

## Prof. Dr. Michael Sattler

Biomolecular NMR-Spectroscopy

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### Education

1995 Dr. phil. nat., University of Frankfurt, Germany

1991 Diploma in Chemistry, University of Frankfurt, Germany

### Current positions

2007- **Director**, Institute of Structural Biology, Helmholtz Zentrum München, German Research Center for Environmental Health, Munich, Germany

2007- **Professor** (W3) Biomolecular NMR-Spectroscopy, Department Chemie, TU München

2007- **Director**, Bavarian NMR Center (<http://www.bnmrz.org>)

### Previous positions

1997-2006 **Group Leader**, Structural & Computational- Biology and Gene Expression Programmes; European Molecular Biology Laboratory (EMBL), Heidelberg, Germany

*Structural biology in RNA-based gene regulation: pre-mRNA splicing (Science 2001, 2006), RNAi (Nature 2003) signaling; NMR methods for large protein complexes*

1995-1997 **Postdoctoral Associate**, Abbott Laboratories, Abbott Park, USA

Advisor: Dr. Stephen W. Fesik *Structural biology of protein complexes in signaling and apoptosis: Shc-PTB/Trk (Nature 1995), Bcl-xL (Nature 1996; Science 1997)*

1991-1995 **Doctoral research**, Institute of Organic Chemistry, University of Frankfurt, Germany

Advisor: Prof. Dr. Christian Griesinger *Development of novel multidimensional heteronuclear NMR methods with improved sensitivity for biomacromolecules*

### Academic interests

Biomolecular NMR spectroscopy and integrative structural biology of proteins and RNA; NMR methods; molecular recognition and dynamics in gene regulation: alternative splicing, (long)non-coding RNAs, peroxisome biogenesis and disease-linked pathways, structure-based drug discovery.

### Fellowships and awards

2020 **Erwin-Schrödinger Prize/Stifterverband Science Award**

2017 **Elected Member of the Leopoldina, German National Academy of Sciences**

2017 **Elected Member ISMAR Council** (International Society of Magnetic Resonance)

2014 FEBS National Lecturer Spanish Biochemical Society (SEBB), Granada

2012 **Elected EMBO Member**

2011-2012 Visiting Professorship for Senior International Scientists, Tianjin, China

2005 Professor Invité, Ecole Normale Supérieure, Paris, France

2005 Jean-Francois Lefevre Lecturer in Biophysics, Strasbourg, France

### Major institutional responsibilities

2012 – 2020 **Elected member of the DFG Study Section Foundations of Biology and Medicine**

2014 - Coordinator, Cross Program Activity “Structural Biology”, *Helmholtz Association*

2013-2019 **Member Committee Research Infrastructures (Ausschuss Forschungsbauten)** of the *German Wissenschaftsrat*

2012- Board Member, DFG Cluster of Excellence EXC114: CiPS<sup>M</sup>

2012 - Steering Committee *Helmholtz Association* Portfolio Program “Drug discovery”

2009-2012 Coordinator Area C, Cluster of Excellence EXC114: Center for integrated Protein Science Munich (CiPS<sup>M</sup>)

### Co/Organization of international conferences and schools

2019 International conference **New Frontiers in Structure-based Drug Discovery**, Florence, Italy, with Christian Ottmann (supported by ITNs AEGIS and TASPPI)

2019 CiPSM Cluster of Excellence *Scientific Octoberfest*, TUM, Garching

2019 **EMBO Practical Course** “NMR spectroscopy of biological macromolecules”, co-organizer and instructor, biannually since 1999 (25 students and postdocs)

2018 International **Helmholtz Drug Discovery Conference** - HDDC 2018, Munich

2017 **Keystone Symposium: Frontiers of NMR in Life Sciences**; co-organizer with K. Wüthrich; S.W. Fesik; 170 participants

2013 **35<sup>th</sup> FGMR Discussion Meeting** and Joint Conference of the German, Italian and Slovenian Magnetic Resonance Societies. Frauenchiemsee, Germany, Sep 9-12, 300 participants

2008 FP6 CA NMR-Life Workshop *Advances in NMR of Protein and Nucleic Acid Molecular Recognition*, Murnau, Germany (with R. Boelens, Utrecht), 150 participants

### Patents

2020 EPA No. 20214108.1 *Inhibition of virus protease*

2016 PCT/EP2016/080316 *CPAP-Tubulin Module*

2016 WO2016038045 *Pyrazolopyridine derivatives and their use in therapy*

### Key publications (selected)

>290 journal articles, ORCID: [0000-0002-1594-0527](https://orcid.org/0000-0002-1594-0527) Researcher ID [A-2407-2012](https://orcid.org/A-2407-2012) [Google Scholar](https://scholar.google.com/citations?user=...)

1. Lopez A.; Dahiya V; Delhommel F; Freiburger L; Stehle R; Asami S; Rutz D; Blair L; Buchner J\*; **Sattler M\***. *Client Binding Shifts the Populations of Dynamic Hsp90 Conformations through an Allosteric Network*. **(2021) Sci. Adv.**, 7 (51), doi: 10.1126/sciadv.abl7295
2. Kooshapur H, Choudhury NR, Simon B, Muhlbauer M, Jussupow A, Fernandez N, Jones AN, Dallmann A, Gabel F, Camilloni C, Michlewski G\*, Caceres JF\*, Sattler M\* *Structural basis for terminal loop recognition and stimulation of pri-miRNA-18a processing by hnRNP A1*. **(2018) Nat Commun** 9, 2479. doi: 10.1038/s41467-018-04871-9
3. Dawidowski M, Emmanouilidis L, Kalel VC, Tripsianes K, Schorpp K, Hadian K, Kaiser M, Maeser P, Kolonko M, Tanghe S, Rodriguez A, Schliebs W, Erdmann R\*, **Sattler M\***, and Popowicz GM\* *Inhibitors of PEX14 disrupt protein import into glycosomes and kill Trypanosoma parasites*. **(2017) Science** 355, 1416-1420. doi: 10.1126/science.aal1807
4. Hennig J, Militti C, Popowicz GM, Wang I, Sonntag M, Geerlof A, Gabel F, Gebauer F\*, **Sattler M\*** *Structural basis for the assembly of the Sxl-UNR translation regulatory complex* **(2014) Nature**, 515:287-90. [[Pubmed](#)] [[Press release](#)]
5. Schlundt A, Heinz GA, Janowski R, Geerlof A, Stehle R, Heissmeyer V\*, Niessing D\*, and **Sattler M\***. *Structural basis for RNA recognition in roquin-mediated post-transcriptional gene regulation*. **(2014) Nat Struct Mol Biol** 21, 671-8. [[Pubmed](#)] [[Press release](#)]
6. Mackereth CD, Madl T, Bonnal S, Simon B, Zanier K, Gasch A, Rybin V, Valcarcel J\*, **Sattler M\***. *Multi-domain conformational selection underlies pre-mRNA splicing regulation by U2AF* **(2011) Nature** 475, 408-11. [[PubMed](#)]
7. Tripsianes K, Madl T, Machyna M, Fessas D, Englbrecht C, Fischer U, Neugebauer KM, and **Sattler M** *Structural basis for dimethylarginine recognition by the Tudor domains of human SMN and SPF30 proteins*. **(2011) Nat Struct Mol Biol** 18, 1414-20. [[PubMed](#)]
8. Simon B, Madl T, Mackereth CD, Nilges M, and **Sattler M** *An efficient protocol for NMR-spectroscopy-based structure determination of protein complexes in solution*. **(2010) Angew Chem Int Ed Engl** 49, 1967-70. [[fulltext](#)]
9. Corsini L, Bonnal S, Basquin J, Hothorn M, Scheffzek K, Valcarcel J\*, and **Sattler M\***. *U2AF Homology Motif interactions are required for alternative splicing regulation by SPF45*. **(2007) Nat Struct Mol Biol** 14, 620-9. [[PubMed](#)]
10. Lingel A, Simon B, Izaurralde E\*, and **Sattler M\***. *Structure and nucleic-acid binding of the Drosophila Argonaute 2 PAZ domain*. **(2003) Nature** 426, 465-9. [[PubMed](#)]