

## Thursday, Sept. 05

9:00 h – 12:30 h

**Steady-state and dynamic flowsheet simulation of interconnected solids processes (including tutorial)**

(ca. 10:30h Coffee Break)

Prof. Stefan Heinrich  
(TU Hamburg  
Harburg)

12:30 h – 14:00 h Lunch

14:00 h- 17:00 h **Excursion**

Canoe tour to the waterway crossover

ca. 18:30 h

Farewell Party in the restaurant "Waldschänke"

(supper buffet – costs included in the course fee, drinks are to be self-paid)

## Friday, Sept. 06

9:00 h – 10:30 h

**Polymers, particles and parameters – modeling and tools for chemical engineering**

10:30 h Coffee Break

11:00 h – 12:30 h

**Multiscale optimal process design: The elementary process functions methodology**

Prof. Kai Sundmacher  
(Max Planck Institute  
Magdeburg)

12:30 h

Conclusion of the 2nd Summer School (12:45h Lunch)

# Multiscale Modeling and Simulation

3<sup>rd</sup> Summer School of the IMPRS for Advanced Methods in  
Process and Systems Engineering Magdeburg

September 02–06, 2013

## Schedule

IMPRS ProEng



International Max Planck Research School for  
Advanced Methods in Process and Systems Engineering

Magdeburg



## Monday, Sept. 02

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9:00 h  
Opening of the Summer School

Prof. Udo Reichl  
(Max Planck Institute  
Magdeburg)

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9:15 h – 12:30 h

**An overview on multiscale modeling and simulation (Part I & II)**

(ca. 10:45 h Coffee Break)

Prof. Richard D. Braatz  
(MIT, USA)

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12:30h – 13:30h Lunch

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13:30 h – 17:00 h

**Multiscaling techniques in molecular reaction engineering (Part I & II)**

(ca. 15:30h Coffee Break)

Prof. Frerich Keil  
(TU Hamburg  
Harburg)

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18:30 h – 20:00 h  
Guided Tour through Magdeburg

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## Tuesday, Sept. 03

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9:00 h – 12:30 h

**Molecular modeling and simulation of fluid systems (Part I & II)**

(ca. 10:45 h Coffee Break)

Prof. Hans Hasse  
(TU Kaiserslautern)

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12:30 h – 13:30 h Lunch

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14:00 h – 15:30 h

**Biomolecular simulations – change over from molecular dynamics to continuum mechanics**

Dr. Frauke Gräter  
(Klaus Tschira Labs)

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15:30 h Coffee Break

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16:00 h – 17:30 h

**Biomolecular simulations – change over from molecular dynamics to continuum mechanics (Tutorial)**

Dr. Frauke Gräter  
(Klaus Tschira Labs)

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18:30 h Supper at "Prague Ale House" ("Prager Bierstuben" - Czech Restaurant)  
(to be self-paid)

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## Wednesday, Sept. 04

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9:00 h – 10:30 h

**Multiscale modeling in fluid mechanics**

Dr. Tobias Kempe  
(TU Dresden)

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10:30 h Coffee Break

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11:00 h – 12:30 h

**Multiscale simulations of multiphase systems with moment methods**

Prof. Daniele L. Marchisio (Politecnico di Torino, Italy)

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12:30 h – 14:00 h Lunch

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14:00 h – 15:30 h

**Multiscale simulations of multiphase systems with moment methods (tutorial)**

Prof. Daniele L. Marchisio (Politecnico di Torino, Italy)

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15:30 h Coffee Break

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16:00 h – 17:30 h

**Multiscale flow problems involving direct numerical simulations – including tutorial**

Prof. Dominique Thévenin (University Magdeburg)

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ca. 18:30 h Barbecue Party at the MPI / in the MPI garden

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