

APPLICATION AND CONTACT

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REGISTRATION

Registration fees are supported by the DAAD. Limited places available. For registration write an email to:

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UNIVERSIDAD DE ANTIOQUIA
1803

FACULTAD DE INGENIERÍA
Departamento de Ingeniería Química

DAAD Deutscher Akademischer Austausch Dienst
German Academic Exchange Service



Fachgebiet
Dynamik und Betrieb technischer Anlagen

d|b|t|a



Unifying Concepts in Catalysis



WORKSHOP ON MOSAIC

<http://www.mosaic-modeling.de/>

NOVEMBER 6th-8th

UNIVERSIDAD DE ANTIOQUIA



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Wednesday		Thursday		Friday	
09:00-10:00	Systematic Modeling of Chemical Processes	09:00-10:00	Introduction to Dynamic process Modeling	9:00-9:30	Short introduction to parameter identification of thermodynamic models
10:15-11:45	Documentation based Modeling of Chemical Processes towards Process Simulation and Optimization	10:15-11:45	Expanding the steady state system towards the dynamic case (GL-CSTR)	9:45-11:00	Identifying binary parameters for the Wilson activity coefficient model
11:45-12:45	Free time	11:45-12:45	Free time	11:15-12:00	Introduction to dynamic optimization
12:45-13:45	Hands on MOSAIC • Entering simple algebraic and dynamic systems in MOSAIC and simulation • Code generation • Simulation using numerical libraries and MATLAB	12:45-13:45	Dynamic Simulation (numerical libraries, Aspen Custom Modeler/MATLAB)	12:00-13:00	Free time
14:00-14:15	Modular reuse of available model elements.	14:00-14:15	A short Introduction to Process Optimization	13:00-17:00	Dynamic optimization of batch processes.
14:15-15:30	Connection of given reaction kinetic to a steady state Gas-Liquid-CSTR	14:15-15:00	Formulation of optimization problems out of the documentation level		
15:45-17:00	Embedding MOSAIC models in Aspen Plus Flowsheets	15:15-17:00	Hands of Optimization with MOSAIC a. A basic NLP b. Solving optimization problems with the NEOS server c. Linear Programming		

- **Prof. Dr.-Ing. habil. Prof. h.c. Günter Richard Wozny**
Technische Universität Berlin
Fak. III/Institut für Prozess- und Verfahrenstechnik
Curriculum vitae: http://www.dbta.tu-berlin.de/fileadmin/a33391100/mitarbeiter/GW_Lebenslauf.pdf
- **Msc. Robert Kraus**
Technische Universität Berlin
- **Msc. Sandra Fillinger**
Technische Universität Berlin
- **Msc. Victor Alejandro Merchan**
Technische Universität Berlin

ABOUT MOSAIC

MOSAIC is a modeling environment which combines equation-based modeling, use of symbolic mathematic language, and code generation. MOSAIC works directly in the documentation level. The resulting conceptual and visual proximity to model presentations in the documentation level leads to reductions of the implementation and error checking effort. The application of a very modular modeling concept allows for a good re-usability of models and model parts. The mathematic content is entered to MOSAIC by documentary standard languages such as Latex. MOSAIC provides a code generator that can translate the generally specified models into program code for many different languages and suitable for their integration into many different numerical environments. Furthermore, MOSAIC works as software as a service allowing for centralized work, minimization of local hardware, and remuneration concepts new to process systems engineering software. With these characteristics, MOSAIC attempts to improve the modeling process in four aspects: minimizing the modeling effort, minimizing errors and effort of programming (avoid programming), minimizing the offset between coded model and documentation, and furthering cooperation between divers research groups or disciplines.