

Dr. Dörte Rother

Affiliated with IBG-1: Biotechnology

Helmholtz Young Investigator Group: Synthetic enzyme cascades



„It is very exciting to work in an interdisciplinary field of (bio)chemists, biologists and engineers to develop economically and ecologically relevant cascades for the future. Further, I try my best to prepare my coworkers for their careers.“

Research project:

Aim of my young investigators group is the development of value generating processes using synthetic enzyme cascades. Starting from cheap material, highly priced products finding application as building blocks for pharmaceuticals are gained with high purity. We built up enzyme toolboxes to flexibly combine the

catalysts to access a broad platform of products. Beside multi-step syntheses with purified enzymes, also the potential of whole cell biotransformations in buffered systems as well as in unconventional media like micro-aqueous reaction systems (having many advantages e.g. the access to high product

concentrations and low production costs) are evaluated. Combining enzyme-, reaction- and process optimisation we want to develop economically and ecologically efficient enzyme cascades providing a potent alternative to classical synthesis strategies.

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

the organisational effort when I have important meetings/presentations and one of my three little kids gets ill

Start of funding period:

January 2012

End of funding period:

December 2017

Budget:

about 500.000 € per year including additional third-party funding

Staff:

3 Phds, 2 Postdocs, 2 technicians, varying number of students

University affiliation:

Jun.-Prof. RWTH Aachen University starting in January 2015

Prices and awards:

e.g. Jülicher Exzellenzpreis 2010, BIOSC supervision award 2014

Selected cooperations:

national: universities of Aachen, Freiburg, Stuttgart, Leipzig;
 international: universities of London, York, Graz, Copenhagen, Stockholm; industrial partners: Herbrand Pharma Chemicals GmbH, Enzymicals

Further information:

[Young Investigator Group Dr. Rother](#)