

## Prof. Dr. Jeroen van den Brink

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Director  
Institute for Theoretical Solid State Physics  
IFW Dresden  
Helmholzstrasse 20, 01069 Dresden, Germany

Professor  
Theoretical Condensed Matter Physics  
TU Dresden  
Germany

### Principle Fields of Interests

Materials and Nano Science - Theory of Quantum Matter - Correlated Electrons Systems and Many Body Physics - Topological States of Matter - Theoretical Photon Science - Quantum Magnetism - Unconventional Superconductivity - Graphene and Van der Waals Materials - Ab Initio Electronic Structure Theory - Curved Nano Membranes

### Professional Experience

since 10/2009 Director of the Institute for Theoretical Solid State Physics,  
IFW Dresden (Germany)  
since 10/2009 Professor of Theoretical Condensed Matter Physics,  
TU Dresden (Germany)  
1/2016-5/2016 Visiting Scholar, Harvard University, Cambridge (USA)  
1/2009-9/2009 Visiting Professor, Stanford University, Stanford (USA)  
2005 - 2013 Extraordinary Professor of Theoretical Condensed Matter Physics,  
Radboud University, Nijmegen (Netherlands) (part-time)  
2002 - 2009 Springplank Fellow, Instituut Lorentz for Theoretical Physics,  
Leiden University (Netherlands)  
1999 - 2002 Associate Professor (tenured), University of Twente,  
Enschede, (Netherlands)  
1997 - 1999 Postdoc and Humboldt Fellow, Max-Planck-Institut für Festkörperforschung,  
Stuttgart (Germany)

### Awards and Honors

2019 Clark Way Harrison Visiting Professorship, Washington University, St. Louis (USA)  
2018 Humboldt Research Prize, NWO (Netherlands)  
2017 Zernike Chair, Rijksuniversiteit Groningen (Netherlands)  
2002 Springplank Fellowship, Foundation for Fundamental Research on Matter (NL)  
1997 Humboldt Research Fellowship, Alexander von Humboldt Foundation (Germany)

### Educational Background

1993-1997 PhD in Physics, Rijksuniversiteit Groningen (Netherlands)  
Supervisors: G.A. Sawatzky and D.I. Khomskii  
1990 Erasmus Exchange Student, Technical University Berlin (Germany)  
1987-1993 Diploma in Physics, Rijksuniversiteit Groningen (Netherlands)  
Supervisor: G.A. Sawatzky

### Selected Professional Advisory Activities

- since 2016 Member Beamtime Allocation Panel, Advanced Light Source (ALS), Berkeley (USA)
- since 2015 Member of (2) Collaborative Research Center Review Committees, German Science Foundation
- since 2014 Member Management Committee, COST Action Towards Oxide-Based Electronics (EU)
- 2013 Member of Selection Committee, *Swiss Centers of Excellence*, Swiss Science Foundation
- 2012 Member of Evaluation Committee, *Gravitation Program*, Netherlands Organization for Scientific Research (NWO)
- since 2011 Member of various Review Committees, European Synchrotron Radiation Facility (ESRF), Grenoble (France)
- 2011-2015 Member of Executive Board, *Journal of Physics: Condensed Matter* (UK)
- 2010-2015 Member of International Scientific Advisory Board, National Research Council, CNR-SPIN (Italy)
- 2010-2016 Member of Editorial Board, *Journal of Physics: Condensed Matter* (UK)
- since 2009 Advisory Member, *Computational Materials & Chemical Sciences Network* (DOE, USA)
- 2008 Chairman of Selection Committee, *VENI Program* (NWO, Netherlands)
- Evaluator of Research Proposals for FOM (Netherlands), NWO (Netherlands), NSF (USA), DOE (USA), DFG (Germany), AvH (Germany), SNF (Switzerland), FWF (Austria), GSF (Georgia), CNR (Italy), FNRS (Belgium), NSC (Poland), European Research Council, European Commission.

### Publications

> 250 published papers, of which > 72 in Physical Review Letters, > 23 in the Nature journals and in total > 15.000 citations, h-index 59.

> 110 presentations at international conferences, workshops & research schools, > 100 invited talks at universities and other research institutes.

Complete list of publications and presentations available at:

<http://www.ifw-dresden.de/about-us/people/prof-dr-jeroen-van-den-brink/>

Selected publications:

- F. Nogueira, Z. Nussinov and J. van den Brink, *Josephson currents induced by the Witten effect*  
Physical Review Letters 117, 167002 (2016)
- Z. Nussinov and J. van den Brink, *Compass models: Theory and physical motivations*  
Reviews of Modern Physics 87, 1 (2015)
- B. Rasche, A. Isaeva, M. Ruck, S. Borisenko, V. Zabolotnyy, B. Büchner, K. Koepf, C. Ortix, M. Richter and J. van den Brink, *Stacked topological insulator built from bismuth-based graphene sheet analogues*  
Nature Materials 12, 422 (2013)
- J. Schlappa, K. Wohlfeld, K. Zhou, M. Mourigal, M. W. Haverkort, V. N. Strocov, L. Hozoi, C. Monney, S. Nishimoto, S. Singh, A. Revcolevschi, J.-S. Caux, L. Patthey, H. M. Ronnow, J. van den Brink and T. Schmitt, *Spin-orbital separation in the quasi-one-dimensional Mott insulator  $Sr_2CuO_3$*   
Nature 485, 82 (2012)
- G. Giovannetti, P. Khomyakov, G. Brocks, V. Karpan, J. van den Brink, P. Kelly, *Doping graphene with contacts*  
Phys. Rev. Lett. 101, 026803 (2008) (> 2000 citations)
- G. Giovannetti, P. Khomyakov, G. Brocks, P. Kelly and J. van den Brink, *Substrate-induced bandgap in graphene on hexagonal boron nitride*  
Phys. Rev. B 76, 073103 (2007) (> 1000 citations)