

izr. prof. dr. Rok Žitko

email: rok.zitko@ijs.si

phone: +386-1-477 3571

Work address:

F-1 - Theoretical physics

Jožef Stefan Institute

Jamova 39

SI-1000 Ljubljana, Slovenia

Researcher ID: <http://orcid.org/0000-0002-0525-4056>

Personal web site: <http://auger.ijs.si/nano/> (with complete CV, full annotated bibliography, research and teaching activities, and software projects)

Born 12. 4. 1978 in Ljubljana, Slovenia. From 1991 until 1997 I lived in Brussels, Belgium, then I returned to Slovenia. In 2008, I have spent a year in Göttingen, Germany, as a postdoctoral fellow.

Current positions:

2016-: Senior research fellow at F-1, Department of Theoretical Physics, Jozef Stefan Institute (full time employment, permanent position).

2017-: Associate professor ("izredni profesor") at the Faculty for Mathematics and Physics (FMF), University of Ljubljana (part time employment).

Education, research stays:

2008: Postdoctoral stay at the Institute for theoretical physics at the University of Goettingen, Germany (with prof. Thomas Pruschke).

2007: Doctor's degree, thesis "Multiparticle effects in resonant tunneling of electrons through nanostructures", advisors prof. dr. Janez Bonča and prof. dr. Igor Muševič, Faculty for mathematics and physics, Uni. of Ljubljana.

2002: Bachelor's degree, Faculty for mathematics and physics, University of Ljubljana: "Electronic transmittivity of nanoscopic wires and rings, described by models of strongly correlated electrons", advisor prof. dr. Janez Bonča, FMF, Uni. of Ljubljana.

1997-2002: Undergraduate studies of physics, mathematical physics section, FMF, Uni. of Ljubljana.

Awards and grants:

2016-: J1-7259 "The multi-impurity problem", research project funded by Slovenian research agency (ARRS), 1,3 FTE for three years, PI Rok Žitko

2009-2011: Z1-2058 "Single magnetic atoms and magnetic nanostructures on metal surfaces", postdoctoral project funded by Slovenian research agency (ARRS), 1 FTE for two years, PI Rok Žitko

2008: "Zlati znak Jožefa Stefana" award for outstanding contributions made to science in the Doctoral thesis.

2002: "Univerzitetna Prešernova nagrada" award for undergraduate students

Employments:

2017-: Assoc. prof. (part time) at the Faculty for mathematics and physics, University of Ljubljana.

2016-: Senior research fellow at the Theoretical physics (F1) division at the Jožef Stefan Institute.

2012: Assist. prof. (part time) at the Faculty for mathematics and physics, University of Ljubljana.

2011: Research fellow at the Theoretical physics (F1) division at the Jožef Stefan Institute.

2009: Assistant with PhD position at the Condensed matter physics (F5) division at the Jožef Stefan Institute, working on problems of impurity physics and surfaces

2009: Part time employment at the Faculty for mathematics and physics, University of Ljubljana.

2008: Employed at Institute for theoretical physics at University of Goettingen, Germany.

2003-2007: Research assistant (junior researcher) at the Condensed matter physics (F5) division at the Jožef Stefan Institute, involved in the construction of a scanning tunneling microscope

Pedagogical work:

2013-: Lectures "Computer technologies" at the Faculty for computer science and informatics, Uni. of Ljubljana.

2009-2013: Teaching assistant: Experimental Lab 3, Dynamical systems, Classical mechanics; FMF, Uni. of Ljubljana.

2008: Teaching assistant: Introduction to programming in natural sciences; Univ. of Goettingen, Germany.

2016: Master thesis advisor to M. van Midden and T. Mežnaršič.

2015: Diploma thesis advisor to M. Maček.

2012: Diploma thesis advisor to Ž. Osolin. The thesis was awarded a faculty Prešern award.

Supervision of graduate students:

2012-2016: PhD student supervision: Žiga Osolin, FMF, University of Ljubljana.

2012-2014: Coadvisor to PhD student: Denis Golež (advisor prof. Janez Bonča), now a postdoc with prof. Philipp Werner in Friburg.

2009-2013: I have participated in supervision of Oliver Bodensiek, a PhD student with prof. Pruschke from Univ. of Goettingen; O. Bodensiek has spent three months doing research in Ljubljana.

Current projects:

- Heterogeneous strongly correlated systems and ensembles of many impurities. Real-space DMFT and effective impurity-impurity coupling. Domain-wall physics, Peierls-Hubbard model, topological bound states.
- Physics of sub-gap Shiba and Majorana states in nanostructures coupled to superconducting contacts. Modeling experimental devices.
- Fine-structure in dynamical properties (spectral functions, optical conductivity, dynamical spin susceptibility) of strongly correlated electron

systems, temperature-dependence of transport quantities (low and high temperature regimes).

Institutional responsibilities:

2011-: Responsible for high performance computing facilities of the department F1 at JSI; this involves planning expansions, integrating systems, managing computing, storage and network elements (3000 CPU cores, 130 TB storage capacity on Lustre and NFS, 10 GbE network), and infrastructure (cooling, power distribution).

Commissions of trust:

2016: Project application evaluator for DFG (Germany) and HRZZ (Croatia).

2016: Phd thesis external examiner for A. Jellinggaard, Niels Bohr Institut, University of Copenhagen, Denmark.

2013: Project application evaluator for Comision Nacional de Investigacion Cientifica y Tecnologica, Chile.

2012, 2013: PhD thesis external examiner for P. Baruselli and Z. Asadzadeh, SISSA, Trieste, Italy.

2007-: Reviewer for Phys. Rev. Lett. and Phys. Rev. B (about 10 papers per year)

Major collaborations:

- S. Shastry: transport in strongly correlated electron systems.
- D. Tanasković: superconductivity and strong correlation physics
- Rosa Lopez, Ramon Aguado, Eduardo Lee, Silvano de Franceschi, Transport in quantum dot nanostructures.