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# Pavel Mach

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## Researcher

Czech Technical University in Prague  
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## Work experiences

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| since 2010  | <b>Czech Technical University in Prague, FEE, Dept. of Telecommunication Engineering</b><br>Researcher       |
| 2006 - 2007 | <b>Sitronics R&amp;D centre, Prague, Czech Republic</b><br>PhD student researcher focused on mobile networks |
| 2005-2006   | <b>Vodafone RDC at Czech Technical University in Prague, Czech Republic</b><br>Localization of blind person  |

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## Education

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| 2005 – 2010 | <b>Czech Technical University in Prague, Faculty of Electrical Engineering</b><br>Ph.D. in Telecommunications<br>Thesis: Efficient Data Transmissions in IEEE 802.16 Networks Enhanced with Relay Stations |
| 1999 – 2006 | <b>Czech Technical University in Prague, Faculty of Electrical Engineering</b><br>M.Sc. in Telecommunications  |

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## Internship

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| 02/2015 | <b>The Royal Institute of Technology, Stockholm, Sweden</b> |
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## Research interests

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Radio resource management in wireless networks including power control, mobility support, scheduling techniques, routing, D2D communications, small cells, 5G.

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## Academic activities

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Lectures and labs in Mobile Communication Networks, labs in and Telecommunication systems.  
Co-Supervisor of one PhD and several MSc students.

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## Miscellaneous

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Member of IEEE Communications and Vehicular Technology Societies.  
Member of more than 15 conference committees.  
Reviewer for many WoS indexed journals such as IEEE Communications Letters, Wireless Communications and Mobile Computing, Transactions on Emerging Telecommunications Technologies, Sensors, Wireless Networks, Telecommunications Systems, etc.

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## Publication activities

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More than forty papers published in journals and at international conferences.  
Two published book chapters.  
Contributions to 3GPP and IEEE 802.16m.

### Selected papers:

- [1] Z. Becvar, P. Mach, M. Vondra, "Self-optimizing Neighbor Cell List with Dynamic Threshold for Handover Purposes in Networks with Small Cells," *Wireless Communications and Mobile Computing*, 2013.
- [2] P. Mach, Z. Becvar, R. Bestak, "Handover of relay stations for load balancing in IEEE 802.16.", *In Wireless Communications and Mobile Computing*, vol. 13, no. 2, pp. 170-183, 2013.

- [3] Z. Becvar, P. Roux, P. Mach, "Fast cell selection with efficient active set management in OFDMA networks with femtocells," *EURASIP Journal on Wireless Communications and Networking* 2012, 2012:292.
- [4] Z. Becvar, P. Mach, B. Simak, "Improvement of Handover Prediction in Mobile WiMAX by Using Two Thresholds," *Computer Networks*, Elsevier, Vol. 55 No. 16, November 2011.
- [5] P. Mach, Z. Becvar, "QoS-Guaranteed Power Control Mechanism Based on the Frame Utilization for Femtocells," *EURASIP Journal on Wireless Communications and Networking*, Vol. 2011, 16 pages, 2011.

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## Research projects

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- 09/2012 – 04/2015 **Project TROPIC** ([www.ict-tropic.eu](http://www.ict-tropic.eu)) – project is tagged as 5G project by EC FP7 project (No. ICT-318784) funded by European Commission  
Cloud-aware Power control, D2D communication, management of small cell cloud,
- 01/2013 – 12/2015 **New methods for capacity improvement of heterogeneous wireless networks based on hybrid cognitive approach and small cells**  
Research project no. P102/13/24931 funded by Czech Science Foundation (GACR),
- 01/2010 – 12/2011 **Project FREEDOM** ([www.ict-freedom.eu](http://www.ict-freedom.eu))  
FP7 project (No. ICT-248891) funded by European Commission  
Radio Resource Management for networks combining cognitive radio and small cells,
- 01/2008 – 12/2009 **Project ROCKET** ([www.ict-rocket.eu](http://www.ict-rocket.eu))  
FP7 project (No. ICT-215282) funded by European Commission.
- 09/2007 – 12/2007 **Feasibility study of national radio access network based on WiMAX**  
National project funded by Ministry of the Interior of the Czech Republic.
- 01/2006 – 12/2007 **Project FIREWORKS** (<http://fireworks.intranet.gr>)  
FP6 project (No. IST-027675) funded by European Commission.
- 01/2005 – 12/2006 **Localization of Blind Person**  
Project funded by Vodafone R&D centre, Prague.

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## Language skills

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Czech	Native
English	Fluent
German	Basic