

Prof. Dr. Ralf Ludwig

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Physikalische und Theoretische Chemie
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Education

- 1980 Abitur, Heisenberg-Gymnasium, Gladbeck, Germany
- 1988 Diploma in Physics, RWTH Aachen, Germany
- 1991 Dr. rer. nat., Physical Chemistry, RWTH Aachen

Professional experience

- 1991-1993 Postdoctoral Fellow, RWTH Aachen, Germany
- 1993-1995 Research Fellow, University of Wisconsin, Madison, USA
- 1995-1999 Scientific Assistant (C1), University of Dortmund, Germany
- 1999 Habilitation in Physical Chemistry, University of Dortmund, Germany
- 2000-2004 Assistant Professor (C2), Physical Chemistry, University of Dortmund, Germany
- 2004 Visiting Professor, Université Louis Pasteur, Strasbourg, France
- 2004-2012 Professor (C3), Physical and Theoretical Chemistry, University of Rostock, Germany
- 2006-2010 Member of the Teaching Commission of the Bunsen (German Physical Chemistry) Society
- 2006-2010 Executive Director of the Chemistry Department at the University of Rostock, Germany
- since 2007 Associated Professor and Divisional Head at the Leibniz-Institute for Catalysis e.V. (LIKAT) at the University of Rostock, Germany
- since 2007 Board Member of the Department „Life, Light and Matter“ of the Interdisciplinary Faculty at the University of Rostock, Germany
- 2007 Vice Dean of the Faculty of Mathematics and Natural Sciences
- since 2009 Editorial Board Member „Zeitschrift für Physikalische Chemie“
- 2011 Chair (W3), Physical Chemistry, University of Freiburg, Germany, declined
- since 2012 Chair (W3), General Physical and Theoretical Chemistry, University of Rostock, Germany
- since 2012 Head of Physical Chemistry, University of Rostock, Germany
- 2012-2014 Project director of “Nano4Hydrogen” at the University of Rostock, Germany
- since 2017 Editorial Board Member “Scientific Reports”, Nature Publishing Group
- 2018 Visiting professor at the University of Lille, France

Positions in Scientific Organizations

- 2016-2019 Elected Member, DFG Review Board “Physical and Theoretical Chemistry”
- since 2016 Elected Member, Board of the Bunsen (German Physical Chemistry) Society
- 2017 Evaluation Board Member, Chemistry Faculty, University Duisburg-Essen
- 2017 Member of the Review Panel “C11 – Natural Sciences”, German Excellence Strategy
- since 2018 Chair of the General Meeting of the Leibniz-Institute for Catalysis (LIKAT)

since 2018	Member of the DFG-NFDI Expert Committee
since 2019	Chair of the German University Professors in Chemistry (ADUC)
since 2019	Chair of the European Molecular Liquids Group (EMLG)
2020	Relected Member and Speaker of the DFG Review Board "Physical and Theoretical Chemistry"
since 2020	Elected Member of the DFG Senate, Leaving the DFG Review Board

Selected Synergistic Activities and Honours

1993-1995	Grant of Heinrich-Hertz-Stiftung, North Rhine-Westphalia
1996-2000	Best researcher award of the state of North Rhine-Westphalia, Germany
2009	Organizer (with R. Winter) of the International Bunsen Discussion Meeting on "Water in Biology, Chemistry and Physics: Results and Perspectives", Dortmund, Germany
2011	Organizer (with D. Paschek) of the Bunsenkolloquium "Molecular Thermodynamics of Complex Systems", Rostock, Germany
2015	Organizer (with D. Paschek) of the EMLG/JMLG-Meeting "Molecular Liquids meet Ionic Liquids – From Fundamentals to Applications", Rostock, Germany
2016	Organizer of the 115 th General Assembly of the German Bunsen Society for Physical Chemistry, Rostock, Germany
2019	Organizer (with O. Kühn) of the 55 th Symposium on Theoretical Chemistry (STC) "Spectroscopy and Photoinduced Dynamics", Rostock, Germany

Publications and Scientific Lectures

About 267 full (peer reviewed) papers and 100 invited lectures (**h-index 55**)

Selected Research Contributions (10 most-cited publications)

- [1] R. Ludwig, Water: From Clusters to the Bulk, *Angew. Chem.* **2001**, 113, 1856-76; *Angew. Chem. Int. Ed.* **2001**, 40, 1808-27. (Times cited: 1008)
- [2] A. Boddien, D. Mellmann, F. Gärtner, R. Jackstell, H. Junge, P. J. Dyson, G. Laurenczy, R. Ludwig, M. Beller, Efficient Dehydrogenation of Formic Acid Using an Iron Catalyst, *Science* **2011**, 33, 1733-36. (Times cited: 539)
- [3] K. Fumino, A. Wulf, R. Ludwig, Strong, Localized, and Directional Hydrogen Bonds Fluidize Ionic Liquids, *Angew. Chem. Int. Ed.* **2008**, 47, 8731-34. (Times cited: 288)
- [4] T. Köddermann, D. Paschek, R. Ludwig, Molecular Dynamics Simulations of Ionic Liquids: A Reliable Description of Structure, Thermodynamics and Dynamics, *ChemPhysChem* **2007**, 8, 2464-70. (Times cited: 268)
- [5] T. Köddermann, C. Wertz, A. Heintz, R. Ludwig, Ion-Pair Formation in the Ionic Liquid 1-Ethyl-3-methylimidazolium-bis(triflyl)imide as a Function of Temperature and Concentration, *ChemPhysChem* **2006**, 7, 1944-49. (Times cited: 236)
- [6] T. Köddermann, C. Wertz, A. Heintz, R. Ludwig, The Association of Water in Ionic Liquids: A Reliable Measure of Polarity, *Angew. Chem. Int. Ed.* **2006**, 45, 3697-3702. (Times cited: 225)
- [7] K. Fumino, A. Wulf, R. Ludwig, Hydrogen Bonding in Protic Ionic Liquids: Reminiscent of Water, *Angew. Chem. Int. Ed.* **2009**, 48, 3184-86. (Times cited: 213)
- [8] K. Fumino, A. Wulf, R. Ludwig, The Cation-Anion Interaction in Ionic Liquids Probed by Far Infrared Spectroscopy, *Angew. Chem. Int. Ed.* **2008**, 47, 3830-34. (Times cited: 199)
- [9] K. Fumino, T. Peppel, M. Geppert-Rybczynska, D. H. Zaitsau, J. K. Lehmann, S. P. Verevkin, M. Köckerling, R. Ludwig, The Influence of Hydrogen Bonding on the Physical Properties of Ionic Liquids. *Phys. Chem. Chem. Phys.* **2011**, 13, 14064-75. (Times cited: 196)
- [10] A. Wulf, K. Fumino, R. Ludwig, Spectroscopic Evidence for an Enhanced Anion-Cation Interaction from Hydrogen Bonding in Pure Imidazolium Ionic Liquids, *Angew. Chem.* **2010**, 122, 459-463. *Angew. Chem. Int. Ed.* **2010**, 49, 449-53. (Times cited: 180)