

## CDS RESEARCH CENTER DYNAMIC SYSTEMS SYSTEMS ENGINEERING

### Funding

Important research projects that are and were funded by the German Research Foundation, the Federal Ministry of Education and Research, the Federal Ministry of Economics and Climate Protection, and the European Union:

› **DFG - Deutsche Forschungsgemeinschaft**



Acronym	Name	Logo
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Multistep Catalytic Production Systems for Fine Chemistry by Integrated Molecular, Material and Process Design  
5 Subprojects in Magdeburg

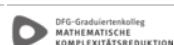
› **FOR 5538**

› To the press release of the Otto-von-Guericke-University

([https://www.ovgu.de/Presse+\\_+Medien/Pressemitteilungen/PM+2023/August/PM+77\\_2023-p-134678.html](https://www.ovgu.de/Presse+_+Medien/Pressemitteilungen/PM+2023/August/PM+77_2023-p-134678.html))  
(From 07.08.2023)

› **GRK 2297**

Mathematical complexity reduction



› **GRK 2408**

Maladaptive processes at physiological interfaces in chronic diseases



› **MaRDI**

Making optimal use of mathematical research data



› **NFDI4Cat**

Shaping the digital future of catalysis



› **SFB/  
TRR 287**

(<https://bulk-reaction.de/>)

BULK-REACTION - Gas flow, moving debris with chemical reaction

Information about the current status (25.05.2022) on the › official site of the Otto von Guericke University Magdeburg  
([https://www.ovgu.de/Universit%C3%A4t/Zusammen+die+Welt+neu+denken/Neuigkeiten/PM+29\\_2022-p-121070.html](https://www.ovgu.de/Universit%C3%A4t/Zusammen+die+Welt+neu+denken/Neuigkeiten/PM+29_2022-p-121070.html))



› **SPP 2080**

Catalysts and reactors under dynamic operating conditions for energy storage and conversion: 2 Magdeburger Subprojects



› **SPP 2331**

"Machine Learning in Process Engineering": 5 Magdeburg Subprojects



› **SPP 2364**

Autonomous processes of particle technology: 5 Magdeburger Subprojects



## Completed

Acronym	Name	Logo
<b>GRK 1167</b>	Cell-cell communication in the immune and nervous systems: topological organization of signaling pathways.	
<b>SPP 1679</b>	8 Magdeburg subprojects Dynamic Simulation of Crosslinked Solid Processes	
<b>SFB 854</b>	Molecular organization of cellular communication in the immune system.	
<b>SFB/TRR 63</b>	Integrated chemical processes in liquid multiphase systems	

### › BMBF - Bundesministerium für Bildung und Forschung



Acronym	Name	Logo
› deNBI	Big Data Exploitation in Life Science	
› H2Mare	Offshore generation of green hydrogen and other power-to-X products	
› Mikrobielle Biofabriken: 'ZIP'	Development of Zymomonas mobilis into an industrial platform microorganism for products beyond ethanol.	

## Completed

Acronym	Name	Logo
<b>Biotechnologie 2020+</b>	Analysis and design of bacterial enzyme cascades for material recycling of CO2	
<b>Biotech 2020 + 'CORENZ'</b>	Cofactor regeneration in cell-free enzyme systems	
	Cyanosys - Systems biology of cyanobacterial biofuel production	
	InTraSig - Development of a personalized anti-inflammatory therapy to inhibit interleukin-6 trans-signaling	

	NoPain - The Nociceptor Pain Model	
e:Bio	SulfoSys - Applied Sulfolobus System Biology: Exploitation of the "hot" archeal metabolic potential for biotechnology	
	Joint project: CellSys - Systems biology approach for the development of a production cell line for influenza vaccines	
	Collaborative project: JAK-Sys - Elucidation of dysbalanced signal transduction by JAK2-V617F in myeloproliferative neoplasms using qualitative and quantitative modeling approaches	
	Virosys - Dissecting the innate immune response to viral infection	
FORSYS - MaCS	One of the four national research centers for systems biology	
GERONTOSYS2	Funding module: Systems biology for health in old age	
HEPATOSYS	National competence network for research into the systems biology of liver cells.	 HepatoSys
MaxSynBio	Max Planck Research Network in Synthetic Biology	
MEDSYS	Funding Module: Medical Systems Biology	
Modexa	Model-Based Methods for the Optimal Design of Stimulus Experiments and Dynamic Analysis of Signal Transduction Processes	
MSC	Systems Biology for Tissue Engineering of Mesenchymal Stem Cells: Integrating Novel Experimental Methods and Mathematical Models	
P2Chem	New mixed-integer optimization methods for efficient synthesis and flexible management of power-to-chemicals processes	
ROBUTYEAST	Optimization of metabolic regulation in yeast production strains for dynamic conditions	
SYSMO	Transnational competence network for research into the systems biology of microorganisms	
SYSTEC	Funding Module: Using and shaping new methods in systems biology	
Virtuelle Leber	National competence network for research into the systems biology of liver cells	
› BMWK - Bundesministerium für Wirtschaft und Klimaschutz		
Acronym	Name	Logo
› KI_embedded		
( <a href="https://www.offis.de/offis/projekt/ki-embedded.html">https://www.offis.de/offis/projekt/ki-embedded.html</a> )	AI basic development for embedded systems with leading applications in virtual sensor technology and fuel cell control	
› EU - Europäische Union		
Acronym	Name	Logo
ERC-2022-POC		

> **TRANSMETECH** Translating a new metabolic engineering strategy to industrial biotech applications  
(<https://cordis.europa.eu/project/id/101105488>)  
To the official press release of the Max-Planck-Institute Magdeburg (From  
30.01.2023)



European Research Council  
Established by the European Commission

## Completed

Acronym	Name	Logo
<b>ADONET</b>	Marie Curie Research Training Network	
<b>CELLCHECK</b>	Marie Curie Research Training Network	
<b>ERC Grant Modest</b>	Mathematical Optimization for Clinical Decision Support and Training	
<b>ERC Grant StrainBooster</b>	Enforced ATP Wasting as a General Design Principle to Rationally Engineer Microbial Cell Factories	
<b>ROBUTYEAST</b>	Optimizing metabolic regulation in yeast production strains for dynamic conditions	
<b>T-CELL</b>	EU-Project SYBILLA	

## CDS Speaker

**Otto von Guericke University Magdeburg**  
Faculty of Electrical Engineering and Information  
Technology (FEIT)  
Universitätsplatz 2  
39106 Magdeburg  
Prof. Dr.-Ing. Achim Kienle  
G07-101  
Tel.: +49 391 67-58523  
[achim.kienle@ovgu.de](mailto:achim.kienle@ovgu.de)  
> Prof. Dr.-Ing. Achim Kienle

**Medical Faculty/University Hospital A.ö.R.  
(FME/UKMD)**  
Institute for Experimental Internal Medicine (IEIM)  
Leipziger Str. 44  
39120 Magdeburg  
Prof. Dr. rer. nat. Michael Naumann  
H5-316

Tel.: +49 391 67-13227

 naumann@med.ovgu.de

› Prof. Dr. rer. nat. Michael Naumann

**Max Planck Institute for Dynamics of Complex  
Technical Systems**

Process Systems Engineering

Sandtorstr. 1

39106 Magdeburg

Prof. Dr.-Ing. Kai Sundmacher

N.309

Tel.: +49 391 6110-351

 sundmacher@mpi-magdeburg.mpg.de

› Prof. Dr.-Ing. Kai Sundmacher