

Prof. Julia Frunzke

Affiliated with the Institute of Bio- and Geosciences, IBG-1: Biotechnology
Helmholtz Young Investigator Group: Population heterogeneity in
industrial microorganisms



„From the very beginning of my scientific career, I was fascinated by the metabolic power of microbes.“

Research project:

Research of our Helmholtz Young Investigator group is driven by the well-known phenomenon that even clonal populations of microorganisms may exhibit significant cell-to-cell variation with respect to various traits. In industrial bioprocesses the formation of

inefficient subpopulations may have a severe impact on product formation. Besides the industrial relevance, an understanding of the underlying molecular mechanisms contributing to the development of phenotypic heterogeneity is of high interest

for a systems level understanding of microbial populations and communities. Using flow cytometry and live cell imaging, we are studying single cell dynamics of microbial stress responses and metabolite production at spatiotemporal resolution.

What is/has been the greatest challenge as head of a young investigators group:

Juggling a scientific career and a family is an everyday challenge.

Start of funding period:	January 2011
End of funding period:	December 2016
Budget:	€ 250.000 / year
Staff:	4 PhD students, 1 Postdoc, 1 Technician
University affiliation:	Heinrich-Heine-Universität Düsseldorf
Prices and awards:	2008 DSM Science & Technology Award, 2008 EMBO Long-Term Fellowship, 2009 Jülicher Exzellenzpreis
Selected Cooperations:	LMU Munich, University of Stuttgart, CeBiTec Bielefeld, University of Birmingham

Further information:

[Young Investigator Group Prof. Frunzke](#)