

PROF. DR. RALPH CLAESSEN**Personal data**

Date and place of birth: November 19, 1960
in Düsseldorf

Marital status: married,
two children (1995, 2000)

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**Areas of Research**

- Experimental condensed matter physics
- Electronic structure of complex solids, surfaces, and interfaces
- Topological and strongly correlated electron systems
- Epitaxial thin film growth
- Electron and x-ray spectroscopy, especially with synchrotron radiation

University education

1998	Habilitation, Universität des Saarlandes
1991	<i>Dr. rer. nat.</i> , Christian-Albrechts-Universität (CAU) zu Kiel
1986	<i>Diplom degree</i> in physics, CAU Kiel
1980 - 1986	Study of physics at CAU Kiel and University of Cambridge (UK)

Academic career

2011	Offer of full professorship (W3) at Universität zu Köln (declined)
since 2004	Full professor (C4/W3), Lehrstuhl für Experimentelle Physik 4, Julius-Maximilians-Universität Würzburg
1998 - 2004	Associate professor (C3), Lehrstuhl Experimentalphysik II, Universität Augsburg
1992 - 1998	Research fellow with S. Hüfner, Universität des Saarlandes
1991 - 1992	Postdoc with J.W. Allen, University of Michigan (USA)

Awards and fellowships

1992	State Prize (<i>Staatlicher Preis</i>) of the Christian-Albrechts-Universität zu Kiel
1991 - 1992	Feodor-Lynen-Fellowship of the Alexander von Humboldt-Foundation
1980 - 1986	Scholarship of the German National Scholarship Foundation (<i>Studienstiftung des Deutschen Volkes</i>)

Service to the community

since 2019	Founding member and spokesperson of Center of Excellence EXC2147 " <i>Complexity and Topology in Quantum Matter (ct.qmat)</i> " at JMU Würzburg and TU Dresden, together with Matthias Vojta (TUD)
since 2018	Project Review Panel, <i>Diamond Light Source</i> (UK)
2016 - 2018	Scientific Advisory Committee of the <i>Leibniz-Institut für Festkörper- und Werkstoffforschung (IFW)</i> , Dresden
since 2015	Founding member and spokesperson of <i>Sonderforschungsbereich SFB 1170 "Topological and Correlated Electronics at Surfaces and Interfaces (ToCoTronics)"</i> at JMU Würzburg
since 2014	Review Panel, <i>Advanced Light Source</i> (LBNL, Berkeley)
2014 - 2017	Project Review Panel, <i>PETRA-III</i> (DESY, Hamburg, Germany)
2014	Condensed Matter Physics Expert Advisory Panel, <i>Diamond Light Source</i> (UK)
since 2013	Divisional Associate Editor, <i>Physical Review Letters</i>
2012 - 2016	Scientific Committee of the <i>Interdisciplinary Laboratories for Advanced Materials Physics</i> at the Università Cattolica, Milano (Italy)
2011 - 2015	Member of the <i>Senat</i> and <i>Hochschulrat</i> of the Julius-Maximilians-Universität Würzburg
2009 - 2016	Founding member and spokesperson of the DFG Research Unit (<i>Forschergruppe</i>) FOR 1162 " <i>Electron correlation-induced phenomena in surfaces and interfaces with tunable interactions</i> " at JMU Würzburg
2009 - 2011	Scientific Selection Panel, Helmholtz Center Berlin (HZB)
2008 - 2014	Scientific Advisory Committee, <i>Swiss Light Source</i> , Paul-Scherrer-Institut (Switzerland)
2008 - 2012	Elected member of the Review Board <i>Condensed Matter Physics</i> (Fachkollegium) of the DFG
2006 - 2008	German Committee for Research with Synchrotron Radiation (KFS)
2006 - 2008	Beamtime Selection Committee, <i>BESSY-II</i> (Berlin, Germany)
Reviewer for	National and international funding agencies: <i>Deutsche Forschungsgemeinschaft (DFG)</i> , <i>National Science Foundation (NSF)</i> , <i>Canadian Fund for Innovation (CFI)</i> , <i>Schweizer Nationalfonds (SNF)</i> , <i>Stichting voor Fundamenteel Onderzoek der Materie (FOM)</i> , <i>US Department of Energy (DoE)</i> , <i>Israel Science Foundation (ISF)</i> Fellowship foundations: <i>Alexander von Humboldt-Stiftung</i> , <i>Studienstiftung des deutschen Volkes</i> Scientific journals: <i>Physical Review Letters</i> , <i>Physical Review B</i> , <i>Science</i> , <i>Nature</i> , <i>Nature Physics</i> , <i>Nature Communications</i> , <i>Journal of Physics: Condensed Matter</i> etc.
Organization of	>20 national und international conferences and workshops since 2001

Ten selected publications

- G. Li, W. Hanke, E.M. Hankiewicz, J. Schäfer, R. Claessen, C.-J. Wu, and R. Thomale
Theoretical paradigm for the quantum spin Hall effect at high temperatures
Phys. Rev. B **98**, 165146 (2018).
- F. Reis, G. Li, L. Dudy, M. Bauernfeind, S. Glass, W. Hanke, R. Thomale, J. Schäfer, and R. Claessen
Bismuthene on a SiC substrate: A candidate for a high-temperature quantum spin Hall material
Science **357**, 287 (2017).
- S. Glass, G. Li, F. Adler, J. Aulbach, A. Fleszar, R. Thomale, W. Hanke, R. Claessen, and J. Schäfer
Triangular spin-orbit-coupled lattice with strong Coulomb correlations: Sn atoms on a SiC(0001) substrate
Phys. Rev. Lett. **114**, 247602 (2015).
- J.E. Kleibeuker, Z. Zhong, H. Nishikawa, J. Gabel, A. Müller, F. Pfaff, M. Sing, K. Held, R. Claessen, G. Koster, and G. Rijnders
Electronic reconstruction at the isopolar LaTiO₃/LaFeO₃ interface: An x-ray photoemission and density-functional theory study
Phys. Rev. Lett. **113**, 237402 (2014).
- A. Barfuß, L. Dudy, M. R. Scholz, H. Roth, P. Höpfner, C. Blumenstein, G. Landolt, J. H. Dil, N. C. Plumb, M. Radovic, A. Bostwick, E. Rotenberg, A. Fleszar, G. Bihlmayer, D. Wortmann, G. Li, W. Hanke, R. Claessen, and J. Schäfer
Elemental topological insulator with tunable Fermi level: Strained α -Sn on InSb(001)
Phys. Rev. Lett. **111**, 157205 (2013).
- G. Berner, M. Sing, H. Fujiwara, A. Yasui, Y. Saitoh, A. Yamasaki, Y. Nishitani, A. Sekiyama, N. Pavlenko, T. Kopp, C. Richter, J. Mannhart, S. Suga, and R. Claessen
Direct k-space mapping of the electronic structure in an oxide-oxide interface
Phys. Rev. Lett. **110**, 247601 (2013).
- J. Aulbach, J. Schäfer, S.C. Erwin, S. Meyer, C. Loho, J. Settlein, and R. Claessen
Evidence for long-range spin order instead of a Peierls transition in Si(553)-Au chains
Phys. Rev. Lett. **111**, 137203 (2013).
- G. Li, P. Höpfner, J. Schäfer, C. Blumenstein, S. Meyer, A. Bostwick, E. Rotenberg, R. Claessen, and W. Hanke
Magnetic order in a frustrated two-dimensional atom lattice at a semiconductor surface
Nature Comm. **4**, 1620 (2013).
- C. Blumenstein, J. Schäfer, S. Mietke, S. Meyer, A. Dollinger, M. Lochner, X.Y. Cui, L. Patthey, R. Matzdorf, and R. Claessen
Atomically controlled quantum chains hosting a Tomonaga-Luttinger liquid
Nature Physics **7**, 776 (2011).
- M. Sing, G. Berner, K. Goß, A. Müller, A. Ruff, A. Wetscherek, S. Thiel, J. Mannhart, S.A. Pauli, C.W. Schneider, P.R. Willmott, M. Gorgoi, F. Schäfers, and R. Claessen
Profiling the interface electron gas of LaAlO₃/SrTiO₃ heterostructures by hard X-ray photoelectron spectroscopy
Phys. Rev. Lett. **102**, 176805 (2009).