

## 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>

**E-MAIL:** smrecki@irb.hr

### 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)
- 2023-2027:** **collaborator** in a project *New peptide-oligonucleotide-chromophore conjugates for biochemical diagnostics and bioactivity* (CSF 9829 PI: I. Piantanida)
- 2022-2025:** PI of a project for RBI (Horizon Europe - HORIZON-INFRA; No. 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)
- 2017-2019:** 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**

37 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 71 scientific conferences with 58 posters, 23 oral contributions, four invited lectures and one plenary lecture

## **INVITED LECTURES**

- 2005:** *Theoretical Simulation of Conformational Influence on NMR Chemical Shielding Anisotropy*, 14<sup>th</sup> 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*, 21<sup>st</sup> 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, 1<sup>st</sup> 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, 28<sup>th</sup> MC<sup>2</sup> Conference, Dubrovnik, Croatia
- 2018:** *Deuterium Isotope Effects in <sup>13</sup>C NMR Spectra of Mono- and Binuclear Aromatic Compounds*, Adriatic NMR Conference, Mali Ston, Hrvatska (plenarno predavanje)

## **CONFERENCE ORGANIZATION AND SCIENCE POPULARIZATION**

- 1999-2022:** **member** of the Organizing Committee of 22 international scientific conferences (CECM 2000, 2003, 2006; DU NMR 6./2003, 10./2003, 2006; MATH/CHEM/COMP 1999-2010; EUCMOS 2008; CEUM 2008, 2014; MMCE 2022)
- 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 & 2005:** **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:** **head** of the NMR spectroscopy site during the Open Doors Days of the Ruđer Bošković Institute
- 2008:** **director** of the 10<sup>th</sup> Central European NMR Symposium (CEUM 2008)

## **AWARDS**

- 2020:** Ruđer Bošković Institute Award for the best scientific papers published in 2019
- 2022:** Ruđer Bošković Institute Award for the best scientific papers published in 2021

**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