Prof. Dr. Olav Schiemann

Personal Data

Title	Prof. Dr.
First name	Olav
Name	Schiemann
Current position	Full Professor (W3)
Current institution(s)/site(s), country	Clausius-Institute of Physical and Theoretical Chemistry, Rheinische Friedrich-Wilhelms-University Bonn, Germany
Identifiers/ORCID	orcid.org/0000-0001-6346-9779

Qualifications and Career

Stages	Periods and Details	
Degree programme	Diploma in Chemistry,1989 – 1995, University of Marburg, Germany	
Doctorate	1995 – 1998	Mentor: C. Elschenbroich, Ph.D. in Chemistry, University of Marburg, Germany
Stages of academic/professional career	Since 2011	Full Professor (W3), Clausius-Institute of Physical and Theoretical Chemistry, University of Bonn, Germany
	2011 – 2014	Professor (20%), Biophysical Chemistry, School of Biology, University of St Andrews, UK
	2008 – 2011	Reader, Biophysical Chemistry, School of Biology, University of St Andrews, UK
	2007 – 2008	Lecturer, Biophysical Chemistry, School of Biology, University of St Andrews, UK
	2005 – 2006	Acting Professor, Physical Chemistry, Technical University of Munich, Germany
	2003 – 2007	Privatdozent, IPTC, University of Frankfurt, Germany
	2000 – 2003	Habilitand (Mentor: T.F. Prisner), IPTC, University of Frankfurt, Germany
	1998 – 2000	Postdoctoral fellow (Mentor: J.K. Barton), California Institute of Technology, USA

Activities in the Research System

Committee involvement & activities in the field of academic self-governance:

Since 2024	Representative of Germany in the EFEPR Board
Since 2023	Recruitment Commissioner, University of Bonn
Since 2021	Chair “AK EPR”, GDCh-Fachgruppe “Magnetische Resonanz”
Since 2019	Editorial Board member of the Journals *Molecules* and *Analysis & Sensing*
Since 2016	Board member, BIGs “Chemistry”, University of Bonn
2018 – 2022	Board member, TRA Matter, Excellence Initiative University of Bonn
2018 – 2021	International Representative RSC ESR Spectroscopy Group, UK
2018 – 2021	Independent Steering Committee, EPSRC National EPR Facility, UK

2014 – 2018	Managing Director, Clausius-Institute of Physical and Theoretical Chemistry, University of Bonn
2011	Director, Centre of Magnetic Resonance, University of St Andrews, UK
2009 – 2011	Chair-Elect, Chair, and Past Chair, Molecular Biophysics Subgroup, Biophysical Society (USA)

Organization of academic events: Scientific Committee "Euromar" (2025); International Advisory Board "1st International Conference on EMR Applications" (2024); International Advisory Board "9th International Conference on Nitroxide Radicals" (2023); Scientific Advisory Board "Annual Discussion Meeting" of the FGMR (since 2020); FGMR Prize Committees (since 2019): Ernst-, Overhauser-, Otto-Stern-Award; Chair "46th Annual Discussion Meeting" of the FGMR (2025); Co-organizer "43rd Annual Discussion Meeting" of the FGMR (2022); Co-organizer "EF-EPR Summer School" (2008); Co-organizer "EF-EPR summer school" (2005).

Teaching, mentoring and supervision activities: Supervision of more than 80 Ph.D., Master, and Bachelor students since 2007. Former members of the group on faculty positions: Gregor Hagelüken (University of Bonn, Germany), Alexandra Lisovskaya (University of Notre Dame, USA), Dinar Abdullin (University of Bonn, Germany), Hideto Matsuoka (Hokkaido University, Japan), Bela E. Bode (University of St. Andrews, UK).

Academic Distinctions: Weston Visiting Professorship, Weizmann Institute, Israel (2022); One of the Most Outstanding Referees for *Angew. Chem. Int. Ed.* (2021, 2022); RCUK Fellowship (2007 – 2011); Hermann-Willkomm-Award of the University of Frankfurt (2004); DFG Habilitation Fellowship (2001 – 2003); DFG Research Fellowship (1999 – 2000); DFG Postdoc Fellowship (1998 – 1999).

Scientific Results

Citations: 7225, h-index: 47, i10-index: 107 (Google Scholar, 21.03.2024)

Category A (* corresponding author)

1. J. Borggräfe, J. Victor, H. Rosenbach, A. Viegas, C.G.W. Gertzen, C. Wuebben, H. Kovacs, M. Gopalswamy, D. Riesner, G. Steger, **O. Schiemann**, H. Gohlke, I. Span, M. Etzkorn* "Time-resolved structural analysis of an RNA-cleaving DNA catalyst" *Nature* **2022**, 601, 144–149. DOI: 10.1038/s41586-021-04225-4.

2. **O. Schiemann***, C.A. Heubach, D. Abdullin, K. Ackermann, M. Azarkh, E.G. Bagryanskaya, M. Drescher, B. Endeward, J.H. Freed, L. Galazzo, D. Goldfarb, T. Hett, L.E. Hofer, L.F. Ibáñez, E.J. Hustedt, S. Kucher, I. Kuprov, J.E. Lovett, A. Meyer, S. Ruthstein, S. Saxena, S. Stoll, C. Timmel, M. Di Valentin, H.S. Mchaourab*, T.F. Prisner*, B.E. Bode*, E. Bordignon*, M. Bennati*, G. Jeschke* "Benchmark test and guidelines for DEER/PELDOR experiments on nitroxide-labeled biomolecules" *J. Am. Chem. Soc.* **2021**, 143, 17875–17890. DOI: 10.1021/jacs.1c07371.

3. D. Nguyen, D. Abdullin, C.A. Heubach, T. Pfaffeneder, A. Nguyen, A. Heine, K. Reuter, F. Diederich, **O. Schiemann***, G. Klebe* "Unraveling a ligand-induced twist of a homodimeric enzyme by pulsed electron-electron double resonance" *Angew. Chem. Int. Ed.* **2021**, 60, 23419–23426. DOI: 10.1002/anie.202108179.

4. T. Hett, T. Zbik, S. Mukherjee, H. Matsuoka, W. Bönigk, D. Klose, C. Rouillon, N. Brenner, S. Peuker, R. Klement, H.-J. Steinhoff, H. Grubmüller, R. Seifert, **O. Schiemann***, U.B. Kaupp* "Spatiotemporal Resolution of Conformational Changes in Biomolecules by Combining Pulsed

Electron-Electron Double Resonance Spectroscopy with Microsecond Freeze-Hyperquenching" *J. Am. Chem. Soc.* **2021**, 143, 6981–6989.
DOI: 10.1021/jacs.1c01081.

5. C. Wuebben, M.F. Vicino, M. Mueller, **O. Schiemann*** "Do the P1 and P2 hairpins of the Guanidine-II Riboswitch interact?" *Nucleic Acids Res.* **2020**, 48, 10518–10526.
DOI: 10.1093/nar/gkaa703.

6. N. Fleck, C.A. Heubach, T. Hett, F.R. Haege, P.P. Bawol, H. Baltruschat, **O. Schiemann*** "SLIM: A short-linked, highly redox-stable trityl label for high-sensitivity in-cell EPR distance measurements" *Angew. Chem. Int. Ed.* **2020**, 59, 9767–9772.
DOI: 10.1002/anie.202004452.

7. C. Domnick, F. Eggert, C. Wuebben, L. Bornewasser, G. Hagelueken, **O. Schiemann***, S. Kath-Schorr* "EPR Distance measurements on long non-coding RNAs empowered by genetic alphabet expansion transcription" *Angew. Chem. Int. Ed.* **2020**, 59, 7891–7896. DOI: 10.1002/anie.201916447.

8. J.J. Jassoy, A. Berndhäuser, F. Duthie, S.P. Kühn, G. Hagelueken, **O. Schiemann*** "Versatile Trityl Spin Labels for Nanometer Distance Measurements on Biomolecules in vitro and within cells" *Angew. Chem. Int. Ed.* **2017**, 56, 177–181.
DOI: 10.1002/anie.201609085.

9. D. Abdullin, N. Florin, G. Hagelueken, **O. Schiemann*** "EPR-Based Approach for the Localization of Paramagnetic Metal Ions in Biomolecules" *Angew. Chem. Int. Ed.* **2015**, 54, 1827–1831. DOI: 10.1002/anie.201410396.

10. G.W. Reginsson, S.A. Shelke, C. Rouillon, M.F. White, S.T. Sigurdsson, **O. Schiemann*** "Protein-Induced Changes in DNA Structure and Dynamics Observed with Noncovalent Site-Directed Spin-Labeling and PELDOR" *Nucleic Acids Res.* **2013**, 41, e11.
DOI: 10.1093/nar/gks817.

Category B

Publications

1. **O. Schiemann*** "Studying Ribozymes with Electron Paramagnetic Resonance Spectroscopy" in *Ribozymes: Principles, Methods, Applications* (Eds.: S. Müller, B. Masquida, W. Winkler) **2021**, chapter 32, 817–859. DOI: 10.1002/9783527814527.ch32.

2. **O. Schiemann*** "Trendbericht: Elektronen-Paramagnetische-Resonanzspektroskopie" *Nachrichten aus der Chemie* **2021**, 69, 54–62. DOI: 10.1002/nadc.20214106853.

3. **O. Schiemann***, G. Hagelueken "EPR-Spektroskopie an biologischen Systemen" in *Bioanalytik* (Eds.: J. Kurrek, J.W. Engels, F. Lottspeich), 4. Auflage, **2021**, chapter 22, 527–552. DOI: 10.1007/978-3-662-61707-6_22.

4. D. Abdullin*, **O. Schiemann*** "Pulsed Dipolar EPR Spectroscopy and Metal Ions: Methodology and Biological Applications" *ChemPlusChem* **2020**, 85, 353–372.
DOI: 10.1002/cplu.201900705.

5. H. Matsuoka, **O. Schiemann*** "Molecular Spins in Biological Systems" in *Biological Magnetic Resonance (Editors L. Berliner, T. Takui, G. Hanson)* **2016**, 31, 51–77.
DOI: 10.1007/978-1-4939-3658-8_3.

6. R. Ward*, **O. Schiemann*** “EPR-based distance measurements in Oligonucleotides” *Struct. Bond.* **2014**, 152, 249–281. DOI: 10.1007/430_2012_76.
7. G.W. Reginsson, **O. Schiemann*** “Pulsed Electron-Electron Double Resonance: Beyond Nanometre Distance Measurements on Biomacromolecules” *Biochem. J.* **2011**, 434, 353–363. DOI: 10.1042/BJ2101871.
8. G.W. Reginsson, **O. Schiemann*** “Studying Biomolecular Complexes with Pulsed Electron-Electron Double Resonance Spectroscopy” *Biochem. Soc. Trans.* **2011**, 39, 128–139. DOI: 10.1042/BST0390128.
9. **O. Schiemann*** “Mapping Global Folds of Oligonucleotides by Pulsed Electron-Electron Double Resonance” *Methods Enzymol.* **2009**, 469, 329–351. DOI: 10.1016/S0076-6879(09)69016-9.
10. **O. Schiemann***, T.F. Prisner* “Long-range distance determinations in biomacromolecules by EPR spectroscopy” *Quart. Rev. Biophys.* **2007**, 40, 1–53. DOI: 10.1017/S003358350700460X.