

Andrey Belogaev, PhD in Wireless Communications

Senior Researcher @ IDLab, UAntwerpen-imec

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[Website](#) | [Google Scholar](#) | [Linkedin](#)

PROFESSIONAL PROFILE

- Hands-on **10+ years'** experience of research in the area of wireless networks. Analytical and simulation modeling of modern wireless communication systems (5G-NR/6G, Wi-Fi) at PHY, MAC and higher layers (IP, TCP/UDP/QUIC).
- **Management** of R&D bilateral projects with industrial partners. **Task lead** in multiple European and regional projects (Horizon Europe, VLAIO, FWO). **Committees:** TPC Member at ICC, ICCC, BlackSeaCom; Research Day at UAntwerpen.
- Developed novel algorithms for cutting-edge wireless technologies and services, including Wi-Fi 7/8, 5G-NR/6G, URLLC, V2X, massive MIMO. Prepared and published **20+ articles** in scientific journals (including **Q1**) and proceedings of respected scientific conferences.
- Designed and implemented user quality of experience enhancing solutions for cellular and local area wireless networks in **5+ different industrial projects**. Three of the projects achieved Huawei Best Cooperation Project awards.
- (Co-)developed and taught **3 new practical courses** for BS and MS students on network modeling and probability theory. Supervised 3 MS students, and currently (co-)supervising 2 PhD students and 3 MS students.

WORK EXPERIENCE

- **Postdoctoral Researcher** **IDLab @ UAntwerpen-imec**
2022 – pres. (<https://www.uantwerpen.be/en/research-groups/idlab/>)

Conducting research in multiple projects with different industrial and research partners. **12 papers** in proceedings of international conferences and journals (IEEE IoT, Wireless ComMag, WoWMoM, WCNC, EuCNC, PIMRC, ...), and several more are currently submitted or being prepared.

Co-supervision of **2 PhD students** on topics “Scalable low-latency communication in dense robot swarm” and “Deterministic wireless networks in unpredictable industrial environments”. Co-supervision of **4 MS students**, one successfully defended on topic “Experimental Study of OFDMA Usage and Energy Efficiency in Modern Wi-Fi Commercial Devices”.

Teaching practical sessions and giving **lectures** for BS “Computer Networks”. Improved and developed the lab descriptions, developed new NS-3 lab for modeling wireless networks. Developed a GUI tool to visualize packet transmissions in IPMininet (forked from MiniNAM).

- **Senior Researcher** **Wireless Networks Lab @ IITP RAS**
2014 – 2022 (<http://wireless.iitp.ru/>)
Early positions: Research Assistant, Junior Researcher, Researcher
Published **10+ works** in scientific journals and conference proceedings.
Developed novel mathematical and simulation models, solutions and algorithms in different **industrial projects**, 3 of which are **awarded** by industrial partner.
Supervised **2 MS students** on topics “Transmission parameters selection for uplink grant-free access in 5G systems” and “Energy-efficient offloading of computing tasks in intelligent transportation systems”.
- **Senior Lecturer** **Higher School of Economics**
2019 – 2019 (<https://www.hse.ru/>)
Practical classes on Probability Theory for 2nd year BS students
13 students, 12 hours (1 module), 3 credits
- **Lecturer** **Moscow Institute of Physics and Technology** (<https://mipt.ru/>)
2018 – 2022 **Moscow State University** (<https://www.msu.ru/>)
Developed courses “Network Modeling Basics”, “Modeling of Modern Networks”.
8-10 students, 15 hours per year
- **Intern** **Computer Vision Lab @ IITP RAS**
2013 - 2014 (<http://iitp.ru/en/researchlabs/281.htm>)
Has developed fast algorithm for detection of orthotropic edge detection.

EDUCATION

- **PhD student** **Moscow Institute of Physics and Technology**
2016 – 2020 (<https://mipt.ru/>)
Specialization: Telecommunication systems, networks and devices
Thesis: Research and Development of Quality of Service Provisioning Methods in Intelligent Transportation Systems Networks.
Supervisor: Artem Krasilov ([Scopus AuthorID](#), [ResearcherID](#), [Google Scholar](#))
- **Master student** **Moscow Institute of Physics and Technology**
2014 – 2016 (<https://mipt.ru/>)
MS in Applied Physics and Mathematics
Thesis: Analysis of the Algorithms for Reservations Information Dissemination in Wi-Fi Mesh Networks.
Supervisor: Artem Krasilov ([Scopus AuthorID](#), [ResearcherID](#), [Google Scholar](#))
- **Bachelor student** **Moscow Institute of Physics and Technology**
2010 – 2014 (<https://mipt.ru/>)
BS in Applied Physics and Mathematics. Graduated with honors.

Thesis: Orthotropic Edge Detection Algorithm and its Application to Automatic Transport Classification in Video Stream

Supervisor: Dmitry Nikolaev ([Scopus AuthorID](#), [ResearcherID](#), [Google Scholar](#))

LIST OF LATEST PUBLICATIONS

1. X. Liu, **A. Belogaev**, J. Oostvogels, B. Fang, D. Hughes, and J. Famaey, "RF-Zero-Wire: Design and Analysis of Multi-Hop Low-Latency Symbol-Synchronous RF Communication" // *IEEE Internet of Things Journal*, 2026 (accepted)
2. D.D. Agbeve, **A. Belogaev**, C. Blondia, and J. Famaey, "Evaluating UORA-Based Polling Mechanism for Latency-Sensitive Uplink Traffic in Wi-Fi Networks" // in Proc. of IFIP WMNC, Leuven, Belgium, 2025 (presented)
3. E.A. Beyazit, M. Beyazit, **A. Belogaev**, M. Botero, and J. Famaey, "Multi-Stream Allocation in Semi-Coherent Cell-Free MU-MIMO Systems" // in Proc. of IEEE PIMRC 2025, Istanbul, Turkey (presented)
4. D.D. Agbeve, **A. Belogaev**, and J. Famaey, "Design and Evaluation of IEEE 802.11ax Uplink Orthogonal Frequency Division Multiple Random Access in ns-3" // in Proc. of ICNS3, Osaka, Japan, 2025, doi: [10.1145/3747204.3747224](https://doi.org/10.1145/3747204.3747224)
5. S. Faye, P. Soto, G. Volpe, A.Z. Hindi, B. Hensel, G. Castellanos, I. Turkanu, C. Sommer, S.-M. Senouchi, **A. Belogaev**, and M.C. Botero, "A Functional Framework for Network Digital Twins" // in Proc. of EuCNC, Poznan, Poland, 2025, doi: [10.1109/EuCNC/6GSummit63408.2025.11036908](https://doi.org/10.1109/EuCNC/6GSummit63408.2025.11036908)
6. W. Lemoine, N. N. Bhat, J. Struye, **A. Belogaev**, J.O. Lacruz, J. Widmer, and J. Famaey, "Distributed Inference for Human Pose Estimation Using mmWave Wi-Fi" // in Proc. of IEEE WoWMoM, Texas, 2025, doi: [10.1109/WoWMoM65615.2025.00031](https://doi.org/10.1109/WoWMoM65615.2025.00031)
7. R.S. Vital, **A. Belogaev**, C. Gomez, J. Famaey, and E. Garcia-Villegas, "A Primer on AP Power Save in Wi-Fi 8: Overview, Analysis, and Open Challenges" // *Wireless Communications Magazine*, 2025, doi: [10.1109/MCOM.004.2400486](https://doi.org/10.1109/MCOM.004.2400486)
8. D.D. Agbeve, **A. Belogaev**, W. Sandra, C. Lyon, and J. Famaey, "A2P: A Scalable OFDMA Polling Algorithm for Time-Sensitive Wi-Fi Networks" // in Proc. of IEEE WCNC 2025, Milan, Italy, doi: [10.1109/WCNC61545.2025.10978627](https://doi.org/10.1109/WCNC61545.2025.10978627)
9. **A. Belogaev**, X. Shen, C. Pan, X. Jiang, C. Blondia, and J. Famaey, "Dedicated Restricted Target Wake Time for Real-Time Applications in Wi-Fi 7" // in Proc. of IEEE WCNC 2024, Dubai, UAE, doi: [10.1109/WCNC57260.2024.10571278](https://doi.org/10.1109/WCNC57260.2024.10571278)
10. B. Fang, J. Oostvogels, X. Liu, **A. Belogaev**, S. Michiels, J. Famaey, and D. Hughes, "ABL: Leveraging Millimeter Wave Pulses for Low Latency IoT Networking," // in Proc. of CrystalFreeIoT 2024, doi: [10.1109/CrystalFreeIoT62484.2024.00010](https://doi.org/10.1109/CrystalFreeIoT62484.2024.00010)
11. X. Liu, **A. Belogaev**, J. Oostvogels, B. Fang, D. Hughes, M. Weyn, and J. Famaey, "Low-latency Symbol-Synchronous Communication for Multi-hop Sensor Networks," // in Proc. of EuCNC 2024, Belgium, doi: [EuCNC/6GSummit60053.2024.10597026](https://doi.org/EuCNC/6GSummit60053.2024.10597026)
12. M. Liu, B. Fang, J. Oostvogels, S. Michiels, **A. Belogaev**, X. Liu, J. Famaey, D. Hughes, "CAIN: Low Power and Low Latency VHF Mesh Networking," // in Proc. of EWSN 2024, Abu Dhabi, UAE, [paper](#)