

Rudolf Podgornik

School of physics, University of Chinese Academy of Sciences
19(A) Yuquan Road Shijingshan District, Beijing
P.R. China 100049

E-mail: podgornik@mac.com

Home Page: http://www-f1.ijs.si/~rudi/IJS_SITE/HomePage.html

Wikipedia page: https://en.wikipedia.org/wiki/Rudolf_Podgornik

PERSONAL

Born: 27 aug. 1955

Nationality: Slovene

HIGHER EDUCATION

1978 B.S. in theoretical physics, Department of physics, Faculty of natural sciences and technology, University of Ljubljana

1982 M.A. in biophysics, Department of physics, Faculty of natural sciences and technology, University of Ljubljana

1986 Ph.D. in theoretical physics, Department of physics, Faculty of natural sciences and technology, University of Ljubljana. Thesis: *The contribution of water structure to the interactions between biological macromolecules*. Supervisor: Prof. B. Žekš

PROFESSIONAL EXPERIENCE

1977-1982 Research Assistant, Institute of Biophysics, Medical Faculty, Ljubljana, SLO.

1983-1986 Research Assistant, Institute Jozef Stefan, Ljubljana, Slovenia.

1986-1987 Staff Member, J. Stefan Institute, Ljubljana, SLO.

1987-1989 Postdoctoral fellow with *V.A. Parsegian*, Laboratory of Molecular Forces and Assembly, National Institutes of Health, Bethesda, Maryland 20892, USA

1990-1992 Senior Staff Member, J. Stefan Institute, Ljubljana, SLO.

1992-1993 Postdoctoral fellow with *B. Jonsson*, Division of Physical Chemistry II, University of Lund, Lund S - 22100, Sweden.

1993-1995 Visiting Scientist, Laboratory of Structural Biology, DCRT, National Institutes of Health, Bethesda, Maryland 20892, USA.

1995-1998 Assistant Professor, Dept. of Physics, University of Ljubljana, SLO

1998-2010 Adjunct Research Scientist, Laboratory of Physical and Structural Biology, National Institute of Child Health and Human Development, National Institutes of Health, Bethesda, Maryland 20892-5626, USA.

1998-2001 Associate Professor of Physics, Dept. of Physics, Faculty of Mathematics and Physics, University of Ljubljana, SLO

2001- Full professor of physics, Dept. of Physics, Faculty of Mathematics and Physics, University of Ljubljana, SLO

2008- Full professor of biophysics, School of medicine, University of Ljubljana, SLO

2010-2016 Adjunct Professor, Department of Physics, University of Massachusetts, Amherst, USA

2013-2016 Adjunct Professor, Materials Science & Engineering Department at the Case Western Reserve University, Cleveland, USA

2017- Chair Professor, University of Chinese Academy of Sciences, Beijing, China

2017- Adjunct Professor, KAVLI Institute of Theoretical Sciences, Beijing, China

2017- Adjunct Professor, Key Laboratory of Soft Matter Physics, Institute of Physics of Chinese Academy of Sciences, Beijing, China

VISITING & SHORT-TERM POSITIONS

1992-1993 Visiting scientist, Division of Physical Chemistry II, University of Lund, Lund S - 22100, Sweden.

1987-1989 Fogarty fellow, Laboratory of Structural Biology, DCRT, National Institutes of Health, Bethesda, Maryland 20892, USA.

1993-1996 Visiting Scientist, Laboratory of Structural Biology, DCRT, National Institutes of Health, Bethesda, Maryland 20892, USA.

1998-2010 Adjunct Research Scientist, Laboratory of Physical and Structural Biology, National Institute of Child Health and Human Development, National Institutes of Health, Bethesda, Maryland 20892-5626, USA.

2002 Visiting professor at Laboratoire de Physique des Solides, Universite Paris Sud, Orsay.

2011 Visiting professor at Department of Theoretical Physics, University of Toulouse.

2013 Visiting professor at the Physics Department, Freie Universitaet and Physical Chemistry Department, Technische Universitaet, Berlin.

2014 Sackler visiting chair, School of Physics and Astronomy, Tel Aviv University, Tel Aviv.

2015 Visiting *Joliot chair* professor at Ecole superieure de physique et chimie industrielles, Laboratoire Gulliver ESPCI, Paris.

2017 Sackler Scholar within the framework of the Mortimer and Raymond Sackler Institute of Advanced Studies, Tel Aviv University, Israel.

2018 Chercheur Invite, CNRS, LPS Universite Paris Sud, Orsay, France

FELLOWSHIPS & AWARDS

1987-1989 *Fogarty fellowship*, Laboratory of Structural Biology, DCRT, National Institutes of Health, Bethesda, Maryland 20892, USA.

1993-1994 *Visiting fellowship* from the Research Council of Sweden, University of Lund, Lund.

1991 *Kidric national award* for scientific accomplishments (Ljubljana, Slovenia)

1995 DCRT/NIH Director's award for recognition and appreciation of special achievement (NIH, USA)

1999 *Zois national award* for excellence in scientific research (Ljubljana, Slovenia). This is the highest award for scientific achievement in Slovenia. It can be obtained only once in a lifetime.

2008 *Martin Hirschorn IAC Prize* – Best Paper Award as coauthor of a paper published in the May-June 2006 issue of the Noise Control Engineering Journal (54(3), 137-145).

2016-2017 *Sackler Scholar award* and *Nirit and Michael Shaoul Fellow*, within the framework of the Mortimer and Raymond Sackler Institute of Advanced Studies, Tel Aviv University, Israel, the highest visiting position awarded by the University of Tel Aviv, Israel.

GRANTS

2005-2009 EU Sixth Framework Programme research grant, Contract Nr. NMP3-CT-2005-013862 Interfacial Materials - Computational and Experimental Multi-Scale Studies (INCEMS).

2005-2009 Slovenian-Israeli Research Cooperation Grant with D. Harries from Hebrew University, Jerusalem. Project number (at MOST): 3-3388. Title: Osmotically sensitive DNA-lipid complexes: design and underlying molecular mechanisms.

2008-2020 Research grant by the Slovene research agency: P1-0055 Biophysics of Polymers, Membranes, Gels, Colloids and Cells (University of Ljubljana, Faculty of Mathematics and Physics, Ljubljana).

2010-2013 Research grant from the Leverhulme Trust, Project ID 20090765 Self-assembly in Ionic Liquids.

2011-2015 Long Range van der Waals - London Dispersion Interactions For Biomolecular and Inorganic Nanoscale Assembly, US DOE-BES-DMSE-BMM, Office of Basic Energy Sciences, Division of Materials Sciences and Engineering, Award DE-SC0008176

RESEARCH INTERESTS

- Macromolecular interactions
 - Theory of electrostatic interactions in soft matter
 - Macroscopic theory of van der Waals interactions
 - Physics of DNA and RNA
 - Fundamental polymer theory
 - Physics of viruses
 - Macromolecular simulations
 - Fluctuation hydrodynamics
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Papers: ~250 papers in refereed journals

Editor:

1. Coeditor-in-chief of the *Journal of Biological Physics*, published by Springer
2. Member of the Editorial board of the journal *Scientific Reports* published by Nature-Springer
3. Editorial Advisor of BMC Biophysics, an open access journal published by BioMed Central
3. Advisory Editor of the *European Biophysics Journal* (EBJ) published by Springer Nature on behalf of the European Biophysical Societies Association (EBSA).

Membership: In 2013, 2015 and 2018 I have been a member of the *Starting Grant Panel* of the European Research Council (ERC) for condensed matter physics.

International meetings:

- Organising committee: Liquids 2017 10TH LIQUID MATTER CONFERENCE, Ljubljana Slovenia 2017
- International advisory board: Strongly Coupled Coulomb Systems 2017, Kiel Germany 2017
- Organising committee: Workshop on Physical Virology I (smr 3134), ICTP, Trieste Italy 2017
- Organising committee: Topological problems in the physics of polymers, biopolymers, and fibers, Focus Session of the DPG Spring Meeting 2017, Dresden Germany 2017
- Organising committee: ICTP – SAIFR Minischool on Biophysics of Protein Interactions, São Paulo Brazil 2015
- International Advisory Committee: From Solid State to Biophysics VII, Dubrovnik Croatia 2014
- Organising committee: CECAM workshop: New Challenges in Electrostatics of Soft and Disordered Matter, Université Paul Sabatier, Toulouse France 2012
- Organising committee: Workshop on Physical Virology I (smr 2367), ICTP, Trieste Italy 2012
- Organizing committee: Confined liquid crystals: Landmarks and perspectives, Ljubljana 2010

- Organizing committee: "Electrostatic Effects in Soft Matter" NATO Advanced Study Institute, 1–13 October, Les Houches, France 2000.

Books:

- HOLM, Christian (editor), KEKICHEFF, Patrick (editor), PODGORNIK, Rudolf (editor). Electrostatic effects in soft matter and biophysics : proceedings of the NATO Advanced Study Institute, Les Houches, France, 1-13 October 2000, (NATO Science series, Series 2, Mathematics, physics and chemistry, 46). Dordrecht [etc.]: Kluwer Academic, 2001.
- DEAN, David S. (editor), DOBNIKAR, Jure (editor), NAJI, Ali (editor), PODGORNIK, Rudolf (editor). Electrostatics of soft and disordered matter. Singapore: Pan Stanford, 2014.

Textbooks:

- PODGORNIK, Rudolf, VILFAN, Andrej. Elektromagnetno polje, (Matematika - fizika, 51). Ljubljana: DMFA - založništvo, 2012. (Electromagnetic field, in Slovene)
- BORŠTNIK, Anamarija, PODGORNIK, Rudolf, VENCELJ, Matjaž. Rešene naloge iz mehanike kontinuov, (Zbirka izbranih poglavij iz fizike, 35). Ljubljana: DMFA - založništvo, 2001. (Solved exercises in continuum mechanics, in Slovene)

Book reviews: ~30 published book reviews (in J. Stat. Phys., Physics Today, J. Biol. Phys.)

Impact: ~6000 citations. H-index=43 (WOS Jan 2018), ~7500 citations. H-index=47 (Google scholar Jan 2018).

Students: 10 Ph.D. and M.Sc. students, 6 postdocs and 27 undergrad thesis (diploma) students.