

Curriculum Vitae – Dr. Vilko Smrečki

DATE & PLACE OF BIRTH: 7. September 1966 in Zagreb, Croatia; **NATIONALITY:** Croatia (HR)

FAMILY STATUS: married

OFFICE ADDRESS: NMR Centre, Ruđer Bošković Institute (RBI), Bijenička c. 54, HR-10000 Zagreb, Croatia

WEB SITE: <https://www.irb.hr/eng/About-RBI/People/Vilko-Smrecki>

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DESCRIPTION OF CAREER AND POSITIONS

1990: B.Sc. in Chemistry (Faculty of Science, University of Zagreb, Croatia)

1994: M.Sc. in Chemistry (Faculty of Science, University of Zagreb, Croatia)

1998: Ph.D. in Chemistry (University of Zagreb, Croatia)

1991-2001: Research Assistant at the Ruđer Bošković Institute, Department of Organic Chemistry and Biochemistry, Laboratory of Molecular Spectroscopy (Croatia)

2001-2003: Post-doctoral research at the Institute of Organic Chemistry, Johannes Kepler University in Linz, Austria (2001-2002: **Postdoctoral fellowship** of the Federal Ministry of Education, Science and Culture, Republic of Austria; 2002-2003: **Lise Meitner fellow** of the Austrian Science Fund - FWF)

2001-2012: Research Associate at the Ruđer Bošković Institute, NMR Centre (Croatia)

2007-2015: Civil expert in the Joint Health, Agriculture and Food Group (JHAFG) of the NATO Civil Emergency Planning Committee (CEPC)

2009-2012: Member of the ESF Pool of Reviewers

2009-now: Contact person (for RBI) in the framework of the Agreement on a scientific and academic cooperation programme between the Ruđer Bošković Institute Zagreb, Croatia and the Institute of Organic Chemistry, Johannes Kepler University Linz, Austria

2011-2012: Acting Head of the NMR Centre of the Ruđer Bošković Institute (Croatia)

2012-now: Senior Research Associate at the Ruđer Bošković Institute, NMR Centre (Croatia)

2012-2018: Member of the Board of Governors of the Ruđer Bošković Institute (Croatia)

2016-2019: Member of the ESF College of Expert Reviewers

2018-now: Assistant Director of the Ruđer Bošković Institute (Croatia)

2019-now: Head of the NMR Centre of the Ruđer Bošković Institute (Croatia)

PROJECTS

1991-1995: collaborator in a project *Isotope Effects on Molecular Structure and Dynamics* (MST 1-07-139, PI: Z. Meić)

1991-1995: collaborator in a bilateral Hungarian-Croatian project *Investigation of Chemical Structure using Spectroscopic and Theoretical Methods* (CASA 10, PI: Z. Meić)

1996-2000: collaborator in a project *Isotope labelling and molecular spectroscopies* (MST 00980802, PI: Z. Meić)

1996-2000: collaborator in a bilateral Hungarian-Croatian project *Investigation of Molecular Structure and Dynamics using Spectroscopic and Quantum-Chemical Methods* (CASA 10, PI: Z. Meić)

1997-1998: collaborator in a bilateral USA-Croatian project *Vibrational Analysis of Stilbene and Its Derivatives in Relation to Their Photophysics and Photochemistry* (MST/NSF JF-124, PI: G. Baranović)

- 1998:** PI of a project *Spectroscopic Study of Push-Pull Stilbenes* (MST 098403, project for young scientists)
- 2002-2003:** PI of a project *Structural Dependence of Nuclear Magnetic Resonance Chemical Shift Anisotropy in Proteins by Quantum Chemical Simulations* in the Meitner programme of the Austrian Science Fund (FWF) (M 677)
- 2002-2006:** **collaborator** in a project *Nuclear Magnetic Resonance and Calculations of Bioorganic Molecules* (MSES 0098059, PI: D. Vikić-Topić)
- 2003:** PI of a bilateral Austrian-Croatian project *Multi-Dimensional Nuclear Magnetic Resonance Spectroscopy of Biomolecules* (MSES/ÖAD)
- 2003-2004:** **collaborator** in an IT project *Web Server with Individual Approach to Data Base and Separated Local Network with Applications for Providing Services to NMR* (MSES, PI: M. Stipčević)
- 2004-2005:** PI of a bilateral Austrian-Croatian project *Spectroscopic and Quantum Chemical Study of Models for Biomolecular Interactions* (MSES/ÖAD)
- 2006-2007:** **collaborator** in a bilateral Austrian-Croatian project *NMR Methods for Structural Analysis of Peptidoconjugates* (MSES/ÖAD, PI: D. Vikić-Topić)
- 2007-2013:** **collaborator** in a project *NMR Spectroscopy and Modelling of Bioactive Molecules* (MSES 098-0982929-2917, PI: D. Plavšić)
- 2008-2009:** PI of a bilateral Austrian-Croatian project *Multi-Field Experimental High Resolution NMR Studies with Applications to Bioactive Compounds* (MSES/ÖAD)
- 2010-2011:** **collaborator** in a bilateral Slovenian-Croatian project *NMR Study of the Interactions of Angiotensin II Receptor Antagonists* (MSES/MHEST, PI: M. Vinković)
- 2014-2018:** **collaborator** in a project *Multifunctional molecular sensing of DNA/RNA secondary structure by chemical sensors* (CSF 1477, PI: I. Piantanida)
- 2018-2022:** **collaborator** in a project *Multichromophore probes for recognition of particular DNA, RNA and protein structures* (CSF 5475, PI: I. Piantanida)
- 2022-2025:** PI of a project for RBI (Horizon Europe - HORIZON-INFRA; 101058595): *Remote NMR: Moving NMR infrastructures to remote access capabilities - R-NMR*

TEACHING

- 1992-1995:** Undergraduate Study in Chemistry (Faculty of Science, University of Zagreb) *General Chemistry Laboratory 1* (mandatory course, assistant)
- 2009-now:** Doctoral Study in Chemistry, Analytical Chemistry (Faculty of Science, University of Zagreb) *Modern Methods in Structural NMR* (elective course, teacher)
- 2012-2013:** Undergraduate Study in Molecular Biology (Faculty of Science, University of Zagreb) *Organic Chemistry* (mandatory course, exercise leader)
- 2012-2013:** Integral Undergraduate and Graduate Study of Physics (Faculty of Science, University of Zagreb) *Cell Biophysics* (elective course, exercise leader)
- 2013-2015:** Graduate Study in Chemistry (Faculty of Science, University of Zagreb) *Organic Chemistry Laboratory 2* (mandatory course, exercise leader)
- 2017-now:** Postgraduate University (Doctoral) Study of Chemistry of the Mediterranean Environment (Faculty of Chemistry and Technology, University of Split) *NMR Spectroscopy in Structure Elucidation of Natural Compounds* (elective course, teacher)

PUBLICATIONS AND PRESENTATIONS

34 scientific publications in international journals listed in the *Web of Science Core Collection*; one scientific publication in a book; two scientific publications in a scientific conference proceedings,

participation in 66 scientific conferences with 53 posters, 23 oral contributions, four invited lectures and one plenary lecture

INVITED LECTURES

2005: *Theoretical Simulation of Conformational Influence on NMR Chemical Shielding Anisotropy*, 14th International Symposium "Spectroscopy in Theory and Practice", Nova Gorica, Slovenia

2007: *CSA Tensor Calculation of Peptide Backbone Atoms, Dependence on Conformation and Hydrogen Bonding*, Mayo Clinic, Metabolomics NMR Spectroscopy Core, Rochester, MN, USA

2009: *Isotope effects in NMR spectra of aromatic compounds with deuterium in phenyl ring*, 21st Croatian Meeting of Chemists and Chemical Engineers, Trogir, Croatia

2011: *NMR Spectroscopy in Molecular Structure Study*, Slovenian NMR Centre, National Institute of Chemistry, Ljubljana, Slovenia

2015: *NMR spectroscopy in conformational analysis of DNA oligonucleotides and their complexes with ligands*, Croatian Chemical Society, 1st Meeting of the Section of analytical chemistry and spectroscopy, Faculty of Science, University of Zagreb

2016: *DOSY NMR Technique in Studies of Ionic-Liquid Gels and Aggregation of Asphaltenes*, Math/Chem/Comp 2016, 28th MC² Conference, Dubrovnik, Croatia

2018: *Deuterium Isotope Effects in ¹³C NMR Spectra of Mono- and Binuclear Aromatic Compounds*, Adriatic NMR Conference, Mali Ston, Hrvatska (plenarno predavanje)

CONFERENCE ORGANIZATION AND SCIENCE POPULARIZATION

1999-2014: **member** of the Organizing Committee of 19 international scientific conferences (CECM 2003, 2006; DU NMR 6./2003, 10./2003, 2006; MATH/CHEM/COMP 1999-2010; EUCMOS 2008; CEUM 2014)

1999-2014: **editor** of 15 Books of Abstracts published at 15 international scientific conferences (DU NMR 2006; CEUM 2008, 2014; MATH/CHEM/COMP 1999-2010)

2004: **member** of the Organizing Committee of the Open Doors Days of the Ruđer Bošković Institute

2007: **director** of an international summer school for solid-state NMR spectroscopy (ssssNMR 2007)

2008: **director** of the 10th Central European NMR Symposium (CEUM 2008)

AWARDS

2020: Ruđer Bošković Institute Award for the best scientific papers published in 2019

LANGUAGES: Croatian (native), English (fluent), German (basic)

MEMBERSHIPS: Croatian Chemical Society (since 1987), American Chemical Society (since 2009)

MAIN AREAS OF RESEARCH: NMR spectroscopy, chemistry of bio-active compounds, calculation of NMR parameters, isotope effects