

PERSONAL INFORMATION

Michal CIFRA born 19th July 1983, Slovakia

EDUCATION/ACADEMIC DEGREES

- 2009 **PhD. in Radioelectronics**, Department of Electromagnetic Field, Faculty of Electrical Engineering, Czech Technical University in Prague, Czechia
- 2006 **M.Sc. (Ing.) in Biomedical Engineering**, Faculty of Electrical Engineering, University of Žilina, Slovakia

POSITIONS

- 2019 – now **Senior scientist** – Inst. Photonics and Electronics, Czech Acad. of Sci, Czechia
- 2013 – now **Team leader** – Inst. Photonics and Electronics, Czech Acad. of Sci, Czechia
- 2014 – 2015 **Visiting professor**, 8 months, University of Chicago, James Franck Institute / Physical Sciences Div. (Dept. of Chemistry), Chicago, USA
- 2013 Sept. **Visiting researcher**, National Institute for Materials Science, Tsukuba, Japan
- 2010 – 2012 **Postdoctoral researcher**, Institute of Photonics and Electronics, CAS, Czechia
- 2010 Sept. **Erasmus Mundus visiting researcher**, State University of Campinas, Brazil
- 2005 – 2010 3 months total – **Visiting student researcher**, International Institute of Biophysics, Neuss, Germany
- 2004 – 2005 7 months total - **Student researcher (HiWi) / Socrates Erasmus fellow / Leonardo da Vinci trainee**, ELCAT GmbH & Institut für Hochfrequenztechnik, RWTH Aachen, Germany

PROJECTS

- 2025 – 2028 Czech Health Research Council - NW25-08-00274 - *Exposing the role of electrochemical reactions in electroporation*, 250 kEUR, **co-PI**
- 2025 – 2027 Czech Science Foundation - 25-16700S – *Microwave sensors for unraveling biomolecular effects of pulsed electric field*, 360 kEUR, **PI**
- Past (2010-2024): Czech Science Foundation projects - 5 (PI), 1 (co-PI), total share ~3 MEUR, topics: 1) *radiofrequency, microwave, subTHz sensors and devices for electromagnetic analysis and manipulation of cells and cytoskeletal protein structures*, 2) *pulsed electric field biomolecular effects*, 3) *biological autochemiluminescence*
- 2015 – 2021 2 joint Research Projects Czech & Slovak Academy of Science: 1. *Exploring physical basis of electromagnetic field interactions with biomolecules, cells and tissue*, 2. *Novel integrated approaches for research of biomedical effects of pulsed electric fields*
- 2014 – 2021 COST Actions BM1309 European network for innovative uses of EMFs in biomedical applications, CA15211 Atmospheric Electricity Network: coupling with the Earth System, climate and biological systems, **management committee member**

INVITED / TRAVEL-COST-COVERED TALKS

- 2022: 3 *XXVII Int. Symp. on Bioelectrochem. and Bioenergetics*, Antwerpen, Belgium, 4.-7. 4. *ATAP-RASC URSI*, Gran Canaria, 29.5.-3.6., *IEEE IMBioC 16.5.-18.5.*, 2022
- 2021: 4 *GASS URSI*, Italy, 28.8.- 4.9.; *XXVI. Ann. Cong. Czech and Slovak Soc. Biochem & Mol. Biol.*, CR, 29.8.-1.9.; *4th Aquaphotonics Int Symp*, Japan, 20-22 Mar; *IEEE Sensors*, AU, 1-4 Nov
- 2019 *XXV Int. Symp. on Bioelectrochemistry and Bioenergetics*, Limerick, Ireland, 26-30 May,
- 2019 *Int. Winterschool on Bioelectronics*, Kirchberg in Tirol, Austria, 16-23 March
- 2018 *3rd Aquaphotonics International Symposium*, Awaji, Japan, 2-6 December
- 2017 *Conf. on the Physics, Chemistry and Biology of Water*, Sofia, Bulgaria, 26-29 October, 8th
- 2017 *International THz-Bio workshop*, Frascati, Italy, 4-6 October
- 2016 *International Workshop on Ultra-weak Photon Emission*, Tehran, Iran, 7-9 February
- 2015 *Cong. Internacional en Tecnología, Innovación y Docencia*, Mexico 20-24 April
- 2012 *Biophysical Aspects of Complexity in Health and Disease* / Lugano, Switzerland, 18-19 May
- 2011 *Conf. on the Physics, Chemistry and Biology of Water* / Vermont, USA, 20-23 October
- 2011 *Electromagnetic fields and Quantum phenomena in the BioSystems* / Poznań, Poland, 20 May

- 2010 *Summer School on Biophotonics and Applications of Biophotons*, International Institute for Biophysics / Neuss, Germany, 1-6 August
- 2008 – 2015 10 other invited conference talks / local seminars in Czechia, France, Japan, Mexico, USA, UK

FELLOWSHIPS, AWARDS, HONORS

- 2022 Justin Teissié Award, ISEBTT
- 2021 Life member, SPIE
- 2021 Best Paper Award (2nd place) from IEEE Sensors 2021 Conference
- 2019 Best Paper award for 2019 from Institute of Photonics and Electronics, CAS
- 2019 Senior member of Optica (former Optical Society of America)
- 2016 Otto Wichterle Award from the Czech Academy of Sciences in the field of Mathematics, Physics and Earth Sciences
- 2015 IEEE, Senior Member
- 2015 International Travel Award by Biophysical Society *Annual meeting 2015 - to present outstanding achievements in biophysics research*, USA (competition success rate: 39%)
- 2014 European Molecular Biology Laboratory Advanced Training Centre Corporate Partnership Programme Fellowship / Heidelberg / Germany (success rate in program: 12%)
- 2008 Young Scientist Award / URSI – International Union of Radio Science, Belgium/USA

ORGANIZATION OF SCIENTIFIC MEETINGS

Co/organized 30+ conferences/workshops/special sessions (+ served in the technical program/scientific committees) with total 10000+ attendees. Organizer of the Bioelectrodynamics webinar series since 2021.

TEACHING, MENTORSHIP OF STUDENTS AND POSTDOCS

Molecular Bioelectromagnetism course founder (Charles Uni in Prague), **co- or supervisor of students: 12 master, 7 doctoral** (6 graduated / 1 ongoing), **8 postdocs** (4 ongoing)

Member of the under-/graduate programs boards: 3 PhD programs - *Radioelectronics, Applied Physics FEE CTU* in Prague, CZ, *Biophysics, Chemical and Macromolecular Physics*, FMP, Charles Uni in Prague, CZ, 1 MSc program: *Biomedical Engineering*, FEEIT University of Zilina, Slovakia

Leadership trainings: EMBO Lab Leadership 2015, Leadership Sculptor 2018, Optica Level-up 2024

MEMBERSHIP IN SCIENTIFIC SOCIETIES, JOURNAL EDITORIAL BOARD

BioEM – member of the communication committee, **Senior Member of IEEE**, **chair** (2018-2021) & **secretary of CSS IEEE EMB** (societies: Engineering in Biology and Medicine (2015 -), Microwave Theory and Techniques (2015 -,2018- member of MTT TC28), Photonics Society (2013 -), Life Sciences Community (2013 -), Czechoslovakia section (2007 -), **associate editor** Scientific Reports (2019-), IEEE JERM (2018-2024)

URSI (Int. Union of Radio Science): **Com K TAC member**, **secretary of the national committee**

Senior member (Optica), **Member** (ISEBTT, Bioelectrochemical Society, European Microwave Association, International Society for Bioelectromagnetism, Czechoslovak Biological Society, SPIE)

APPLIED RESEARCH AND COMMERCIALIZATION

2024 patent *The method of determining the complex permittivity*, CZ 309946

2007 – 2012 MetaVia, s.r.o. co-founder and CTO (generated products w/ final market value of ~ 0.3 MEUR)

BIBLIOGRAPHY

120 documents (>80 journal papers) in Web of Science, guest editor for 2 special issues of different journals, 3x book editor. **Citations** >1600 (WoS), >3300 (Google Scholar), **Hirsch index** 21 (WoS), 28 (Google Scholar). **Publications:** see ORCID: [0000-0002-8853-9523](https://orcid.org/0000-0002-8853-9523)/ Researcher ID: [D-4416-2013](https://orcid.org/D-4416-2013) [Google Scholar](https://scholar.google.com/citations?user=...)