

CURRICULUM VITAE

prof. RNDr. Bohuslav Rezek, Ph.D.

Date of birth: 1973; Place of birth: Prague; Nationality: Czech

Current occupation

- since 2015 Research team leader and principle project investigator at the Physics Department of the Faculty of Electrical Engineering, Czech Technical University in Prague.
- 2015-2021 Head of the Physics Department at the Faculty of Electrical Engineering, Czech Technical University in Prague.

Education and work positions

- 2019 Full professor in the field of Applied physics at the Faculty of Electrical Engineering, Czech Technical University in Prague (since May 2019).
- 2011 - 2019 Research team leader at the Department of Thin Films and Nanostructures, Institute of Physics, Academy of Sciences of the Czech Republic. Theme: *Fabrication, characterization, and understanding of interfaces and nanostructures based on inorganic semiconductor materials (mainly silicon, diamond), organic molecules (organic dyes, proteins) and cells.*
- 2013 Habilitation in the field of Applied physics at the Faculty of Mechanical Engineering, Brno University of Technology, doc. degree awarded in November 2013. Theme: *Microscopic properties of diamond and its molecular and biological interfaces.*
- 2011 (2 months) JSPS Invitation Fellowship in the group of Dr. Yamasaki (host researcher Dr. Takeuchi) at the Energy Technology Research Institute (ETRI) of National Institute of Advanced Industrial Science and Technology (AIST), Tsukuba, Japan. Theme: *Electronic configuration and thermal stability of diamond surfaces with various terminations.*
- 2006 - 2011 Purkyně Fellowship at the Department of Thin Films and Nanostructures, Institute of Physics, Academy of Sciences of the Czech Republic. Theme: *Functional nano-interfaces of semiconductors and organic materials.*
- 2004 - 2006 Research scientist at the Diamond Research Center of National Institute of Advanced Industrial Science and Technology (AIST), Tsukuba, Japan. Theme: *Surface Functionalized Diamond Devices.*
- 2002 - 2004 Research associate in Nanotechnology Group of Prof. Stemmer at the Swiss Federal Institute of Technology (ETH) Zürich. Theme: *Nanotechnology at liquid/solid state interfaces.*
- 2001 (6 months) Post-doctoral position in a group of Prof. Stutzmann at Walter Schottky Institut, Technische Universität München. Theme: *Diamond surfaces for sensors and electronic devices.*
- 2001 (6 months) Research scientist in a group of Dr. Kočka at the Institute of Physics, Academy of Sciences of the Czech Republic. Theme: *Silicon thin films for solar cells.*
- 2001 RNDr. (rerum naturalium doctor) degree at the Faculty of Mathematics and Physics, Charles University in Prague, awarded February 2001.
- 1998 - 2000 Research stays in a group of Prof. Stutzmann at the Walter Schottky Institut, Technische Universität München, for one year in total during this period. Theme: *Development of large grain silicon thin films by the interference laser crystallization of amorphous silicon and their investigation by optical beam induced current technique with a sub-micrometer lateral resolution and with a special view to optical and electrical properties of grain boundaries.*
- 1996 - 2000 Post-graduate studies at the Faculty of Mathematics and Physics, Charles University in Prague, finished by PhD. degree, awarded January 2001. (specialization: Electronics and vacuum physics) Theme: *Study of charge transport in amorphous and microcrystalline silicon with lateral resolution in sub-micrometer regime.*
- 1995 Cambridge First Certificate in English, grade A.

1991 - 1996 Graduate studies at the Faculty of Mathematics and Physics, Charles University in Prague, finished by Mgr. degree, awarded June 1996. (specialization: Physics of molecular and biological systems) Theme: *Nanostructural composites of conducting organic materials with metals or semiconductors.*

Research interests

Characterization and modification of material properties by local probes (AFM, Kelvin probe, APS, Raman). Nanotechnologies. Physics of materials. Photovoltaics. Molecular and bio-interfaces. Biosensors.

Foreign languages

fluently: English, German
passively: Japanese, French, Russian

Publication activities

Author or co-author of over 200 scientific articles in international peer-reviewed journals that were cited more than 3500 times (WoS h-index 32), over 20 publications in the last 3 years. Author or co-author of 5 patents (2 EU) and 4 utility models. Author or co-author of several book chapters and many contributions in proceedings. Various invited talks at international conferences and seminars (>20). For more details see the google scholar profile scholar.google.cz/citations?user=mb1IXcUAAAAJ. ORCID [0000-0002-0378-4598](https://orcid.org/0000-0002-0378-4598).

Pedagogical activities (selected)

Supervisor of doctoral students (since 2006): successfully defended 9, currently studying 1. Two Dean's Awards. Teaching at FEM BUT Brno "Methods of preparation of low-dimensional structures" (2010-2017). Teaching laboratory exercises Physics 1, Physics 2 at FEE CTU in English and Czech since 2017. Teaching new course „Biosensors“ (2+2) for the master study program of Medical Electronics and Bioinformatics at FEE CTU, since 2019 (in doctoral study as “Advanced Biosensors” since 2016) . Doctoral program “Aplikovaná fyzika” at FEE CTU –accreditation and chair of the branch board (since 2019). Member of the branch board of the doctoral program “Bioinženýrství” at FEE CTU. Member of the branch board of the doctoral program P4F5 “Fyzika povrchů a rozhraní” at MFF UK (since 2014). Member of the commissions for the defense of bachelor's and dissertation theses. Reviewer of multiple works. Popular lectures and outreach activities for students and general public.

Contributions to scientific community (selected)

Member of the governmental RVVI evaluation panel for Metodika2017+ (since 2021). Evaluator of the results for RVVI (Metodika2017 +) since 2019, > 20 results evaluated. Member of the Scientific Board of the MFF UK (since 2021). Member of the commissions for habilitation and professor appointments. Member of the Editorial Board: Scientific Reports since 2016. Member of the Program Boards: International Hasselt Diamond Workshop on CVD diamond and other carbon materials (SBDD) since 2007, International Conference on Nanomaterials (Nanocon) since 2017. Member of the Biointerfaces division within IUVSTA (International Union for Vacuum Science, Technology and Applications) since 2010. Reviewer for scientific journals, such as Diamond and Related Materials, Journal of Applied Physics, Applied Surface Science, ACS Applied Materials & Interfaces, Biosensors and Bioelectronics, Analytical Chemistry, Scientific Reports, Nanomaterials, Materials Today, Carbon, etc. Certified project evaluator of the ESF Education for Competitiveness (OPVK) since 2008, > 20 projects. GAUK project evaluator, since 2010, evaluated 14 projects. Evaluator of TAČR and TAČR Competence Center projects, since 2012, 17 projects. Evaluator of National Sustainability Program (NPU I) projects, since 2013, 3 projects. Evaluator of OP RDI projects, since 2013, 8 projects. Coordinator of the Research Center for Carbon Biomaterials and Biointerfaces (CABIOM, 2008-2015). Co-founder of the Scanning Probe Microscopy Expert and Training Center (SET-Center) at FZÚ AVČR. Chairman of the Commission for Patent Applications at FZÚ AVČR (2009-2015).

Grant projects - Principle investigator or co-investigator

TM03000033 (TAČR Delta2) 2022-2025: Development of correlative AFM and SEM/AirSEM microscope
19-02858J (GAČR Taiwan) 2019-2021: Charge transfer and microbiological interactions of hybrid metal oxides
17-19968S (GAČR) 2017-2019: Localized electronic effects of antibody binding on nanocomposite materials.
16-34856L (GAČR Austria) 2016-2018: Atomic and electronic properties of graphene-on-diamond
15-01809S (GAČR) 2015-2017: Study of surface-functionalized diamond nanoparticles for energy conversion.
15-32497A (AZV) 2015-2017: Bioactive nanostructured surfaces for histocompatible implants.
P108/12/0996 (GACR) 2012-2014: Bio-inspired scaffolds as active sensor systems.
M100101209 (ASCR) 2012-2015: Diamond interfaces for novel electronics.
M100100902 (ASCR), 2009-2012: Diamond films and nanocomposites for optical and electronic applications.
KAN400100701 (ASCR) 2007-2011: Functional hybrid nanosystems of semiconductors with organic materials.
Fellowship J.E.Purkyně (ASCR) 2006-2011: Hybrid nanostructures of organic molecules and semiconductors.

Grant projects - Key researcher or team member

CZ.02.1.01/0.0/0.0/16_019/0000778 (OPVVV) 2018-2023: Centre of Advanced Applied Sciences
CZ.02.1.01/0.0/0.0/15_003/0000464 (OPVVV) 2017-2021: Centre of Advanced Photovoltaics
CZ.02.1.01/0.0/0.0/16_017/0002280 (OPVVV) 2016-2022: Výzkumná infrastruktura pro doktorské studijní programy na ČVUT FEL, **CZ.02.2.69/0.0/0.0/16_018/0002185** (OPVVV) 2016-2022: Rozvoj a transformace doktorského studia na ČVUT FEL
LM2015087 (MŠMT) 2016-2019, **LD15013** (MŠMT COST CZ) 2015-2017, **15-22102J** (GAČR Korea) 2015-2017, **P108/12/G108** (GAČR Excellence Center) 2012-2018, **LM2011026** (MŠMT) 2012-2016, **P108/12/0910** (GAČR) 2012-2014, **P204/10/0212** (GAČR), 2010-2012, **P108/11/0794** (GAČR), 2011-2013, **FR-TI2/736** (MPO), 2010-2013, **M100100905** (AVČR), 2009-2012, **KJB100100903** (GAAV), 2009-2011, **IAAX00100902** (GAAV), 2009-2012, **KAN200100801** (AVČR), 2008-2012, **LC06040** (MŠMT), 2006-2011, **LC510** (MŠMT), 2005-2011.

In Prague 12.1.2022.