Prof. Dr. Michael Famulok

Personal Data

Title	Prof. Dr.
First name	Michael
Name	Famulok
Current position	Full Professor (W3)
Current institution(s)/site(s), country	LIMES-Institute, c/o Kekulé-Institute of Organic Chemistry and Biochemistry, Chemical Biology & Medicinal Chemistry Unit, Rheinische Friedrich-Wilhelms-University Bonn, Gerhard-Domagk-Str. 1, 53121 Bonn, Germany
Identifiers/ORCID	orcid.org/0000-0001-5878-6577

Qualifications and Career

Stages	Periods and Details	
Degree programme	Diploma in Chemistry, 1981 – 1986, University of Marburg, Germany	
Doctorate	1986–1989	Mentor: G. Boche, PhD in Organic Chemistry, University of Marburg, Germany
Stages of academic/professional career	Since 2012	Full Professor (W3), Biochemistry and Chemical Biology, LIMES-Institute, University of Bonn, Germany
	1999 – 2012	Full Professor (C4), Biochemistry and Chemical Biology, LIMES-Institute, University of Bonn, Germany
	1997 – 1999	Substitute for Full Professor of Biochemistry and Head, LMU Munich, Germany
	1993 – 1996	Habilitand, Institute of Biochemistry, LMU Munich, Germany
	1990 – 1992	Postdoctoral Fellow (J. Szostak), Harvard, USA
	1989 – 1990	Postdoctoral Fellow (J. Rebek), Supramolecular Chemistry, MIT, USA

Activities in the Research System

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

2003 – 2008	DFG Liaison Officer for the University of Bonn
Since 2002	Faculty of 1000 Section head CHEMICAL BIOLOGY – Directed Molecular Evolution
2013 – 2016	Elected as one of eight vice presidents of the DFG
2009	Appointment “Nomination Board” Gottfried-Wilhelm-Leibniz Award by the President of the DFG, Professor M. Kleiner
2005 – 2011	Chemistry & Biology (Editor)
2005 – 2006	Chairman, Chemistry Section Mathematics & Natural Sciences Faculty, University of Bonn
2002 – 2011	Speaker, Research Training Group GRK 804, DFG
2002 – 2010	*Biological Chemistry* (Editorial Advisory Board)

2002 – 2008	*Nucleic Acids Research* (Editorial Advisory Board)
2002 – 2006	*Nachrichten aus der Chemie* (Board of Trustees)
2001 – 2005	Committee “Quality management“ appointed by the HRK-President
2001 – 2004	*Chemistry & Biology* (Associate Editor)
2001 – 2003	Managing Director, Kekulé-Institut of Organic Chemistry and Biochemistry, University of Bonn
2001	Organization (with Prof. U. Hahn), 52nd Mosbach Colloquium, GBM
2000 – 2010	Editorial Advisory Board, *ChemBioChem*
2000 – 2006	Elected managing board member, Section “Biotechnology”, DECHEMA
2000 – 2005	Member of the commission “Teaching and Study” of the German Rector’s Conference
2000 – 2003	Elected chair German Chemical Society (GDCh) local section Bonn

Academic Distinctions: One of eight vice presidents of the DFG (2013 – 2016); Max-Planck fellow at the Research Center Caesar, Bonn (2013); ERC Advanced Grant DNA-Machines (2010); GlaxoSmithKline Award, Outstanding Achievement in Chemical Biology (2008); Member of the German Academy of Sciences Leopoldina (2007); Member of the Research Advisory Council of the Association of the Chemical Industry (2006); Member of the Academy of Sciences and Arts of North Rhine Westphalia (2002); Gottfried-Wilhelm-Leibniz Award of the DFG (2002); Steinhofer Award of the University of Freiburg (2000); Klung-Wilhelmy-Weberbank Award for Chemistry (1998); Karl-Ziegler-Award of the Gesellschaft Deutscher Chemiker GDCh (1998); Invited Professor, Université Pasteur, Strasbourg, (J.-M. Lehn) (1997); Habilitation Award of the University Society of the LMU Munich (1996); “Dozentenstipendium”, Fond of the Chemical Industry (VCI) (1996); “Liebig”-Fellowship of the Association of the Chemical Industry (1991).

Scientific Results

Citations: 17912, h-index: 72, i10-index: 184 (Google Scholar, 21.03.2024)

Category A (* corresponding author)

1. Mathias Centola, E. Poppleton, S. Ray, Martin Centola, R. Welty, J. Valero, N.G. Walter*, P. Šulc*, **M. Famulok***, ”A rhythmically pulsing leaf-spring DNA-origami nanoengine that drives a passive follower“ *Nat. Nanotechnol.* **2024**, 19, 226–236. DOI: 10.1038/s41565-023-01516-x.

2. Y. Ze, M. Centola, J. Valero*, M. Matthies, P. Šulc, **M. Famulok*** “A self-regulating DNA rotaxane linear actuator driven by chemical energy” *J. Am. Chem. Soc*. **2021**, 143, 13292–13298. DOI: 10.1021/jacs.1c06226.

3. A. Schmitz, A. Weber, M. Bayin, S. Breuers, V. Fieberg, **M. Famulok***, G. Mayer* “A SARS-CoV-2 Spike Binding DNA Aptamer that Inhibits Pseudovirus Infection by an RBD-Independent Mechanism” *Angew. Chem. Int. Ed.* **2021**, 60, 10279–10285. DOI: 10.1002/anie.202100316.

4. Y. Ma, M. Centola, D. Keppner, **M. Famulok*** “Interlocked DNA Nanojoints for Reversible Thermal Sensing” *Angew. Chem. Int. Ed.* **2020**, 59, 12455–12459. DOI: 10.1002/anie.202003991.

5. M. Škugor, J. Valero*, K. Murayama, M. Centola, H. Asanuma, **M. Famulok*** “Orthogonally Photocontrolled Non-Autonomous DNA Walker” *Angew. Chem. Int. Ed.* **2019**, 58, 6948–6951. DOI: 10.1002/anie.201901272.

6. A. Viegas, D.M. Yin, J. Borggräfe, T. Viennet, M. Falke, A. Schmitz*, **M. Famulok**, M. Etzkorn* “Molecular Architecture of a Network of Potential Intracellular EGFR Modulators: ARNO, CaM, Phospholipids, and the Juxtamembrane Segment” *Structure* **2020**, 28, 54–62. DOI: 10.1016/j.str.2019.11.001.
7. J. Valero, N. Pal, S. Dhakal, N.G. Walter, **M. Famulok*** “A bio-hybrid DNA rotor-stator nanoengine that moves along predefined tracks” *Nat. Nanotechnol*. **2018**, 13, 496–503. DOI: 10.1038/s41565-018-0109-z.
8. D.K. Prusty, V. Adam, R.M. Zadegan, S. Irsen, **M. Famulok*** “Supramolecular aptamer nano-constructs for receptor-mediated targeting and light triggered release of chemotherapeutics into cancer cells” *Nat. Commun*. **2018**, 9, 535. DOI: 10.1038/s41467-018-02929-2.
9. D.M. Yin, J.S. Hannam, A. Schmitz, O. Schiemann, G. Hagelueken*, **M. Famulok*** “Studying the Conformation of a Receptor Tyrosine Kinase in Solution by Inhibitor-Based Spin Labeling” *Angew. Chem. Int. Ed*. **2017**, 56, 8417–8421. DOI: 10.1002/anie.201703154.
10. M. Kerzhner, D. Abdullin, J. Więcek, H. Matsuoka, G. Hagelueken, O. Schiemann*, **M. Famulok*** “Post-synthetic Spin-Labeling of RNA through Click Chemistry for PELDOR Measurements” *Chem. Eur. J.* **2016**, 22, 12113–12121. DOI: 10.1002/chem.201601897.

Category B

Publications

1. **M. Famulok*** “In vitro selected (deoxy)ribozymes that catalyze carbon-carbon bond formation” in *Ribozymes: Principles, Methods, Applications* (Eds.: S. Müller, B. Masquida, W. Winkler) **2021**, chapter 21, 545–556. DOI: 10.1002/9783527814527.ch21.
2. M.F. Vicino, C. Wuebben, M. Kerzhner, **M. Famulok**, O. Schiemann* ”Spin Labeling of Long RNAs Via Click Reaction and Enzymatic Ligation” *Methods Mol. Biol.* **2022**, 2439, 205–221. DOI: 10.1007/978-1-0716-2047-2_14.
3. J. Valero, F. Lohmann, **M. Famulok*** “Interlocked DNA topologies for nanotechnology” *Curr. Opin. Biotechnol*. **2017**, 48, 159–167. DOI: 10.1016/j.copbio.2017.04.002.
4. J.L. Vinkenborg, N. Karnowski, **M. Famulok*** “Aptamers for allosteric regulation” *Nat. Chem. Biol*. **2011**, 7, 519–527. DOI: 10.1038/nchembio.609.
5. A. Heckel, **M. Famulok*** “Building objects from nucleic acids for a nanometer world” *Biochimie* **2008**, 90, 1096–1107. DOI: 10.1016/j.biochi.2008.02.004.