

Professional Curriculum vitae (August 19, 2020)



Prof. Ing. Roman Martoňák, DrSc.
Academician of the Learned Society of Slovakia

Researcher unique identifier(s): ORCID 0000-0002-4013-9117, Research ID T-5223-2018

Year and place of birth: 1964 Handlová

web site: <http://www.dep.fmph.uniba.sk/index.php/condensed-matter-physics/computational-materials-science/cv>

Total number of publications: 73 journal papers, 1 chapter in monograph

Total number of citations: Web of Science 2966, Google Scholar 4100

h-index: Web of Science 27, Google Scholar 31

Education

2004 - 2005 Habilitation at Departement Physik, ETH Zurich, Switzerland, Venia Legendi obtained for the field of Computational Physics, valid from 1 April 2005

1993 PhD in Condensed Matter Theory under supervision of Prof. E. Tosatti, International School for Advanced Studies (SISSA), Trieste, Italy

1987 Master in Solid State Engineering, Faculty of Electrical Engineering, Slovak Technical University, Bratislava, Czechoslovakia

Current position

2014 – Full Professor of Physics, Faculty of mathematics, physics and informatics, Comenius University in Bratislava, Bratislava, Slovak Republic

Previous positions

2006 – 2014 Associate Professor of physics, Faculty of mathematics, physics and informatics, Comenius University in Bratislava, Bratislava, Slovak Republic

2001 – 2006 Research worker in the group of Prof. M. Parrinello, Computational Science, Department of Chemistry and Applied Biosciences, ETH Zurich, Lugano, Switzerland

2000 - 2001 Visiting Associate Professor of Solid State Physics, Department of Physics, Faculty of Electrical Engineering and Informatics, Slovak Technical University, Bratislava, Slovakia

Fellowships

1998 - 1999 Post-Doctoral Fellow in the group of Prof. M. Parrinello, Max-Planck-Institut für Festkörperforschung, Stuttgart, Germany

1995 - 1997 Post-Doctoral Fellow in the group of Prof. K. Binder, Institut für Physik, Johannes Gutenberg-Universität, Mainz, Germany

1993 - 1994 Post-Doctoral Fellow in the group of Prof. E. Tosatti, International Centre for

Theoretical Physics (ICTP), Trieste, Italy

Supervision of PhD students and postdocs

2006 – 2020 1 Postdoc, 3 PhD Students finished, currently 3 PhD students supervised, 10 Master Students finished, Faculty of Mathematics, Physics and Informatics, Comenius University in Bratislava

Teaching activities

Faculty of Mathematics, Physics and Informatics, Comenius University in Bratislava
2007 - Structure and Mechanical Properties of Solids
2011 - Introduction to Computer Simulations in Physics
2016 - Quantum Simulations in Condensed Matter

Organisation of scientific meetings

2009 co-organizer of CECAM workshop “Structural Transitions in Solids: Theory, Simulations, Experiments and Visualization Techniques“, July 2009, CECAM-USI, Lugano, Switzerland

Institutional responsibilities

2012 - Deputy Head of the Department of Experimental Physics, Comenius University in Bratislava
2015 – Member of the Committees for PhD program in Condensed Matter Physics, General and Mathematical Physics, Chemical Physics, and Geophysics, Faculty of Mathematics, Physics and Informatics, Comenius University in Bratislava
2016 - Guarantor of Master program *Theoretical Physics* and PhD program *Theoretical Physics and Mathematical physics* at the Faculty of Mathematics, Physics and Informatics, Comenius University in Bratislava
2019 - Member of the Scientific Council of the Faculty of Mathematics, Physics and Informatics, Comenius University in Bratislava
2012 – 2019 Member of the working group of the Accreditation Commission (advisory body of the Government of the Slovak Republic) for Physics

Invited lectures at international level

total of 56 lectures (conferences, schools, seminars)

Projects (as principal investigator)

past

APVV-0442-07 Application of dynamical methods in materials science
APVV-0558-10 Structural and electronic phase transitions in condensed matter systems
VEGA 1/0904/15 Quantum modelling of structural and electronic properties of solids
APVV-15-0496 Novel phases and phase transitions in condensed matter

current

APVV-19-0371 Application of machine learning approaches in condensed matter physics (July 2020 - June 2024)

VEGA 1/0640/20 Modeling of new phases and phase transitions in condensed matter (January 2020 - December 2022)

Awards

Prize for science and technology for the year 2017 awarded by the Ministry of Education, Science, Research and Sport of the Slovak Republic

Premium of the Literary Fund for citations over 3-years period 2010 - 2012

Premium of the Literary Fund for citations over 3-years period 2013 - 2015

member of the top scientific team Physics of complex systems at the Faculty of Mathematics, Physics and Informatics, Comenius University in Bratislava

Memberships

Member of the European High-Pressure Research Group EHPRG Committee (since 2017)

Main scientific achievements

application of quantum annealing to search for ground state of spin glass and traveling salesman problem, new algorithm for simulations of structural phase transitions in crystals based on metadynamics, number of computational studies of high-pressure properties of various solid systems