

● IWR ● Im Neuenheimer Feld 205 ● 69120 Heidelberg ● Universität Heidelberg ● www.iwr.uni-heidelberg.de ●

Universität Heidelberg • IWR • Im Neuenheimer Feld 205 • D-69120 Heidelberg

**Interdisziplinäres Zentrum
für Wissenschaftliches Rechnen**

**Forschungsgruppe
Mehrphasenströmungen und Verbrennung**

Prof. Dr. Eva Gutheil

Im Neuenheimer Feld 205
69120 Heidelberg
Tel.: +49 (0)6221 54-14711
Fax: +49 (0)6221 54-14729
E-Mail: gutheil@iwr.uni-heidelberg.de

7. December 2021

Short Course: „Trends and Challenges in Pharmaceutical Bioprocess Optimization“

Organizer: E. Gutheil, N. Urbanetz
Place/Time: Interdisciplinary Center for Scientific Computing, Heidelberg University
INF 205 (Mathematikon), 5.104 (Conference Room), 20.- 21.01.2022

Thursday, 20.01.2022

- 13.15-13.20 *Welcome and Scope*
Prof. Dr. Eva Gutheil, Interdisciplinary Center for Scientific Computing, Heidelberg University, Heidelberg
- 13.20-14.00 *Biologic drug substances and the treatment of cancer*
Dr. Nora Urbanetz, Daiichi Sankyo Europe GmbH, Pfaffenhofen/Ilm
- 14.00-15.00 *Modeling and simulation of bioreactors for cell cultivation*
Prof. Dr. Eva Gutheil, Interdisciplinary Center for Scientific Computing, Heidelberg University, Heidelberg
- 15.00-15.20 Coffee break
- 15.20-16.20 *Challenges in bioreactor processes – the experimental perspective*
Dr. Rainer Gross, Daiichi Sankyo Europe GmbH, Pfaffenhofen/Ilm
- 19.00-21.00 Dinner, Old Town Heidelberg

Short Course „ Trends and Challenges in Pharmaceutical Bioprocess Optimization“, cntd.

Friday, 21.01.2022

- 9.00- 9.40 *CFD simulations of bioreactors to support scale up*
Diana Kreitmayer, Interdisciplinary Center for Scientific Computing, Heidelberg University, Heidelberg and Daiichi Sankyo Europe GmbH, Pfaffenhofen/Ilm
- 9.40-10.20 *Probabilistic modelling as a surrogate for CFD datasets*
Umut Kaya, Daiichi Sankyo Europe GmbH, Pfaffenhofen/Ilm
- 10.20-10.40 Coffee Break
- 10.40-11.40 *PIV and CFD modelling for stirring tanks with non-Newtonian fluids*
Dr. David Fernandes del Pozo, Department of Data Analysis and Mathematical Modelling of the Faculty of Bioscience Engineering of Ghent University, Ghent, Belgium
- 11.40-12.20 *Using Bayesian Optimization to speed up the search for optimal (bio)reactor parameter settings*
Prof. Dr. Jan Verwaeren, Department of Data Analysis and Mathematical Modelling of the Faculty of Bioscience Engineering of Ghent University, Ghent, Belgium
- 12.20-12.45 *Open Discussion, Perspectives and Closure*
Prof. Eva Gutheil, Interdisciplinary Center for Scientific Computing, Heidelberg University, Heidelberg
- 12.45 End of the short course

Participation is possible after registration:

Please send full name, affiliation, position and Email address to

Ellen Vogel: ellen.vogel@iwr.uni-heidelberg.de