Zdenek Becvar

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Work experiences

Since 01/2018	**Czech Technical University in Prague, FEE, Dept. of Telecommunication Engineering** Deputy head of the Department of Telecommunication Engineering
Since 05/2014	**Czech Technical University in Prague, FEE, Dept. of Telecommunication Engineering** Associate professor
2011 – 04/2014	**Czech Technical University in Prague, FEE, Dept. of Telecommunication Engineering** Assistant professor
2008 - 2010	**Czech Technical University in Prague, FEE, Dept. of Telecommunication Engineering** Researcher
2009	**Vodafone RDC at Czech Technical University in Prague, Czech Republic** PhD student focused on development of testbed for wireless networks
2006 - 2007	**Sitronics R&D centre, Prague, Czech Republic** PhD student researcher focused on VoIP speech quality improvement

Education

2005 – 2010	**Czech Technical University in Prague, Faculty of Electrical Engineering** Ph.D. in Telecommunications; Thesis: Reduction of handover interruption in mobile network
1999 – 2005	**Czech Technical University in Prague, Faculty of Electrical Engineering** M.Sc. in Telecommunications; Thesis: Bluetooth modul for radiomodem

Internships

06/2019	**EURECOM, Communication Systems Department**, Sophia Antipolis, France
05-06/2016	**EURECOM, Communication Systems Department**, Sophia Antipolis, France
08/2014	**University College Dublin, Performance Engineering Lab**, Dublin, Ireland
01-07/2013	**CEA-Leti, Wireless Telecommunications Lab**, Grenoble, France
04/2007	**Budapest Politechnic, FEE, Dpt. of Telecommunication**, Budapest, Hungary

Research interests

Radio resource management in mobile networks, mobility support, device-to-device communication, power control, architecture of radio access network (MEC, C-RAN, drones, small cells), machine learning.

Academic activities

Lectures in Mobile Networks and in Wireless Technologies courses.

Supervisor of 7 PhD and more than 35 BSc/MSc students (Dean's award for four master and one PhD students).

Author and coordinator of double-degree master study programs with NTUST, Taiwan and EURECOM, France.

Deputy head of the committee for PhD studies in Electrical Engineering and Communications@ FEE, CTU.

Member of the board of Electronics and Communications MSc and BSc study program at FEE, CTU.

Member of the scientific council at FEE, CTU and at EURECOM, France.

Miscellaneous

Included in the list of *World's Top 2% Scientists* by Stanford University in 2019 and ranked 2nd in the Czech Republic and 2566th worldwide out of 161179 researchers in Networking & Telecommunications.

Participation at *US-EU Frontieers of Engineering 2019,* Stockholm, Sweden.

Representative of Czech Technical University in Prague in *3GPP* and *ETSI* standardization bodies (2013-2017).

Third place in *App Contest at Mobicom 2015* with Android application Percipio.

Exemplary reviewer of *IEEE Wireless Communication Letters*; also, reviewer for many other prestigious journals including IEEE Transactions, IEEE Letters, IEEE magazines, etc, TCP at more than 20 prestigious conferences

IEEE Senior member, member of Communications and Vehicular Technology Societies.

Publication activities

More than *ninety papers* published in journals and international conferences and four book chapters.

Best paper award at European Wireless 2017 (paper: Z. Becvar et al, “Performance of Mobile Networks with UAVs: Can Flying Base Stations Substitute Ultra-Dense Small Cells?”).

Two national patent (on D2D and AR), three US patents (on C-RAN), and one provisional US patents (D2D&ML).

H-index: WoS = 14, Scopus = 16, Google scholar = 22

Number of citations: WoS = 1800+, Scopus = 2300+, Google scholar = 3500+

Contributions to 3GPP (D2D, architecture of mobile networks) and IEEE 802.16m (handover).

Selected recent papers:

[1] M. Nikooroo Z. Becvar "Optimal Positioning of Flying Base Stations and Transmission Power Allocation in NOMA Networks," accepted in *IEEE Transactions on Wireless Communications*, 2021.

[2] Z. Becvar, P. Mach, M. Elfiky, M. Sakamoto, "Hierarchical Scheduling for Suppression of Fronthaul Delay in C-RAN with Dynamic Functional Split," *IEEE Communications Magazine*, Vol. 59, No. 4, April 2021.

[3] J. Plachy, Z. Becvar, et al, "Dynamic Allocation of Computing and Communication Resources in Multi-Access Edge Computing for Mobile Users", *IEEE Trans. on Net. and Serv. Management*, Vol. 18, No. 2, June 2021.

[4] P. Mach, T. Spyropoulos, Z. Becvar, "Incentive-based D2D Relaying in Cellular Networks," *IEEE Transactions on Communications*, Vol. 69, No. 3, March 2021.

[5] M. Najla, Z. Becvar, P. Mach, D. Gesbert, "Predicting Device-to-Device Channels from Cellular Channel Measurements: A Learning Approach," *IEEE Trans. on Wireless Communications*, Vol. 19, No. 11, 2020.

Research projects

03/2020 – 12/2024 **Cooperation with International Research Centre in Area of Digital Commu. Systems**
Research project funded by Ministry of Education, Youth and Sport of Czech Republic

01/2020 – 12/2022 **Precise positioning for autonomous train operation with secure communications on new 5G+ network standards**
Research project no. FW01010187 by Technology Agency of the Czech Republic (TACR)

01/2018 – 12/2020 **Communication in Self-optimizing Mobile Networks with Drones**
Research project no. P102/18/27023S funded by Czech Science Foundation (GACR)

01/2018 – 12/2019 **Cooperation with International Research Centre in Area of Commun. Systems**
Research project funded by Ministry of Education, Youth and Sport of Czech Republic

01/2017 – 12/2019 **Combined RF and Visible Light Bands for Device-to-Device communication**
Research project no. P102/17/17538S funded by Czech Science Foundation (GACR)

10/2017 – 09/2019 **Mobile Edge Computing and Functional Splitting for Scheduling of Radio Resources**
Research project funded by FOXCONN Taiwan

07/2016 – 06/2018 **Game theoretic aspects of wireless spectrum access**
Bilateral project no. 8G15008 with prof. Amir Leshem, Bar-Ilan University funded by Ministry of Education, Youth and Sport of Czech Republic

09/2012 – 04/2015 **Project TROPIC** (www.ict-tropic.eu)
FP7 project (No. ICT-318784) funded by European Commission
Workpackage leader (Scenarios, Architecture, and Market Analysis)

01/2012 – 12/2014 **Prediction Algorithms for Efficient Mobility Management in Wireless Networks**
Research project no. P102/12/P613 funded by Czech Science Foundation (GACR)

01/2010 – 12/2011 **Project FREEDOM** (www.ict-freedom.eu)
FP7 project (No. ICT-248891) founded by European Commission
Workpackage leader (Control procedures for RRM)

12/2008 – 12/2009 **Project WiMATE** (http://www.rdc.cz/en/projects/WiMate)
Vodafone RDC project.

01/2008 – 12/ 2009 **Project ROCKET** (www.ict-rocket.eu)
FP7 project (No. ICT-215282) founded by European Commission.

01/2006 – 12/2007 **Improvement of VoIP speech quality**
Project founded by Sitronics R&D centre, Prague.

Language skills

Czech	Native
English	Fluent
French	Basic
German	Basic