

## Prof. Dr. Ulrike Endesfelder

### Personal Data

Title	Prof. Dr.
First name	Ulrike
Name	Endesfelder
Current position	Full Professor (W3)
Current institution(s)/site(s), country	Institute for Microbiology and Biotechnology, Rheinische Friedrich-Wilhelms-University Bonn, Meckenheimer Allee 168, 53115 Bonn
Identifiers/ORCID	<a href="https://orcid.org/0000-0002-7801-6278">orcid.org/0000-0002-7801-6278</a>

### Qualifications and Career

<u>Stages</u>	<u>Periods and Details</u>
Degree programme	2004 – 2008 Studies in Physics, University of Bonn
Doctorate	2008 – 2012 Mentor: M. Heilemann, Ph.D. in Physics, "Quantitative localization-based super-resolution microscopy: Concepts and applications" (summa cum laude), University of Bielefeld, Germany
Stages of academic/professional career	Since 2021 Full Professor (W3), Institute for Microbiology & Biotechnology, University of Bonn, Germany 2020 – 2021 Associate Professor (TT), Department of Physics, Carnegie Mellon University, Pittsburgh, USA 2014 – 2020 Group leader, Department of Systems and Synthetic Microbiology, Max-Planck-Institute for Terrestrial Microbiology, Marburg, Germany 2013 – 2014 Postdoc (M. Heilemann), Institute of Physical Chemistry, University of Frankfurt, Germany 2012 Postdoc (M. Heilemann), Inst. Biotech. Biophys., University of Würzburg, Germany

### Supplementary Career Information

2-month parental leave (Mar – Apr 2021, child \*09.03.2021); 2-month parental leave (Jun – July 2019, child \*10.06.2019); Interruption relocation to CMU/virtual extension MPI group (Apr – Nov 2020). My group's relocation to CMU was dramatically interrupted by the US Covid-19 immigration ban. While all sea freight was already shipped, all people (myself + family, 1 PostDoc, 3 PhDs, 1 M.Sc.) could not travel anymore. We were financially rescued by re-employment by the MPI and had to move into emergency housing until being able to enter the US via a 15-day stay in non-EU Serbia.

## Activities in the Research System

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

Since 2024	Member of the Senate, University of Bonn
Since 2024	Member of Steering board, TRA “Mathematics, Modelling and Simulation of Complex Systems”, University of Bonn
Since 2023	Central commission for special appointment procedures (TT, ad personam), University of Bonn
Since 2022	Director, Institute for Microbiology & Biotechnology, University of Bonn
Since 2022	Deputy Chair of the Biology Section, University of Bonn
2021 – 2023	Elected/Chair/Past-Chair “Physical Cell Biology” subgroup, Biophysical Society, USA
Since 2021	Editorial Board <i>Biophysical Reports</i>
Since 2019	Member of Steering board, MAF conference series
2019 – 2020	“Die Junge Akademie”
2018 – 2023	ICON conference series
2018 – 2019	ECR Guest, Committee governance of research, “Wissenschaftsrat”
2015 – 2017	Editorial Board <i>Scientific Reports</i>

**Academic Distinctions:** Endowed Cooper-Siegel Professorship, Mellon College of Science (2020); Elected Member, Die Junge Akademie, German National Academy of Sciences, Leopoldina, Berlin-Brandenburg Academy of Sciences and Humanities (2015).

## Scientific Results

Citations: 2564, h-index: 25, i10-index: 37 ([Google Scholar](#), 21.03.2024)

### Category A (\* corresponding author)

1. K.J.A. Martens\*, B. Turkowyd, J. Hohlbein, **U. Endesfelder** “Temporal analysis of relative distances (TARDIS) is a robust, parameter-free alternative to single-particle tracking”. *Nat. Methods* **2024**. DOI: [10.1038/s41592-023-02149-7](https://doi.org/10.1038/s41592-023-02149-7).
2. S. Wimmi, A. Balinovic, C. Brianceau, K. Pintor, J. Vielhauer, B. Turkowyd, C. Helbig, M. Fleck, K. Langenfeld, J. Kahnt, T. Glatter, **U. Endesfelder\***, A. Diepold\* “Cytosolic sorting platform complexes shuttle type III secretion system effectors to the injectisome in *Yersinia enterocolitica*” *Nat. Microbiol.* **2024**, 9, 185–199. DOI: [10.1038/s41564-023-01545-1](https://doi.org/10.1038/s41564-023-01545-1).
3. I. Vojnovic, O.D. Caspari, M.A. Hoşkan, **U. Endesfelder\*** “Combining single-molecule and expansion microscopy in fission yeast to visualize protein structures at the nanostructural level” *Open Biol.* **2024**, 14, 230414. DOI: [10.1098/rsob.230414](https://doi.org/10.1098/rsob.230414).
4. D. Virant, I. Vojnovic, J. Winkelmeier, M. Endesfelder, B. Turkowyd, D. Lando, **U. Endesfelder\*** “Unraveling the kinetochore nanostructure in *Schizosaccharomyces pombe* using multi-color SMLM imaging” *J. Cell. Biol.* **2023**, 222, e202209096. DOI: [10.1083/jcb.202209096](https://doi.org/10.1083/jcb.202209096).
5. K.J.A. Martens, B. Turkowyd, **U. Endesfelder\*** “Raw data to results: a hands-on introduction and overview of computational analysis for single-molecule localization microscopy” *Front. Bioinform.* **2022**, 1, 817254. DOI: [10.3389/fbinf.2021.817254](https://doi.org/10.3389/fbinf.2021.817254).
6. S. Wimmi, A. Balinovic, H. Jeckel, L. Selinger, D. Lampaki, E. Eisemann, I. Meuskens, D. Linke, K. Drescher, **U. Endesfelder**, A. Diepold\* “Dynamic relocalization of the cytosolic type III secretion system components ensures specific protein secretion” *Nat. Commun.* **2021**, 12, 1625. DOI: [10.1038/s41467-021-21863-4](https://doi.org/10.1038/s41467-021-21863-4).

7. B. Turkowyd, S. Schreiber, J. Wörtz, E. Shtifman Segal, M. Mevarech, I.G. Duggin, A. Marchfelder\*, **U. Endesfelder\*** “Establishing live-cell single-molecule localization microscopy imaging and single-particle tracking in the archaeon *Haloferax volcanii*” *Front. Microbiol.* **2020**, 11, 583010. DOI: [10.3389/fmicb.2020.583010](https://doi.org/10.3389/fmicb.2020.583010).
8. A. Balinovic, D. Albrecht, **U. Endesfelder\*** “Spectrally red-shifted fluorescent fiducial markers for optimal drift correction in localization microscopy” *J. Phys. D: Appl. Phys.* **2019**, 52, 204002. DOI: [10.1088/1361-6463/ab0862](https://doi.org/10.1088/1361-6463/ab0862).
9. D. Virant, B. Traenkle, J. Maier, P.D. Kaiser, M. Bodenhöfer, C. Schmees, I. Vojnovic, B. Pisak-Lukáts, **U. Endesfelder\***, U. Rothbauer\* “A peptide tag-specific nanobody enables high-quality labeling for dSTORM imaging” *Nat. Commun.* **2018**, 9, 930. DOI: [10.1038/s41467-018-03191-2](https://doi.org/10.1038/s41467-018-03191-2).
10. D. Virant, B. Turkowyd, A. Balinovic, **U. Endesfelder\*** “Combining primed photoconversion and UV photoactivation for aberration-free, live-cell compliant multi-color single-molecule localization microscopy imaging” *Int. J. Mol. Sci.* **2017**, 18, 1524. DOI: [10.3390/ijms18071524](https://doi.org/10.3390/ijms18071524).

## Category B

### Publications

1. **U. Endesfelder\*** “From single bacterial cell imaging towards *in vivo* single-molecule biochemistry studies” *Essays Biochem.* **2019**, 63, 187–196. DOI: [10.1042/EBC20190002](https://doi.org/10.1042/EBC20190002).
2. I. Vojnovic, J. Winkelmeier, **U. Endesfelder\*** “Visualizing the inner life of microbes: practices of multi-color single-molecule localization microscopy in microbiology” *Biochem. Soc. Trans.* **2019**, 47, 1041–1065. DOI: [10.1042/BST20180399](https://doi.org/10.1042/BST20180399).
3. B. Turkowyd, H. Müller-Esparza, V. Climenti, N. Steube, **U. Endesfelder\***, L. Randau\* “Live-cell single-particle tracking photoactivated localization microscopy of Cascade-mediated DNA surveillance” *Meth. Enzymol.* **2019**, 616, 133–171. DOI: [10.1016/bs.mie.2018.11.001](https://doi.org/10.1016/bs.mie.2018.11.001).
4. B. Turkowyd, D. Virant, **U. Endesfelder\*** “From single molecules to life: microscopy at the nanoscale” *Anal. Bioanal. Chem.* **2016**, 408, 6885–6911. DOI: [10.1007/s00216-016-9781-8](https://doi.org/10.1007/s00216-016-9781-8).

### Science Policy

1. M. Dresler\*, E. Buddeberg, **U. Endesfelder**, J. Haaker, C. Hof, R. Kretschmer, D. Pflüger, F. Schmidt\* “Effective or predatory funding? Evaluating the hidden costs of grant applications” *Immunol. Cell Biol.* **2023**, 101, 104–111. DOI: [10.1111/imcb.12592](https://doi.org/10.1111/imcb.12592).
2. M. Dresler\*, E. Buddeberg, **U. Endesfelder**, J. Haaker, C. Hof, R. Kretschmer, D. Pflüger, F. Schmidt “Why many funding schemes harm rather than support research” *Nat. Hum. Behav.* **2022**, 6, 607–608. DOI: [10.1038/s41562-021-01286-3](https://doi.org/10.1038/s41562-021-01286-3).
3. **U. Endesfelder\***, D. Pflüger, T. de Wolff, “#StopPandemicBias: scientists, share your privilege” *Nature* **2020**, 583, 683. DOI: [10.1038/d41586-020-02234-3](https://doi.org/10.1038/d41586-020-02234-3).

4. J. Specht, C. Hof, J. Tjus, W. Pernice, **U. Endesfelder** „Departments statt Lehrstühle: Moderne Personalstruktur für eine zukunftsfähige Wissenschaft“ *Die Junge Akademie* **2017**. ISBN [978-3-00-057956-1](#).  
[English Version](#): “Replacing professorial chairs with departments: a modern HR structure for a sustainable higher education system”.
5. J. Specht, **U. Endesfelder**, T. Erb, C. Hof, W. Pernice „Die Bundesprofessur: eine personenbezogene, langfristige Förderung im deutschen Wissenschaftssystem: Debattenbeitrag der AG Wissenschaftspolitik der Jungen Akademie“ *Die Junge Akademie* **2016**. ISBN: [978-3-00-053002-9](#).