

# Dr. Zsolt Kollár

*Electrical engineer*

Magyar Tudósok krt. 2.  
H-1117 Budapest  
Hungary  
☎ +36 (20) 775 3179  
☎ +36 (1) 463 2576  
✉ kollarzs@mit.bme.hu



## *Professional CV*

### Personal data

Birth data **23.08.1983.**  
Birth place **Budapest, Hungary.**  
Nationality **Hungarian.**  
Family status **Married.**

### Studies

- 2023 **Habilitation**, *Budapest University of Technology and Economics.*  
Faculty of Electric Engineering and Informatics  
Department of Measurement and Information Systems  
Habilitation thesis: Efficient signal processing methods in FBMC systems
- 2013 **Phd defence**, *Budapest University of Technology and Economics.*  
Faculty of Electric Engineering and Informatics  
Department of Measurement and Information Systems  
Phd thesis: Investigation of Multicarrier Modulation Schemes in Cognitive Radio Applications
- 2011–2012 **Phd candidate**, *Budapest University of Technology and Economics.*  
1 year Phd candidate scholarship  
Faculty of Electric Engineering and Informatics  
Department of Measurement and Information Systems
- 2008–2011 **Phd course**, *Budapest University of Technology and Economics, Absolutorium.*  
3 year PhD course in electrical engineering  
Faculty of Electric Engineering and Informatics  
Department of Measurement and Information Systems  
Advisor: Dr. Gábor Péceli
- 2007–2008 **Diploma work**, *Technical University of Ilmenau, Ilmenau, Germany.*  
Thesis: EXIT Chart Based Optimization of Turbo Receivers for Clipped Coded OFDM Signaling  
Advisor: Dr. Reiner Thomä, Marcus Grossmann és Péter Horváth  
Erasmus scholarship
- 2002–2008 **Diploma**, *Budapest University of Technology and Economics, Rating: Excellent.*  
Faculty of Electric Engineering and Informatics  
5 year course on electrical engineering – German course  
DAAD scholarship: One semester at the Technical University of Karlsruhe  
Major studies: Broadband and Mediacommunication  
Side studies: Digital Signal Processing

---

## Professional experience

- 2020- **Associate professor**, *Department of Measurement and Information Systems, Faculty of Electrical Engineering and Informatics, Budapest University of Technology and Economics, Budapest, Hungary.*
- 2018 Oct. - **Visiting researcher**, *Institute of Radio Frequency Engineering and Electronics (IHE), Karlsruhe Institute of Technology (KIT), Karlsruhe, Germany, Taranto project.*  
2019 Apr. Implementation of a MIMO testsystem for hybrid beamforming
- 2018-2019 **Associate professor**, *Department of Broadband Infocommunications and Electromagnetic Theory, Faculty of Electrical Engineering and Informatics, Budapest University of Technology and Economics, Budapest, Hungary.*
- 2017- **Head of the MATLAB laboratory**, *Department of Broadband Infocommunications and Electromagnetic Theory, Faculty of Electrical Engineering and Informatics, Budapest University of Technology and Economics, Budapest, Hungary.*
- 2016-2018 **Senior lecturer**, *Department of Broadband Infocommunications and Electromagnetic Theory, Faculty of Electrical Engineering and Informatics, Budapest University of Technology and Economics, Budapest, Hungary.*
- 2013-2016 **Assistant lecturer**, *Department of Broadband Infocommunications and Electromagnetic Theory, Faculty of Electrical Engineering and Informatics, Budapest University of Technology and Economics, Budapest, Hungary.*
- 2008-2016 **Senior developer and research engineer**, *Rohde & Schwarz Reference Laboratory, Budapest, Hungary.*  
Numerous research and development projects
- 2008-2009 **Research fellow**, *Technical University of Ilmenau, Ilmenau, Germany.*  
Research work in the EASY-A project
- 2005 **Trainee**, *LMS Internation, Leuven, Belgium.*  
Car sound analysis in the frequency domain, Internship sponsored by Leonardo scholarship

---

## Project participation

- 2020 BME-HerO2: Development of a complex multipurpose, non-invasive ventilator
- 2018-2019 TARANTO project: TowARds Advanced bicmos NanoTechnology platforms for rf and thz applicatiOns. Implementation of a MIMO testsystem for hybrid beamforming
- 2017-2018 Ericsson project on development of a GPS data logging and evaluation system (Project leader)
- 2012-2015 TÁMOP – FIRST project: Hungarian national project on future internet. Signal processing for efficient spectrum allocation
- 2010-2012 QoS MOS project, EU IST FP7: Quality of Service and MObility driven cognitive radio Systems. Signal processing for advance modulation schemes for cognitive radio
- 2008-2009 EASY-A project: Enablers for Ambient Services & Systems, Part A - 60 GHz Broadband Links. Baseband signal processing, characterisation and modeling of nonlinear distortion in the power amplifiers of the VHR-E demonstrator system

---

## Scientific society memberships

- IEEE member (ID number: 91208064): Hungary Session: Instrumentation and Measurement & Biomedical Engineering Joint chapter secretary

## PhD supervision

- 2021 Barna Csuka (Supervisor): Channel Identification Methods for Complex-valued Transmissions
- 2021 Husam al-Amaireh (Supervisor): Optimization of FBMC-OQAM Transceiver Architectures

## Phd supervision (ongoing)

- 2018- András Retzler, Topic: Nonlinear system identification
- 2019- Bence Cseppentő, Topic: Nonlinear model predictive control
- 2019- Lóránt Csőke, Topic: Development of a chromatic comfocal microscope
- 2020- Alwashdeh Monther Abdalmajeed Moh'd: Quantization noise in FBMC systems
- 2022- Zahraa Tagelsir: PAPR reduction in FBMC systems

## Phd committee participations

- 2022 Yahia Al Naiemy: Innovations in Antenna Designs Based Artificial Materials for Modern Application
- 2021 Miklós Gábrriel Tulics: Automatic Classification of Dysphonia
- 2021 Ágoston Kristóf Schranz: Optical Solutions for Quantum Key Distribution Transmitters
- 2021 Balázs Tarján: Language Modeling for Hungarian Speech Recognition