





B. Luy

The author presented on this page has published more than 10 articles in Angewandte Chemie in the last 10 years, including: "Crosslinked Poly(ethylene oxide) as a Versatile Alignment Medium for the Measurement of Residual Anisotropic NMR Parameters": C. Merle et al., Angew. Chem. 2013, 125, 10499–10502; Angew. Chem. Int. Ed. 2013, 52, 10309–10312.



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The work of B. Luy has been featured on the cover of Angewandte Chemie:
"Residual Dipolar Couplings as a Powerful Tool for Constitutional Analysis:
The Unexpected Formation of Tricyclic Compounds": G. Kummerlöwe et al., Angew. Chem. 2011, 123, 2693–2696; Angew. Chem. Int. Ed. 2011, 50, 2643–2645.

Burkhard Luy

Date of birth: February 20, 1970

Awards:

Position: Professor of Bioanalytics at the Institute of Organic Chemistry and Co-Director at the Institute

for Biological Surfaces, Karlsruhe Institute of Technology (KIT)

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Education: 1989–1994 Studies of physics, University of Frankfurt

1994–1999 PhD in chemistry with Steffen J. Glaser and Christian Griesinger, University of

Frankfurt

1999-2001 Postdoc with John P. Marino, CARB (currently Institute for Bioscience and

Biotechnology Research), Rockville, Maryland

2002–2005 Habilitation with Horst Kessler, Technische Universität München

2002 Emmy Noether Fellowship; 2005 Hans Fischer Award; 2007 Heisenberg Fellowship; 2009 Fellowship of the Kavli Institute of Theoretical Physics

Current research Development and application of novel NMR methods, e.g., residual anisotropic NMR

interests: parameters, pulse sequences, metabolomics, nitrogen-vacancy centers

Hobbies: Music, hiking, crime stories

I can never resist ... a piece of good chocolate.

My favorite author (fiction) is ... Sir Arthur Conan Doyle.

My greatest achievement has been ... meeting my wife.

regularly lose track of time when ... I am trying to find my own simple picture to fully understand a (scientific) problem.

If I could go back in time and do any experiment, it would be ... detecting a single spin resonance (which was achieved by Rugar et al. in 2004).

My top three films of all time are ... Metropolis, High Noon, and Paul T. Callaghan's Introduction to NMR and MRI.

My favorite song of music is ... Glider by Bill Conti.

What I look for first in a publication are ... the figures and corresponding captions to get an impression.

The most important thing I learned from my parents is ... a deep belief in inner values.

If I could have dinner with three famous scientists from history, they would be ... Alexander von Humboldt, Felix Bloch, and Edward Mills Purcell.

If I were not a scientist, I would be ... a programmer or carpenter.

My 5 top papers:

- "Stretched Gelatin Gels as Chiral Alignment Media for the Discrimination of Enantiomers by NMR Spectroscopy": K. Kobzar, H. Kessler, B. Luy, Angew. Chem. 2005, 117, 3205–3207; Angew. Chem. Int. Ed. 2005, 44, 3145–3147. (The "Gummi bear article" certainly changed my life.)
- "Superposition of Scalar and Residual Dipolar Couplings: Analytical Transfer Functions for Three Spins 1/2 under Cylindrical Mixing Conditions": B. Luy, S. J. Glaser, J. Magn. Reson. 2001, 148, 169–181. (The highlight of my PhD thesis: an analytical solution to the Ising-Heisenberg Hamiltonian!)
- 3. "Exploring the limits of broadband excitation and inversion pulses": K. Kobzar, T. Skinner, N. Khaneja,
- S. J. Glaser, B. Luy, *J. Magn. Reson.* **2004**, *170*, 236–243. (To me one of the most impressive applications of the growing field of optimal control of quantum systems.)
- "Construction of universal rotations from point-to-point transformations": B. Luy, K. Kobzar, T. E. Skinner, N. Khaneja, S. J. Glaser, J. Magn. Reson. 2005, 176, 179–186. (The referee report starting with "Kudos to the authors" certainly made my day!)
- 5. "Direct Evidence for Watson-Crick Base Pairs in a Dynamic Region of RNA Structure": B. Luy, J. P. Marino, J. Am. Chem. Soc. 2000, 122, 8095-8096. (The first reported direct detection of H-bonds in flexible RNA.)

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