Prof. RNDr. Václav Janiš, DrSc.

Personal Data

Born: March 17, 1954, in Čeladná, Czechoslovakia
Marital status: married
Citizenship: Czech Republic
Domicile: Mátová 179, CZ-104 00 Praha-Křeslice, Czech Republic
Affiliation: Institute of Physics, Academy of Sciences of the Czech Republic
(IoP AS CR), Na Slovance 2, CZ-182 21 Prague
Present position: Senior Scientist / Principal Researcher
ResearcherID: A-8379-2011, **ORCID:** 0000-0001-5959-6935
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Degrees / Education

2003 Prof. (Full Professor of Theoretical Physics), Charles University in Prague
2001 Doc. (Associate Professor of Theoretical Physics), Charles University in Prague
1996 DrSc. (DSc Degree), Charles University in Prague
1984 CSc. (PhD Degree), Charles University in Prague
1982 RNDr. (MSc.) Charles University in Prague
1979 - 82 Graduate studies at the Mathematical Institute of the Czech. Acad. Sci., Prague
Specialization: Mathematical Methods in Physics
1973 -78 Study of theoretical physics at Charles University in Prague

Professional Development/ Affiliation

2008 - 12 Head of Condensed Matter Division/Deputy director, IoP CAS
2000 - 17 Head of Condensed Matter Theory Department, IoP CAS
1994 -- Senior Scientist, IoP CAS
1994 -- Associate Lecturer, Faculty of Mathematics and Physics, Charles University in Prague
1990 - 94 Research Associate at the Technical University Aachen (RWTH), FRG (D. Vollhardt)
1983 - 90 Research Associate at the Institute of Physics of the Czech. Acad. Sci., Prague

Teaching Experience / Students Supervision

1994 — 2025 *Statistical Mechanics* (3/2-one-semester course, annually), Charles University
Quantum Many-Body Physics, (2/0-two-semester course, biannually), Charles University
Renormalized Theory of Phase Transitions (2/0-one-semester course, biannually), Charles University
2007 *Quantum Many-Body Physics* (2x two-week intensive course for PhD students), Uppsala University, Sweden
2013 — 2019 *Thermodynamics & Statistical Physics* (3/2-two-semester course, biannually), Charles University
5 graduated PhD students, **4** defended master's theses, **3** defended bachelor's theses

Research Activity (2016-2025)

The central problem I have been working on in recent years is developing a consistent local description of the quantum critical behavior of correlated and disordered electron systems in solids using self-consistent approximations for vertex functions. The major achievements were: a) making the Ward identity compatible with the dynamical Schwinger-Dyson equation in many-body perturbation theory, confirming the critical behavior in thermodynamic and spectral functions; b) proposing a consistent extension of the dynamical approximations, beyond mean field, to the ordered magnetic and superconducting phases; c) explaining Anderson localization as a quantum bound state.

Research Output / Acceptance

- **95** original research papers in impacted peer-reviewed journals
- **15** contributions to published proceedings of international research conferences
- **4** book chapters

- **Web of Science: 108** records, >1500/>1200 citations/without self-citations, 38 co-authors h-index = 22/24 (WoS/Google Scholar)

Memberships / Science community work

- Member of the Czech Physical Society
- Regular referee to APS journals Phys. Rev. Lett. and Phys. Rev. B (Outstanding Referee 2009), Journal of Physics: Condens. Matt.

2019-2025 ERC Synergy and Advanced Grants Panel

2008-2012 Science Council of the Faculty of Mathematics and Physics, Charles University

1998-2012 Science Council of the Institute of Physics, AS CR

- Principal investigator to 4 national grants, 2 international collaborative grants
- Organizer of 3 international workshops (1999, 2001, 2002)

2000-2004 Steering Committee of ESF project SPHINX – Statistical physics of glassy and non-equilibrium systems

Language skills

- Czech - native
- English, German – fluent
- Russian, French, Italian, Polish – communicative

Long-Term Visits

11/2014-6/2015 Fulbright Research Fellow, Louisiana State University (M. Jarrell)
11/2008 Isaac Newton Institute for Mathematical Sciences, Cambridge University, UK
02,06/2007 Angstroem Laboratory, Uppsala University, Sweden
11/2002 Kavli Institute for Theoretical Physics, UC Santa Barbara, USA
11/1999 University of Augsburg, FRG (D. Vollhardt)
05-08/1999 Visiting professor, University of Bremen, FRG (G. Czycholl)
10-12/1996 Humboldt Fellow, University of Augsburg, FRG (D. Vollhardt)
03-06/1996 Visiting scientist, ISSP, University of Tokyo, Japan (K. Ueda)
11/1991 Visiting scienist, Florida University, Gainesville, USA (D. Vollhardt)
05-10/1990 Humboldt Fellow, University of Dortmund, FRG (G. Czycholl and H. Keiter)
01-04/1990 Research Associate, RWTH Aachen, FRG (G. Czycholl)