

list of publications, patents & press releases

selected press releases & videos

Bioeconomy Blog. Im Takt der Temperatur: das Enzym Orchester

<https://blogs.fz-juelich.de/biooekonomie/2020/11/16/im-takt-der-temperatur-das-enzym-orchester/>

+ Falling Walls Rheinland participation by Dr. Eduardo Marcedo de Melo



Mit Biotech die Welt retten. Geht das?

Online-Wissensmagazin zur Bio-Innovation für nachhaltige Zukünfte

Konzept: Futurium | Produktion: Februar Film | Moderation: Barbara Scherle

Folge 1: Mit Biotech die Welt retten. Geht das? | Faktencheck

Mit: Anneli Rodriguez (Produktdesignerin bei „Onno Bruu“), Daniela Thrän (Helmholtz-Zentrum für Umweltforschung), Dörte Rother (Forschungszentrum Jülich) und Siegfried Behrendt (Institut für Zukunftsstudien und Technologiebewertung)

<https://www.youtube.com/playlist?list=PL1IO4YK4FC3htOp1L77nqKF6sjdNkUk03>

<https://www.facebook.com/futuriumD/videos/786937728749330/>

Video "MyScience", RWTH Aachen University: Prof. Dörte Rother

<https://www.youtube.com/watch?v=Nil-j8a218w>

DECHEMA Price 2019. Press release of DECHEMA:

https://dechema.de/Presse/Pressemitteilungen/1_2019+DECHEMA_Preis+Rother-p-20113665.html

Author Interview Newsletter (26.03.2019):

<https://dechema.wordpress.com/2019/03/26/wettbewerbsfahige-enzymkaskaden/>

Die Meisterin der Enzyme. Portrait in: **Helmholtz Perspektiven**- Das Forschungsmagazin der Helmholtz-Gemeinschaft. 01/2019: 40-42

10 Köpfe für unsere Zukunft – Nachwuchsforscher aus NRW. **Bild online**. 18.10.2017. <http://www.bild.de/regional/ruhrgebiet/forschung/10-koepfe-fuer-unsere-zukunft-53561054.bild.html>

Publications in peer-reviewed journals

Spöring J-D, Graf von Westarp W, Kipp C R, Jupke A, Rother D. **2022**. Enzymatic Cascade in a Simultaneous, One-Pot Approach with *In Situ* Product Separation for the Asymmetric Production of (4S,5S)-Octanediol. Org. Process Res. Dev. DOI: 10.1021/acs.oprd.1c00433

Gerlach T, Schain J, Sötl S, van Schie M M C H, Hilgers F, Bitzenhofer N L, Drepper T, Rother D. **2022**. Photo-regulation of Enzyme Activity: The Inactivation of a Carboligase with Genetically Encoded Photosensitizer Fusion Tags, Frontiers Catal. <https://doi.org/10.3389/fctls.2022.835919>

- Doeker M, Grabowski L, Rother D, Jupke A. **2022**. *In situ* reactive extraction with oleic acid for process intensification in amine transaminase catalyzed reactions. *Green Chem.* 24 (1): 295-304
- Oeggel R, Glaser J, von Lieres E, Rother D. **2021**. Continuous enzymatic stirred tank reactor cascade with unconventional medium yielding high concentrations of (*S*)-2-hydroxyphenyl propanone and its derivatives. *Catal. Sci. Technol.* 11: 7886 - 7897
- Siedentop R, Claaßen C, Rother D, Lütz S, Rosenthal K. **2021**. Getting the Most Out of Enzyme Cascades: Strategies to Optimize *In Vitro* Multi-Enzymatic Reactions. *Catalysts*. 11 (10): 1183
- Kappauf K, Majstorovic N, Agarwal S, Rother D, Claaßen C. **2021**. Modulation of Transaminase Activity by Encapsulation in Temperature-Sensitive Poly (N-acryloyl glycineamide) Hydrogels. *ChemBioChem* 12 (4): 1190
- Gerlach T, Nugroho D L, Rother D. **2021**. The effect of visible light on the catalytic activity of PLP-dependent enzymes. *ChemCatChem* 13: 2398-2406
- Mack K, Doeker M, Grabowski L, Jupke A, Rother D. **2021**. Extractive *in-situ* product removal for the application of naturally produced L-alanine as amine donor in enzymatic metaraminol production. *Green Chem.* 23: 4892-4901
- Weber D, Patsch D, Neumann A, Winkler M, Rother D. **2021**. Production of the carboxylate reductase from *Nocardia otitidiscaviarum* in a soluble, active form for *in vitro* applications. *ChemBioChem* 22, 1823
- Malzacher S, Rother D. **2021**. Computer-aided enzymatic retrosynthesis. *News&Views article. Nature Catal.* 4.2: 92-93
- Van Schie M M C H., Spöring J-D, Bocla M, Domínguez de María P, Rother D. **2021**. Applied biocatalysis beyond just buffers – from aqueous to unconventional media. Options and guidelines. *Green Chem.* 23: 3191-3206
- Claaßen C, Mack K, Rother D. **2020**. Benchtop NMR for online reaction monitoring of the biocatalytic synthesis of aromatic amino alcohols. *ChemCatChem*. 12(4): 1190-119
- Contente M L, Dall'Oglio F, Annunziata F, Molinari F, Rabuffetti M, Romano D, Tamborini L, Rother D, Pinto A. **2020**. Stereoselective reduction of prochiral cyclic 1,3-diketones using different biocatalysts. *Catalysis Letters* 150 (4): 1176-1185
- Erdmann V, Sehl T, Frindi-Wosch I, Simon R C, Kroutil W, Rother D. **2019**. Methoxamine Synthesis in a Biocatalytic 1-Pot 2 Step Cascade Approach. *ACS Catal.* 9 (8): 7380-7388
- Claaßen C, Gerlach T, Rother D. **2019**. Stimulus-Responsive Regulation of Enzyme Activity for One-Step and Multi-Step Syntheses. *Adv. Synth. Catal.* 361(11): 2387–2401
- Kulig J, Sehl T, Mackfeld U, Wiechert W, Pohl M, Rother D. **2019**. An Enzymatic 2-Step Cofactor and Co-Product Recycling Cascade towards a Chiral 1,2-Diol. Part I: Cascade Design. *Adv. Synth. Catal.* 361(11): 2607-2615
- Oeggel R, Neumann T, Gätgens J, Romano D, Noack S, Rother D. **2018**. Citrate as Cost-efficient NADPH regenerating agent. *Front. Bioeng. Biotechnol.* 6 (196)
- Oeggel R, Maßmann T, Jupke A, Rother D. **2018**. Four Atom Efficient Enzyme Cascades for All 4-Methoxyphenyl-1,2-propanediol Isomers Including Product Crystallization Targeting High Product Concentrations and Excellent *E*-Factors. *ACS Sustainable Chem. Eng.* 6 (9): 11819–11826
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patents

Sehl T, Baraibar A G, Pohl M, Rother D. Verfahren zur Herstellung von Cathin.

PCT/EP patent 3008198, patent granted: 10.05.2017

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US-patent 10,465,211, patent granted: 05.11.2019

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García Ovejero J, Marmenia I, Veintemillas Verdaguer s, Martínez de la Fuente J, Morelase Herrero M P, Grazú Bonavia M V, Guisán Sejas J M, López Gallego F, Nidetzky B, Rother D, Cassinelli N, Bernadini G B. Nanoparticles for the control of one-spot multi-enzyme reactions.

File No priority declaration: EP21382585, patent filed: 01.07.2021