

## Curriculum Vitae - STEFAN RAUNSER

### PERSONAL INFORMATION

Family name, First name: Raunser, Stefan

Researcher unique identifier(s): ORCID 00000-0001-9373-3016

Nationality: German

Date of birth: June 23, 1976

URL for web site: <http://www.mpi-dortmund.mpg.de/forschung/strukturbiochemie>

### EDUCATION

2001 – 2004 PhD in Biochemistry, University of Frankfurt (Germany), Supervisor: Dr. Werner Kühlbrandt, Max Planck Institute of Biophysics, Frankfurt (Germany)

1995 – 2000 Diploma degree (equivalent to M.Sc.) in Biology, University of Mainz (Germany)  
First German State Examination in Chemistry and Biology, University of Mainz (Germany)  
Supervisor of diploma thesis: Dr. H. Paulsen, University of Mainz (Germany)

1995 Abitur with specialization in Biology, Chemistry and English

### CURRENT POSITIONS

2015 – now Honorary Professor, University of Duisburg-Essen (Germany)

2015 – now Adjunct Professor, Technical University Dortmund (Germany)

2014 – now Director, Department of Structural Biochemistry, Max Planck Institute of Molecular Physiology, Dortmund (Germany)

### PREVIOUS POSITIONS

2014 Full Professor, Department of Chemistry/Biology/Pharmacy, Freie Universität Berlin (Germany)

2008 – 2013 Independent Group Leader, Department of Physical Biochemistry, 2003-06, Max Planck Institute of Molecular Physiology, Dortmund (Germany)

2005 – 2008 Postdoctoral Researcher in the laboratory of Dr. T. Walz, HHMI, Department of Cell Biology, Harvard Medical School, Boston (USA)

### FELLOWSHIPS AND AWARDS

2022 Member of the North Rhine-Westphalian Academy of Sciences and Arts

2020 ERC Synergy Grant (together with D. Görlich, F. Schnorrer, M. Gautel)

2019 German National Academy of Sciences Leopoldina Member

2018 EMBO Member

2017 Albert Szent-Gyorgyi Lecture Eötvös Loránd – University Budapest

2016 Randall Lecture – King's College London University

2014 ERC Consolidator Grant

2013 Einstein-Professorship of the Einstein Foundation Berlin

2011 – 2014 Member of the "Junges Kolleg" (Academy of Sciences and Arts of Northrhine-Westfalia)

2009 – 2011 Member of the Global Young Faculty; Speaker of the Health group

2008 – 2013 Emmy-Noether Fellowship German Research Foundation (DFG)

2007 – 2008 Fellow of the German Academy of Sciences "Leopoldina"

2005 – 2006 Fellow of Harvard Medical School

2001 – 2004 Fellow of the German National Academic Foundation

1999 Fellow of the Johannes-Gutenberg University Foundation

1998 – 1999 Erasmus Fellow of the European Union

1995 Winner of the "Jugend forscht" competition in Palatinate

### SUPERVISION OF GRADUATE STUDENTS AND POSTDOCTORAL FELLOWS

since 2008 Since starting my group, I have supervised 15 PhD students until obtainment of PhD degree (with additional 10 currently performing PhD studies in my laboratory). I have also supervised 30 Postdocs (including current group members) and 40 Bachelor and Master students.

### TEACHING ACTIVITIES

- Involvement in the education of biology lab technicians at our institute (since 2011)
- Lecture series and tutorials in "Structural Biology" in the Master's program Chemical Biology at TU Dortmund (since 2010)
- Occasional teaching by invitation for students of PhD programs worldwide
- Teaching for graduate students at the MPI Dortmund

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- More than 200 invited lectures and seminars at international meetings or at national or foreign scientific institutions (detailed list available upon request)

### ORGANISATION OF SCIENTIFIC MEETINGS

- 8<sup>th</sup> Murnau Conference on Structural Biology, October 5-8 2022 (co-organizer with Sebastian Hiller, Oliver Einsle)
- 20<sup>th</sup> European Workshop on Bacterial Protein Toxins 2021, virtual, organizer
- Erice 2019– “Cryo 3D Electron Microscopy”, May 31 – June 9, Erice, Italy (co-organizer with D. Hanein and S. Ludtke)
- Mosbacher Kolloquium 2019 – Focus Topic: “High-resolution imaging of cells and molecules”, April 4-6, Mosbach/Baden (co-organizer with Stefan Jakobs)
- 7<sup>th</sup> Murnau Conference on Structural Biology, September 26-29 2018 (co-organizer with Sebastian Hiller, Oliver Einsle)
- Molecular Basis of Life 2017 - International Fall Meeting of the German Society for Biochemistry and Molecular Biology in Bochum, September 24-27 2017 (member of organizing committee)
- International SPHIRE workshops in Dortmund, May 8-10 2017, Bonn, September 11-12 2017, Houston, November 6-8 2017, and Dortmund, June 11-13 2018 (main organizer)
- 6<sup>th</sup> Murnau Conference on Structural Biology, September 14-17 2016 (co-organizer with Sebastian Hiller, Oliver Einsle)
- International Conference “Structural Biology in the BioEconomy” in Cape Town, South Africa, December 1-4 2012 (co-organizer with Trevor Sewell)
- 1<sup>st</sup> International Symposium on Equitable Global Health in Bochum, October 7-8 2010 (head of organizing committee)

### COMMISSIONS OF TRUST

- Ad hoc reviewer for scientific journals and granting agencies, including among others, Cell, Cell Reports, Nature, Nature Structural and Molecular Biology, Nature Methods, Nature Communications, Elife, PNAS, Science, Science Advances, Structure, ERC, Wellcome Trust, DFG, ANR, NIH, SNCF, BBSRC, MRC, ISF, and others
- Member of Appointment Committees of the Max Planck Institutes of Biochemistry, Biophysics, Terrestrial Microbiology and Biophysical Chemistry
- Member of Appointments Committees at other institutions, in particular Pasteur Institute Paris, University of Halle, University of Würzburg, TU Dortmund, University Basel, University of Okinawa, Universität des Saarlandes
- Member of the Perspective Committee of the Biology and Medicine Section of the Max Planck Society (2015-2021)
- Speaker of the study group Structural Biology of the GBM (together with S. Hiller und O. Einsle) (2015-2022)
- Member of Scientific Advisory Board Leibniz-Institut für Molekulare Pharmakologie (FMP) Berlin (since 2017)
- Representative of the iNEXT (European infrastructure for NMR, EM and X-rays) user panel (2016-2019)
- Member of the Wellcome Trust Expert Review Group: Molecular Basis of Cell Function (2018-2022)
- Elected Member of the Fachgruppe Biochemie of the Gesellschaft Deutscher Chemiker (GdCh) (since 2019)
- Member of the Selection Committee of Schmidt Science Fellowships (since 2020)
- Advisory Committee of the president of the Max Planck Society on Electronic Data Processing (since 2021)
- Member of the LS1 panel, ERC Consolidator Grants (since 2021)
- Member of the EMBO YIP selection committee (since 2022)

### MEMBERSHIP OF EDITORIAL BOARDS OF INTERNATIONAL JOURNALS

- Journal of Muscle Research and Cell Motility
- Journal of the International Union of Crystallography (IUCrJ)

### MEMBERSHIPS OF SCIENTIFIC SOCIETIES

- North Rhine-Westphalian Academy of Sciences and Arts
- Leopoldina, Nationale Akademie der Wissenschaften
- EMBO
- Scientific Member of the Max Planck Society
- German Society for Biochemistry and Molecular Biology (GBM)
- Verein zur Förderung der biomedizinischen und klinischen Forschung e.V.
- German Chemical Society (GDCh)
- Biophysical Society

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**TEN REPRESENTATIVE PUBLICATIONS:**

(Google Scholar November 2022: Total number of publications: 125, total number of citations: 9889, h-index: 48)

Full publication list: <https://www.ncbi.nlm.nih.gov/myncbi/1dCBctgOqtT/bibliography/public/>

1. Wang Z, Grange M, Pospich S, Wagner T, Kho AL, Gautel M, **Raunser S** (2022) Structures from intact myofibrils reveal mechanism of thin filament regulation through nebulin. **Science**. 375(6582):eabn1934
2. Wang Z, Grange M, Wagner T, Kho AL, Gautel M, **Raunser S** (2021) The molecular basis for sarcomere organization in vertebrate skeletal muscle. **Cell**. 184(8):2135-2150.
3. Wagner T, Merino F, Stabrin M, Moriya T, Antoni C, Apelbaum A, Hagel P, Sitsel O, Raisch T, Prumbaum D, Quentin D, Roderer D, Tacke S, Siebolds B, Schubert E, Shaikh TR, Lill P, Gatsogiannis C, **Raunser S** (2019) SPHIRE-crYOLO is a fast and accurate fully automated particle picker for cryo-EM. **Nature Commun Biol**. 2:218.
4. Gatsogiannis C, Merino F, Roderer D, Balchin D, Schubert E, Kuhlee A, Hayer-Hartl M, **Raunser S** (2018) Tc toxin activation requires unfolding and refolding of a  $\beta$ -propeller. **Nature**. 563(7730):209-213
5. von der Ecken J, Heissler SM, Pathan-Chhatbar S, Manstein DJ, **Raunser S** (2016) Cryo-EM structure of a human cytoplasmic actomyosin complex at near-atomic resolution. **Nature**. 534(7609):724-8.
6. Efremov R, Hofnagel O, **Raunser S** (2015) Architecture and Conformational Switch Mechanism of the Ryanodine Receptor, **Nature**. 517(7532):39-43.
7. von der Ecken J, Müller M, Lehman W, Manstein DJ, Penczek PA, **Raunser S** (2015) Structure of the F-actin-tropomyosin complex, **Nature**. 519(7541):114-7.
8. Meusch D, Gatsogiannis C, Efremov R, Lang A, Hofnagel O, Vetter I, Aktories K, **Raunser S** (2014) Mechanism of Tc toxin action revealed in molecular detail. **Nature**. 508(7494):61-5.
9. Gatsogiannis C, Lang A, Meusch D, Pfaumann V, Hofnagel O, Benz R, Aktories K, **Raunser S** (2013) A syringe-like injection mechanism in *Photobacterium luminescens* toxins. **Nature**. 495(7442): 520-23.
10. Behrmann E, Müller M, Penczek PA, Mannherz HG, Manstein DJ, **Raunser S** (2012) Structure of the Rigor Actin-Tropomyosin-Myosin Complex. **Cell**. 150(2):327-339.

**Selection of Invited Talks:**

I have been invited about 25 times each year. Here, I have listed 10 invited talks in the recent five years:

- 2022** Three-dimensional Electron Microscopy GRC, Barcelona, Spain  
Cytoskeletal Motors GRC, West Dover, VT, USA
- 2021** Virtual European Muscle Conference  
Microscopy Conference 2021 online
- 2020** Lorne conference on protein structure and function, Australia  
Asia Pacific Microscopy Conference 12, Hyderabad, India
- 2019** EMBO workshop: Tools in Structural Biology of Membrane Proteins, Hamburg, Germany  
15th German Conference on Cheminformatics, Mainz, Germany
- 2018** 1<sup>st</sup> Symposium on Recent Advances in Cryo-EM, CEITEC, Brno, Czech Republic  
Berlin Life Science Colloquium, Einstein Foundation, Berlin, Germany