

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

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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 — 2011 *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 theses, **2** defended bachelor theses

Research Activity (2016-2022)

The central problem I have been working on in recent years is a consistent mean-field (local) description of the quantum critical behavior of correlated and disordered electron systems in solids. The major achievements were making the Ward identity compatible with the dynamical Schwinger-Dyson equation in the many-body perturbation theory, conforming the critical behavior in thermodynamic and spectral functions, and a microscopic explanation of the Curie-Weiss susceptibility in metallic systems (**7** papers & **2** book chapters), and an extension to out of equilibrium (**1** paper). I have also worked on a consistent analytic description of the superconducting quantum dots elucidating the fundamental role of the magnetic field (**5** papers).

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: 103** records, >1300/>1000 citations/without self-citations, 38 co-authors
h-index = 21/24 (WoS/Google Scholar)