

Prof. Dr. Chase Beisel

Department Head

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Education

- 2009 PhD, Chemical Engineering, California Institute of Technology, Pasadena, CA, USA
2004 BSc, Chemical Engineering, Iowa State University, Ames, IA, USA

Positions

- 2021 - present Full Professor (W3), Faculty of Medicine, University of Würzburg, Germany
2021 - present Department Head, Helmholtz Institute for RNA-based Infection Research (HIRI), Würzburg, Germany
2019 - present Scientific Advisory Board Member, Benson Hill, St. Louis, MO, USA
2018 - present Director, HIRI Graduate Program "RNA & Infection"
2018 - 2021 Group Leader, Helmholtz Institute for RNA-based Infection Research (HIRI), Würzburg, Germany
2018 - 2021 Professor (W2), Faculty of Medicine, University of Würzburg, Germany
2017 - 2018 Associate Professor, Department of Chemical and Biomolecular Engineering, North Carolina State University (NCSU), Raleigh, NC, USA
2015 - present Co-founder and Scientific Advisory Board Member, Locus Biosciences, Morrisville, NC, USA
2011 - 2017 Assistant Professor, Dept. of Chemical and Biomolecular Engineering, NCSU, Raleigh, NC, USA

Committee Work

- 2023 Co-organizer, CRISPR Conference, Würzburg, Germany
2022 Instructor, Cold Spring Harbor Laboratory Synthetic Biology Summer School, NY, USA
2020 Deputy Speaker, Topic 1, Helmholtz Centre for Infection Research, Braunschweig, Germany
2019 Organizer, International Conference on CRISPR Technologies, Würzburg, Germany

Awards & Honors

ERC Proof of Concept Grant (2024), Pettenkofer Prize (2022), Falling Walls Science Breakthrough of the Year (2021), Medical Valley Award (2020), ERC Consolidator Grant (2020), AIChE Program Development Service Award (2018), D.I.C. Wang Young Investigator Award (2018), Camille Dreyfus Teacher-Scholar Award (2017), Bay Area Lyme Foundation Emerging Leader Award (2016), Sigma Xi Faculty Research Award (2016), NCSU Faculty Scholar (2015 - 2016), NSF CAREER Award (2015)

Selected Publications

- Dmytrenko O, Neumann GC, Hallmark T, Keiser DJ, Crowley VM, Vialto E, Mougias I, Wandera KG, Domgaard H, Weber J, Gaudin T, Metcalf J, Gray BN, Begemann MB#, Jackson RN#, **Beisel CL#** (2023)
Cas12a2 elicits abortive infection through RNA-triggered destruction of dsDNA
Nature 613(7944):588-594
- Jiao C, Reckstadt C, König F, Homberger C, Yu J, Vogel J, Westermann AJ, Sharma CM, **Beisel CL** (2023)
RNA recording in single bacterial cells using reprogrammed tracrRNAs
Nature Biotechnology 41(8):1107-1116
- Wimmer F*, Mougias I*, Englert F, **Beisel CL** (2022)
Rapid cell-free characterization of multi-subunit CRISPR effectors and transposons
Molecular Cell 82(6):1210-1224.e6
- Liao C, Sharma S*, Svensson SL*, Kibe A*, Weinberg Z*, Alkhnbashi OS, Bischler T, Backofen R, Caliskan N, Sharma CM, **Beisel CL** (2022)
Spacer prioritization in CRISPR-Cas9 immunity is enabled by the leader RNA
Nature Microbiology 7(4):530-541
- Jiao C, Sharma S*, Dugar G*, Peeck NL, Bischler T, Wimmer F, Yu Y, Barquist L, Schoen C, Kurzai O, Sharma CM#, **Beisel CL#** (2021)
Noncanonical crRNAs derived from host transcripts enable multiplexable RNA detection by Cas9
Science 372(6545):941-948