GENERAL INFORMATION

VENUE AND ACCOMMODATION

Akademie Berlin-Schmöckwitz
Wernsdorfer Straße 43
12527 Berlin, Germany

SCHEDULE

Beginning: Monday, 19 September 2011, 1 pm

End: Friday, 23 September 2011, 1 pm

LANGUAGE

The course will be held in English.

REGISTRATION

Please complete and return the enclosed form or contact:

DECHEMA e.V.
Training dept.
P.O. Box 15 01 04
D-60061 Frankfurt am Main

Phone: +49 69 7564 253
Fax: +49 69 7564 414
Internet: http://kwi.dechema.de/qbio.html
E-mail: gruss@dechema.de

REGISTRATION FEE

PhD and other students: € 1,095,-

University: € 1,295.-

Industry: € 1,875.-

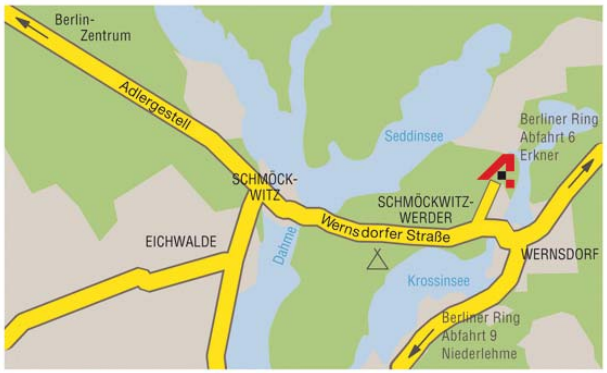
(incl. accommodation/single room, board, course materials, soft drinks and VAT)

DEADLINE

8 August 2011

TRAVEL

Berlin-Schmöckwitz is accessible by rail, car or air. Further information is given at http://www.akademie schmoeckwitz.de/Standorte.5.o.html. About three to four weeks prior to the course registered participants will receive detailed travel information.

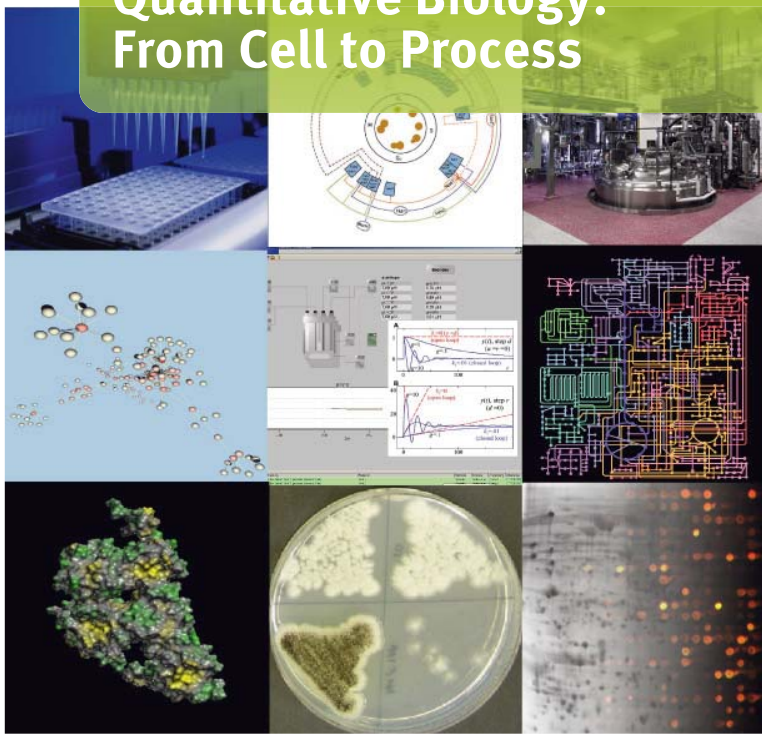


DECHEMA
Karl-Winnacker-Institut

SUMMER SCHOOL

19 - 23 September 2011
Berlin-Schmöckwitz

Quantitative Biology: From Cell to Process



QUANTITATIVE BIOLOGY: FROM CELL TO PROCESS

Modern biology and biotechnology follow the chemical, physical and engineering sciences by using quantitative mathematical models for the description of complex cellular behaviours. Concepts from molecular and systems biology, process engineering, and economy will have to be combined for the development of efficient biotechnological processes. To enable biologists, biotechnologists, and biochemical engineers to pursue this interdisciplinary challenge, it is mandatory to strengthen both the mathematical skills of biologists and the engineers' knowledge of basic biological concepts and nomenclatures.

Thus, the Young Biotechnology Researchers Network of the Society for Chemical Engineering and Biotechnology DECHEMA, consisting of young experts from Germany, devised a summer school schedule that would allow participants to familiarize themselves with relevant biological concepts, mathematical modelling strategies and appropriate (software) tools. It addresses both biologists and engineers: Along the example of renewable resource conversion, biologists will learn how engineering approaches can help them in planning, performing and evaluating experiments, whereas engineers get insight into state-of-the-art measurement techniques that feed their models.

The course consists of formal lectures, workshops and tutorials for hands-on experience with state-of-the-art tools.

The participants are encouraged to bring their laptop computers. They will be informed on the system requirements and, 4 weeks prior to the event, provided with respective software to be installed on the laptop PC.

LECTURERS

Dr.-Ing. L.M. Blank	TU Dortmund, D (LB)
Prof. Dr.-Ing. A. Drews	HTW Berlin (AD)
Dr.-Ing. P. Först	TU München, D (PF)
Dr. C. Freund	FMP, Berlin, D (CF)
Dr.-Ing. T. Heine	TU Berlin (TH)
Dr. Z. Ignatova	University Potsdam (ZI)
Dr. B. Junker	Leibniz IPK Gatersleben, D (BJ)
Prof. Dr.-Ing. V. Meyer	TU Berlin, D (VM)
Prof. Dr. E. Nevoigt	Jacobs U Bremen, D (EN)
Dr. M. Oldiges	FZ Jülich, D (MO)
Dr. A. Schmitz	Bayer Schering Pharma, D (AS)
Dr. D. Schwarzer	FMP, Berlin, D (DS)
Prof. Dr.-Ing. A.C. Spiess	RWTH Aachen, D (ASp)
Dr. B. Usadel	MPI Golm, D (BU)
Prof. Dr. W. Weber	University Freiburg, D (WW)
Dr. B. Wiltschi	University Freiburg, D (WI)

PROGRAMME

MONDAY, 19 SEPTEMBER

» Introduction (VM)
» Principles of balancing (AD)
» Renewable resources and microbial strain optimisation (EN)

TUESDAY, 20 SEPTEMBER

» Strategies of fermentation (PF, AD)
» Rheology, fluid dynamics and CFD (PF, AD)
» Non linear models and experiment design: enzyme reactions (ASp)
» Biological data and statistics (AS)

WEDNESDAY, 21 SEPTEMBER

» Model based process design and closed-loop control concepts (TH)
» Principles of metabolomics (MO, BJ)
» Flux analyses (MO, BJ)
» Stoichiometric models (LB)

THURSDAY, 22 SEPTEMBER

» Transcript analyses and causal models (BU, VM)
» Quantitative proteomics analyses (CF, DS, BU)
» Synthetic biology: from BioBricks to synthetic gene networks (WW, BW)

FRIDAY, 23 SEPTEMBER

» Stochastic and deterministic approaches to model macromolecular machines (ZI)
» Economy: process models (ASp)

SOCIAL PROGRAMME / EVENINGS

Monday and Thursday night, get-together events are planned to facilitate the networking of the participants. The other evenings offer room for familiarising yourselves with software of interest.

(subject to modifications)

Reply form
(Fax-No.: +49 69 7564-414)

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Training dept.
P.O. Box 15 01 04
D-60061 Frankfurt am Main

Registration to the DECHEMA summer school 7158 **QBio**

"Quantitative Biology: From Cell to Process" Berlin-Schmöckwitz, 19-23 September 2011

Deadline for registration: 8 August 2011

Participant

Mrs ☐ Mr ☐ Title _____

Name _____

Surname _____

Company _____

Department _____

Street/POB _____

Code/Place _____

Phone/Fax _____ E-mail _____

Invoice address

Company _____

Department _____

Street/POB _____

Code/Place _____

Industry ☐ University ☐ PhD Student * ☐
* Please attach proof.

Education: ☐ PhD ☐ Master ☐ Bachelor ☐ Other _____
Field: ☐ Chemist ☐ Biologist ☐ Engineer ☐ Other _____

I am interested in the following research fields: _____

The course fee amounts to € 1,875.- (industry), € 1,295.- (university), € 1,095.- (PhD students). Please do not transfer the fee before having received the final confirmation of participation by DECHEMA. If we receive a notice of withdrawal at least two weeks prior to the beginning of the course, the participation fee less 10% for administration expenses will be reimbursed. Thereafter, a reimbursement will not be possible.

_____ _____
Place, date signature + company stamp