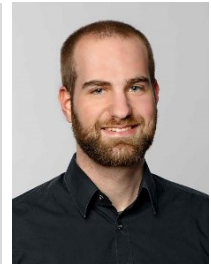


Curriculum Vitae

Jan Mathony

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Education and professional experience

- 2023-present **Postdoc and Group leader** in the department of Professor Dominik Niopek at IPMB, Heidelberg University. My group focuses on the engineering of temperature-responsive proteins and materials.
- 2019-2023 **Ph.D. (*summa cum laude*)** at Technical University Darmstadt on “Engineering of switchable proteins by domain insertion”.
- 2019 **Master’s Thesis** at the Synthetic Biology group at the BioQuant center, Heidelberg University
- Topic: Engineering anti-CRISPR proteins through domain insertion
- 2018 Research internship: **Chowdhury lab, Dana-Farber Cancer Institute / Harvard Medical School**
- Topic: Implementation of a Cas13a knockdown system and investigation of the role of lncRNAs in the context of DNA double-strand break repair.
- 2018 Research internship: **Kaessmann lab, ZMBH, Heidelberg University**
- Topic: Single-Cell RNA Sequencing of Mouse and Human Liver Tissues for the cross-species comparison of cell types.
- 2016 - 2019 **Master studies** in “Molecular Biosciences” at the Heidelberg University.
- Major of molecular and cellular biology
- 2016 **Bachelor’s Thesis** at the Institute of developmental Genetics, Helmholtz Center Munich
- Topic: Optimization of Homologous Recombination via CRISPR/Cas9 in Mammalian Cells
- 2013 - 2016 **B.Sc. Biology** at the Technical University Munich, Germany
- 2013 **Abitur (A level)** at the Rudolf-Steiner-Schule, München Daglfing

Scholarships and Awards

06.2023	Selected participant of the 72nd Lindau Nobel Laureate Meeting on Physiology and Medicine.
05.2023	DFG-Grant for a project focusing the development of temperature-responsive biofilms.
2020-2023	Doctoral scholarship of the German National Academic Foundation.
2020	Master Thesis award of the Junior German Society for Biochemistry and Molecular Biology.
2014-2019	Full scholarship of the German National Academic Foundation.
2017	Second Runner Up, Best Foundational Advance Project , Best Poster, Best Presentation, Best Wiki, Best Integrated Human Practices, Best Software Tool at the iGEM competition for synthetic biology.
2015-2016	Member of the "TUM: Young Academy" at the Technical University Munich. Scholarship program for talented and dedicated students.
2011	Participation at the European Talent Academy of the Fraunhofer Gesellschaft.

Key Publications

Mathony J*, Hartevelde Z*, Schmela C*, ..., Correia BE, Niopek D. **Computational design of anti-CRISPR proteins with improved inhibition potency.** *Nature Chemical Biology* 2020 Jul;16(7):725-730.

Mathony J#, Aschenbrenner S, Becker P, Niopek D. **Dissecting the Determinants of Domain Insertion Tolerance and Allosteric in Proteins.** *Advanced Science*, 2023, 2303496.

Hoffmann MD*, Mathony J*, ..., Niopek D. **Optogenetic control of *Neisseria meningitidis* Cas9 genome editing using an engineered, light-switchable anti-CRISPR protein.** *Nucleic Acids Research*, 2021 Mar 18;49(5):e29.

Muench P, Fiumara M, ..., Mathony J#. **A modular toolbox for the optogenetic deactivation of transcription.** *bioRxiv*, 2023, <https://doi.org/10.1101/2023.11.06.565805>

Mathony J, Niopek D. **Enlightening Allostery: Designing Switchable Proteins by Photoreceptor Fusion.** *Advanced Biology*, 2021 May;5(5):e2000181.

* equal contribution

corresponding author

Other Publications

Upmeier zu Belzen J, Bürgel T, ..., Mathony J, ..., Eils R. **Leveraging implicit knowledge in neural networks for functional dissection and engineering of proteins.** *Nature Machine Intelligence*, 2019, 1, 225–235.

Mathony J, Hoffmann MD, Niopek D. **Optogenetics and CRISPR: A New Relationship Built to Last.** *Methods in Molecular Biology*, 2020, 2173, 261–281.

Adam L, Stanifer M, Springer F, Mathony J, ..., Kallenberger S. **Transcriptomics-inferred dynamics of SARS-CoV-2 interactions with host epithelial cells.** *Science Signaling*, 2023, 16, eabl8266.

Stadelmann T, Heid D, Jendrusch M, Mathony J, Rosset S, Correia BE, Niopek D
A deep mutational scanning platform to characterize the fitness landscape of anti-CRISPR proteins. *bioRxiv*, 2021, doi: <https://doi.org/10.1101/2021.08.21.457204>

Mathony J, Niopek D. **Domäneninsertion: Untersuchung zur Konstruktion schaltbarer Hybridproteine.** *BIOspektrum*, 2023, 29, 595–598