture marathon for the 100th year anniversary of KTH, October 2017.
- [P7] Marija Furdek, "Programmable, robust and secure optical networks," docent lecture, KTH, Stockholm, Sweden, September 15, 2017.
- [P8] Marija Furdek, "Resilient design of optical backbone networks," IEEE Communications Society seminar, AUT, Auckland, New Zealand, February 8, 2017.
- [P9] Lena Wosinska and Marija Furdek, "Flexible optical networks: Latest concepts and developments," ECOC 2016 workshop 'Exploring the real value of flexible optical networks,' Dusseldorf, Germany, September 18-22, 2016.
- [P10] Marija Furdek, "Optical networks – lighting up telecommunications", Future Friday, KTH career event, Stockholm, Sweden, March 2014. Broadcasted by Swedish TV channel Kunskapskanalen.
- [P11] Marija Furdek, "The Right to Research – the importance of Open Access from student perspective", Open access to scientific information workshop, Zagreb, Croatia, October 2012.
- [P12] Group of authors, Croatian Open Access Declaration, Zagreb, Croatia, October 2012.