

# Programme



1<sup>st</sup> European Conference  
on Process Analytics  
and Control Technology

April 22 – 25, 2008  
Frankfurt am Main/Germany  
[www.euro-pact.org](http://www.euro-pact.org)



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# INVITATION

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## ▶ INVITATION

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EUROPACT 2008 is the first pan-European Conference on Process Analytics and Control Technology. The conference covers new technologies in process analytics, the implementation of these technologies in various fields and the transformation of data into knowledge.

EUROPACT 2008 provides a meeting and discussion forum for scientists and professional users of process analytics and control technologies from academia and industry.

Eight plenary speakers address fields of common interest. The lecture programme is structured into nine oral sessions in two mostly parallel streams. Two poster sessions allow for in-depth discussions of specific items. The conference dinner on a riverboat cruise on the Main offers ample opportunity for socializing and informal discussions, stimulated by two dinner lectures.

The conference is augmented by an exhibition of instrumentation, application services and data evaluation tools.

One day of Pre-Conference Courses invites newcomers to enter the field.

The conference is hosted by DECHEMA in Frankfurt am Main, Germany. The accommodation and meeting rooms are only a short walk apart.

We look forward to meeting you in Frankfurt for stimulating discussions and exchange of experiences.

## ▶ ORGANISING GROUPS

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CPACT Centre for Process Analytics and Control Technology  
DECHEMA Society for Chemical Engineering and  
Biotechnology e.V.

GDCh German Chemical Society e.V.

KNCV Koninklijke Nederlandse Chemische Vereniging

NAMUR User Association for Automation in Process  
Industries

# EXHIBITORS

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## ▶ EXHIBITORS

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The following companies will participate in the exhibition  
(as of November 20, 2007):

acs ag, Wil/CH

AJM Consulting Ltd., Grimsby/UK

BASF Aktiengesellschaft, Ludwigshafen/D

Bruker Optik GmbH, Ettlingen/D

CAMO Software AS, Oslo/N

Carl Zeiss Microlmaging GmbH, Jena/D

Deutsche METROHM Prozessanalytik GmbH & Co. KG,  
Leinfelden-Echterdingen/D

InProcess Instruments GmbH, Bremen/D

J&M Analytische Mess- und Regeltechnik GmbH, Aalen/D

Kaiser Optical Systems, Ecully/F

Malvern Instruments GmbH, Herrenberg/D together with  
NDC Infrared Engineering Ltd.

NIR-Online GmbH, Walldorf/D

Perceptive Engineering Ltd., Cheshire/UK

PMT Partikel-Messtechnik AG, Heimsheim/D

Siemens Aktiengesellschaft, Karlsruhe/D

Solvias AG, Basel/CH

Sympatec GmbH, Clausthal-Zellerfeld/D

Systemtum GmbH, Flensburg/D

tec 5 AG Technology for Spectroscopy, Oberursel/D

Umetrics AB, Malmö/S

## SPONSORS

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### ▶ SPONSORS:

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We wish to thank the following companies for their support



We make it visible.



### ▶ MEDIA SPONSORS

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# SCIENTIFIC COMMITTEE

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## ▶ SCIENTIFIC COMMITTEE

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P.K. de Bokx, Philips Netherlands BV, Eindhoven/NL

A. Halstead, PM Project Services Ltd., Basingstoke, Hampshire/UK

W.-D. Hergeth, Wacker Chemie AG, Burghausen/D

R. Kessler, Reutlingen University/D

S. Küppers, Forschungszentrum Jülich/D

D. Littlejohn, University of Strathclyde, Glasgow/UK

J. Morris, Newcastle University/UK

L. Nick, DECHEMA e.V., Frankfurt a.M./D

S. Stieler, BIS Prozesstechnik GmbH, Frankfurt a.M./D

R. Tauler, IIQAB-CSIC, Barcelona/E

# Programme at a Glance

Tuesday, April 22

9:00 - 12:30	Pre-Conference Courses (Break 10:30-11:00, see page 11)
13:00	Lunch for course participants
13:30 - 17:00	Pre-Conference Courses (Break 15:00-15:30, see page 11)
17:00 - 21:00	Welcome Reception

Wednesday, April 23

Max-Buchner-Hörsaal

9:00	<b>Plenary Lecture: Roger S. Benson</b>	
9:45	<b>Plenary Lecture: Martin Hajduk</b>	
10:30	Coffee Break	
	Carl-Duisberg-Hörsaal	Max-Buchner-Hörsaal
	<b>Production 2020 with respect to process analysis and control</b>	<b>Monitoring and control of unit operations</b>
11:00	W. Becker	M. O'Brien
11:30	H. Foedisch	R. Luttmann
12:00	A. Schocker	F. Hourfar
12:30	R.W. Kessler	H. Mahler
13:00	Lunch Break	
14:00	Poster Session I	
	Max-Buchner-Hörsaal	
	<b>Process analysis and modelling</b>	
15:30	<b>Plenary Lecture: Wolfgang Marquardt</b>	
16:15	Á. Diez-Lázaro	
16:45	M. Krell	
17:15	Informal Mixer	
-20:00		

# Programme at a Glance

Thursday, April 24

Max-Buchner-Hörsaal

8:30	<b>Plenary Lecture: Ana de Juan Capdevila</b>	
9:15	<b>Plenary Lecture: Costas Kiparissides</b>	
10:00	Coffee Break	

Carl-Duisberg-Hörsaal

Max-Buchner-Hörsaal

	<b>Control for profit and safety</b>	<b>Making the most of your data</b>
10:30	P. Tummers	A.J. Mason
11:00	C. Lauer	P. Teppola
11:30	I. Måge	Chr.B. Zachariassen
12:00	D.M. Simko	F. Alsmeyer
12:30	S. Bichlmeier	S. Strandt
13:00	Lunch Break	
14:00	Poster Session II	

Max-Buchner-Hörsaal

15:30	<b>Plenary Lecture: E. Neil Lewis</b>	
	Max-Buchner-Hörsaal	Carl-Duisberg-Hörsaal
	<b>Chemical imaging</b>	<b>New PAT technology</b>
16:15	T. Hyvärinen	P. Teppola
16:45	H.W. Siesler	U. Panne
17:15	J. Burger	R. Parlitz
17:45	K. Rebner	S. Doerner
19:00	Bus transfer to Conference Dinner	
	Dinner Lectures during the boat trip	
	S. Festag	
	M. Nehring	

# Programme at a Glance

Friday, April 25

Max-Buchner-Hörsaal

8:30	<b>Plenary Lecture: Wim Haanstra</b>
9:15	<b>Plenary Lecture: Rafiqul Gani</b>
10:00	Coffee Break

Carl-Duisberg-Hörsaal

Max-Buchner-Hörsaal

	<b>Process performance optimisation</b>	<b>Status and development of PAT</b>
10:30	C. Didden	M. Riekehof
11:00	M. Degerman	G. Lewis
11:30	B. Nilsson	C.B. Minnich
12:00	W. Kessler	T. Hembach
12:30	J.L. Johnsen	M. Rook

Max-Buchner-Hörsaal

13:00	Best Poster Prize
-13:30	Siemens Prize
	Closing

# PLENARY SPEAKERS

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## ▶ PLENARY SPEAKERS

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### Wednesday, April 23, 2008

- R. Benson, Honorary President of CPACT/UK  
**Production 2020 – PACT contribution**
- M. Hajduk, Degussa GmbH, Hanau/D  
**Modern methods of process analytics for monitoring and control of chemical plants**
- W. Marquardt, RWTH Aachen University/D  
**Indirect hard modelling for spectroscopic calibration - methods and applications**

### Thursday, April 24, 2008

- A. de Juan Capdevila, University of Barcelona/E  
**Multivariate curve resolution for characterization of compounds and pathways in process analysis**
- C. Kiparissides, Aristotele University of Thessaloniki/GR  
**Application of multidimensional population balance equations to chemical and biochemical systems: computational methods and experimental validation**
- E.N. Lewis, Malvern Instruments, Columbia, MD/USA  
**The evolution of chemical imaging from a novel technology to a routine laboratory and process analytical tool**

### Friday, April 24, 2008

- W. Haanstra, Teijin Twaron B.V., Arnhem/NL  
**Process analysis in Twaron manufacturing**
- R. Gani, Technical University of Denmark, Lyngby/DK  
**A model-based framework for design and analysis of PAT systems**

# PRE-CONFERENCE COURSES

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## ▶ PRE-CONFERENCE COURSES

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Tuesday, April 22, 2008

### Morning Workshops 9:00-12:30

- **Multivariate analysis in spectroscopy: introduction to the UNSCRAMBLER**  
CAMO Software AS, Oslo/N
- **Multivariate data analysis, experiences from PAT implementation using the SIMCA Software**  
Umetrics AB, Umea/S
- **PAT in crystallisation process development, scale-up and production**  
J. Schöll, Mettler-Toledo AutoChem, Schwerzenbach/CH
- **Introduction to process control for chemists**  
J. Morris, Newcastle University/UK
- **Chemical imaging**  
R. Kessler, Reutlingen University/D

### Afternoon Workshops 13:30-17:00

- **Advanced multivariate data analysis: introduction to multivariate curve resolution**  
R. Tauler, IIQAB-CSIC, Barcelona/E; A. de Juan Capdevila, University of Barcelona/E
- **Design of experiments for beginners**  
W. Kessler, Steinbeis Technology Transfer Center for Process Control and Data Analysis, Reutlingen/D
- **Process RAMAN spectrometry**  
D. Littlejohn, University of Strathclyde/UK; P. Dallin, J. Andrews, Clairet Scientific, Northampton/UK
- **Mass spectrometry in process analysis**  
InProcess Instruments GmbH, Bremen/D
- **Chemometrics for beginners using PLS\_Toolbox**  
R. Bro, University of Copenhagen/DK

Detailed description of each workshop can be found on the internet at [www.euro-pact.org](http://www.euro-pact.org). Separate registration will be necessary: Extra fee EUR 100 (students EUR 50). Participation is only possible for conference ticket holders.

# SCIENTIFIC ORAL PROGRAMME

Wednesday, April 23, 2008

Room: [Max-Buchner-Hörsaal](#)

- 9:00 **Plenary Lecture**  
**Roger S. Benson**, CPACT/UK  
**Production 2020 – PACT contribution**
- 9:45 **Plenary Lecture**  
**Martin Hajduk**, Degussa GmbH, Hanau/D  
**Modern methods of process analytics for monitoring and control of chemical plants**
- 10:30 Coffee break
- Room: [Carl-Duisberg-Hörsaal](#)

## Production 2020 with respect to process analysis and control

*Chair: W.-D. Hergeth, Wacker Chemie AG, Burghausen/D*

- 11:00 **A miniaturized NIR spectrometer system for process applications**  
W. Becker, Fhl für Chemische Technologie, Pfinztal/D; H. Gröger, T. Eggloff, Fhl für Photonische Mikrosysteme, Dresden/D
- 11:30 **CEMS in industrial plants - present developments in Europe**  
H. Födisch, S. Schramm, P. Schengber, Dr. Födisch Umweltmesstechnik AG, Markranstädt/D
- 12:00 **Combination of process analytical technology and process control for optimized plant operation**  
A. Schocker, T. Kleinert, BASF Aktiengesellschaft, Ludwigshafen/D
- 12:30 **PAT as a platform for the manufacturing industry in SME**  
R.W. Kessler, Reutlingen University/D; W. Kessler, Steinbeis Technology Transfer Centre for Process Control and Data Analysis, Reutlingen/D
- 13:00 Lunch break
- 14:00 Poster Session I
- Room: [Max-Buchner-Hörsaal](#)

## Process analytics and modelling

*Chair: S. Küppers, Forschungszentrum Jülich/D*

- 15:30 **Plenary Lecture**  
**Wolfgang Marquardt**, RWTH Aachen University/D  
**Indirect hard modelling for spectroscopic calibration - methods and applications**
- 16:15 **An end-user's point of view on the development of process analytical technologies**  
Á. Diez-Lázaro, C. Ribes, The Dow Chemical Company, Terneuzen/NL; M. Dittenhafer, The Dow Chemical Company, Midland, MI/USA; J.D. Tate, The Dow Chemical Company, Freeport, TX/USA
- 16:45 **Modelling reaction kinetics by multivariate analysis: combining spectroscopy and calorimetry**  
M. Krell, J. Piermeier, N.C. Imlinger, Wacker Chemie AG, Burghausen/D
- 17:15 Informal Mixer
- 20:00 End of Wednesday

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- 9:45 **Plenary Lecture**  
**Martin Hajduk**, Degussa GmbH, Hanau/D  
**Modern methods of process analytics for monitoring and control of chemical plants**
- 10:30 Coffee break

Room: [Max-Buchner-Hörsaal](#)

## Monitoring and control of unit operations

*Chair: S. Stiel, BIS Prozesstechnik GmbH, Frankfurt am Main/D*

- 11:00 **Integrated multivariable monitoring and control**  
M. O'Brien, D. Lovett, Perceptive Engineering Ltd., Cheshire/UK
- 11:30 **Application of PAT in bioreaction processes and integrated downstream operations**  
R. Luttmann, Hamburg University of Applied Sciences/D
- 12:00 **Feedback linearization control of chemical processes, using adaptive neural network, based on semi-mechanistic and black-box modelling**  
F. Hourfar, Petropars Ltd./ Petroleum University of Technology, Tehran/IR; K. Salahshoor, Petroleum University of Technology, Tehran/IR
- 12:30 **Process analytics optimizes plant efficiency for ethylene production - a case study using a complete analytical solution package**  
H. Mahler, Siemens AG, Karlsruhe/D

13:00 Lunch break

14:00 Poster Session I

Room: [Max-Buchner-Hörsaal](#)

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Thursday, April 24, 2008

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- 8:30 **Plenary Lecture**  
**Ana de Juan Capdevila**, University of Barcelona/E; Roma Tauler, IIQAB-CSIS, Barcelona/E  
**Multivariate curve resolution for characterization of compounds and pathways in process analysis**
- 9:15 **Plenary Lecture**  
**Costas Kiparissides**, Aristotele University of Thessaloniki/GR  
**Application of multidimensional population balance equations to chemical and biochemical systems: computational methods and experimental validation**
- 10:00 Coffee break
- Room: [Carl-Duisberg-Hörsaal](#)

## Control for profit and safety

*Chair: J. Morris, Newcastle University/UK*

- 10:30 **Measurability and controllability**  
P. Tummers, DSM Resolve, Geleen/NL
- 11:00 **Qualification of ozone sensors in purified water loops**  
C. Lauer, BIS Prozesstechnik GmbH, Frankfurt am Main/D
- 11:30 **Multivariate monitoring and end-point detection of batch processes using FTIR spectroscopy**  
I. Måge, M. Kermit, V. Lengard, CAMO Software AS, Oslo/N
- 12:00 **NeSSI - a platform for water quality sensor arrays**  
D.M. Simko, Swagelok Company, Solon, OH/USA
- 12:30 **Industrialization trends of tunable diode laser spectroscopy**  
S. Bichlmeier, M. Markus, Siemens AG, Karlsruhe/D
- 13:00 Lunch break
- 14:00 Poster Session II

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- 10:00 Coffee break
- Room: [Max-Buchner-Hörsaal](#)

## Making the most of your data

*Chair: R. Tauler, IIQAB-CSIC, Barcelona/E*

- 10:30 **Practical application of integrated process diagnostics in variability cause analysis**  
A.J. Mason, AJM Consulting Services Ltd., Grimsby/UK
- 11:00 **New developments in multivariate calibration**  
P. Teppola, VTT Technical Research Centre of Finland, Kuopio/FIN; R. Marbach, VTT Technical Research Centre of Finland, Oulu/FIN
- 11:30 **Multi-way analysis for investigation of commercial pectin**  
Chr.B. Zachariassen, University of Copenhagen/DK; J. Larsen, CP Kelco ApS, Lille Skensved/DK; F. van den Berg, R. Bro, University of Copenhagen/DK; A. de Juan Capdevila, University of Barcelona/E; R. Tauler, IIQAB-CSIC, Barcelona/E
- 12:00 **Configuration-free analysis of process data**  
F. Alsmeyer, AixCAPE e.V., Aachen/D
- 12:30 **Online-DoE: sustainable development of process knowledge**  
S. Strandt, Evonik Degussa GmbH, Hanau-Wolfgang/D; R. Mühlhaus, Merck KGaA, Darmstadt/D
- 13:00 Lunch break
- 14:00 Poster Session II

# SCIENTIFIC ORAL PROGRAMME

Thursday, April 24, 2008

Room: [Max-Buchner-Hörsaal](#)

15:30 **Plenary Lecture**  
**E. Neil Lewis**, Malvern Instruments, Columbia, MD/USA  
**The evolution of chemical imaging from a novel technology to a routine laboratory and process analytical tool**

Room: [Max-Buchner-Hörsaal](#)

## Chemical imaging

*Chair: R.W. Kessler, Reutlingen University/D*

16:15 **High speed hyperspectral chemical imaging**  
T. Hyvärinen, E. Herrala, J. Jussila, SPECIM, Spectral Imaging Ltd., Oulu/FIN

16:45 **Mid-Infrared and Near-Infrared imaging spectroscopy with focal plane array detectors: applications in material science and quality control**  
H.W. Siesler, University of Duisburg-Essen/D

17:15 **Optimized chemical imaging and process control - interactive exploratory analysis tools for calibration modeling**  
J. Burger, BurgerMetrics SIA, Jelgava/LV

17:45-  
18:15 **On-line and at-line imaging of tablets - trade off between lateral resolution and quantitative limitations**  
K. Rebner, T. Merz, D. Oelkrug, R.W. Kessler, University Reutlingen/D; W. Kessler, Steinbeis Technology Transfer Centre for Process Control and Data Analysis, Reutlingen/D

19:00 Bus transfer to the conference dinner

**Dinner Lectures** (15 min. each) during the boat trip

**The human factor as chance to optimise processes**  
S. Festag, S. Hartwig, Bergische Universität Wuppertal/D  
**Experience of working as a western PAT-engineer in China**  
M. Nehring, H. Kaul, V. Huth, BASF Aktiengesellschaft, Ludwigshafen/D

23:00 Estimated return to Frankfurt am Main

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Room: [Carl-Duisberg-Hörsaal](#)

## New PAT technology

*Chair: D. Littlejohn, University of Strathclyde, Glasgow/UK*

16:15 **Exact definition of “specificity of response” in the multi-variate case - severe consequences for today’s practice of PLS/PCR**  
R. Marbach, VTT Optical Instrument Center, Oulu/FIN; [P. Tappala](#), VTT Technical Research Centre of Finland, Kuopio/FIN

16:45 **The potential of Laser-Induced Plasma Spectroscopy (LIBS) for elemental process analysis**  
I. Gornushkin, [U. Panne](#), BAM Federal Institute for Materials Research and Testing, Berlin/D

17:15 **Ultrasonic Resonator Technology - an emerging technique for process control**  
K. Dzyek, S. Schulze, K. Born, D. Gau, [R. Parlitz](#), TF Instruments GmbH, Heidelberg/D

17:45-  
18:15 **Impedance spectroscopy for the in situ detection of the particle size in process applications**  
[S. Doerner](#), T. Schneider, P.R. Hauptmann, University of Magdeburg/D

19:00 Bus transfer to the conference dinner

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**The human factor as chance to optimise processes**  
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Room: [Max-Buchner-Hörsaal](#)

- 8:30 **Plenary Lecture**  
**Wim Haanstra**, Teijin Twaron B.V., Arnhem/NL  
**Process analysis in Twaron manufacturing**
- 9:15 **Plenary Lecture**  
**Rafiqul Gani**, Technical University of Denmark, Lyngby/DK  
**A model-based framework for design and analysis of PAT systems**
- 10:00 Coffee break with snacks

Room: [Carl-Duisberg-Hörsaal](#)

## Process performance optimisation

*Chair: P. de Bokx, Philips Netherlands BV, Eindhoven/NL*

- 10:30 **Batch process monitoring with Near Infrared Spectroscopy**  
C. Didden, M. Huys, DSM Resolve, Geleen/NL
- 11:00 **Model-based methodology for robust design and process validation of preparative chromatography**  
M. Degerman, B. Nilsson, Lund University/S
- 11:30 **Determining optimal operating conditions for preparative purifications with varying feed composition**  
M. Onsberg, M. Degerman, B. Nilsson, Lund University/S
- 12:00 **Industrial on-line quality control of thin surface layers on metal sheets by spectral interference in combination with multivariate data analysis**  
W. Kessler, Steinbeis Technology Transfer Centre, Reutlingen/D; R.W. Kessler, University Reutlingen/D
- 12:30 **Sampling and on-line measurement of the water content in hard cheese**  
J.L. Johnsen, M.M. Lokke, Arla Foods, Brabrand/DK

Room: [Max-Buchner-Hörsaal](#)

- 13:00 Best Poster Prize, Siemens Prize, Closing
- 13:30 End

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- 10:00 Coffee break with snacks

Room: [Max-Buchner-Hörsaal](#)

## Status and development of PAT

*Chair: A. Halstead, PM Project Services Ltd., Hampshire/UK*

- 10:30 **Maintenance strategies in PAT and their economical impact**  
M. Riekehof, BASF Aktiengesellschaft, Ludwigshafen/D
- 11:00 **PAT initiatives extend the range of process MS monitoring of drying processes, from API to finished products and medical devices**  
G. Lewis, AMETEK GmbH, Meerbusch/D
- 11:30 **Molecular insights: process control with miniaturised fibre optical ATR-infrared sensors**  
C.B. Minnich, RWTH Aachen University/D; L. Küpper, Infrared fiber sensors, Aachen/D; M. Kaefer, RWTH Aachen University/D; W. Hempelmann, MMT Micro Mechatronic Technologies GmbH, Siegen/D; L. Greiner, M.A. Liauw, RWTH Aachen University/D
- 12:00 **Application of PAT principles from process development to manufacturing**  
T. Hembach, F. Jordt, Siemens AG, Frankfurt am Main/D
- 12:30 **Case study: applying PAT principles to manufacturing legacy products for the biotech industry**  
M. Rook, Millipore SAS, Molsheim/F

Room: [Max-Buchner-Hörsaal](#)

- 13:00 Best Poster Prize, Siemens Prize, Closing
- 13:30 End

# SCIENTIFIC POSTER PROGRAMME

## Bridging the gap between knowledge and application of PAT

- P.01 **A robust, user friendly and industrially proven tool for process analysis, prediction and optimization**  
B. Schmidt, acs ag, Wil/CH
- P.02 **PAT or cPAT (Process Analytical Technology or current Process Analytical Technology)**  
N. Volk, Martin-Luther-University Halle-Wittenberg/D

## Control for profit, safety and quality

- P.03 **New dimensions in process monitoring**  
F. Portala, A. Steinbach, Metrohm AG, Herisau/CH; F. Müller, M. Feige, Deutsche Metrohm Prozessanalytik GmbH & Co. KG, Leinfelden-Echterdingen/D
- P.04 **Responsible care: fast emission monitoring of hydrocarbons in waste water and production streams**  
B. Lißner, A. Schocker, BASF Aktiengesellschaft, Ludwigshafen/D
- P.05 **Rapid determination of air demand, Wobbe index and calorific value in industrial off-gases**  
H.S. Grienauer, E.P. Sarpaczki, AMS Analysen-, Mess- und Systemtechnik GmbH, Dielheim/D
- P.06 **Software and hardware platform for fast online 2D-fluorescence spectroscopy based on pushbroom imaging technology**  
T. Merz, K. Rebner, R.W. Kessler, Reutlingen University/D
- P.07 **PAT into profit using advanced digital technologies**  
T. Hesketh, Emerson Process Management, Baar/CH
- P.08 **In-process quality control based on gas sensors**  
T. Fricke, T. Conrad, A. Gramm, A. Schütze, Saarland University, Saarbrücken/D

## Making the most of your data

- P.09 **Online analytics in R&D, pilot plants and production using laboratory gas chromatography**  
A. Schocker, W. Birkle, A. Stanko, U. Wiederkehr, S. Butsch, BASF Aktiengesellschaft, Ludwigshafen/D
- P.10 **Application software in R&D and pilot plants based on chromatography data systems**  
S. Butsch, W. Birkle, T. Laskowski, A. Schocker, BASF Aktiengesellschaft, Ludwigshafen/D
- P.11 **Optical spectroscopy and multivariate curve resolution to improve specificity for in-line control of biological reactions**  
A. Kandelbauer, University of Natural Resources and Applied Life Sciences, Vienna/A; W. Kessler, Steinbeis Technology Transfer Centre for Process Control and Data Analysis, Reutlingen/D; R.W. Kessler, Reutlingen University/D

# SCIENTIFIC POSTER PROGRAMME

## Monitoring and control of unit operations

- P.12 **Tracking disperse phase processes via in-situ FBRM measurements**  
N. Kail, RWTH Aachen/D; H. Briesen, MPI for Dynamics of Complex Technical Processes, Magdeburg/D; W. Marquardt, RWTH Aachen University/D
- P.13 **Liquid- and solid-phase monitoring of preferential crystallization of enantiomers**  
H. Lorenz, D. Polenske, F. Czapla, MPI for Dynamics of Complex Technical Systems, Magdeburg/D; A. Seidel-Morgenstern, MPI for Dynamics of Complex Technical Systems and Otto von Guericke University Magdeburg/D
- P.14 **Combination of calorimetry and sound velocity measurements for observation of emulsion copolymerization**  
W. Mauntz, S. Engell, University of Dortmund/D
- P.15 **Safety-oriented on-line monitoring of Grignard reactions**  
H. Kryk, G. Hessel, W. Schmitt, Forschungszentrum Dresden-Rossendorf e.V./D
- P.16 **Validation of gas analyzers according to EN 14181**  
B. Andres, Consulting Emissions- und Prozessmesstechnik, Biebergemünd/D; C. Rathke, P. Schastok, C. Becker, ABB Automation GmbH, Frankfurt am Main/D
- P.17 **In- and off-line performance determination of continuous and batch powder mixers by means of NIR spectroscopy**  
V. Kehlenbeck, Nestlé PTC Lebensmittelforschung GmbH, Singen/D
- P.18 **Comparison of near infrared spectroscopy and microwave resonant technique to monitor the moisture content in production processes**  
K. Diedrich, C. Grimm, S. Gross, H. Nagel, T. Prediger, M. Rahe, Sartorius AG, Göttingen/D
- P.19 **„All in one“ spectroscopy for insitu monitoring during crystallisation**  
R. Kessler, K. Rebner, T. Merz, D. Oelkrug, Reutlingen University/D; J. Mannhardt, J&M Analytische Mess- und Regeltechnik GmbH, Aalen/D
- P.20 **Fault detection using a robust clustering technique**  
M. Maestri, P. Groisman, A. Farral, M. Cassanello, Universidad de Buenos Aires/RA; G. Horowitz, CTA - Repsol-YPF, Ensenada/RA

## New PAT technologies

- P.21 **Applications of temperature modulated thermal conductivity gas analysis**  
H.S. Griener, AMS Analysen-, Mess- und Systemtechnik GmbH, Dielheim/D
- P.22 **Monitoring of degradation of polylactic acid during melt extrusion**  
B. Steinhoff, Y. Wang, I. Alig, Deutsches Kunststoff-Institut, Darmstadt/D
- P.23 **BaychromAT - introducing FDA PAT into biotech production**  
M. Gerlach, S. Steigmiller, Bayer Technology Services GmbH, Leverkusen/D; H. Tups, Bayer Technology Services GmbH, Frankfurt am Main/D
- P.24 **Online batch process monitoring using multiwayPCA as a „PAT-Tool“**  
M. Leuthold, N. Volk, Martin-Luther-University Halle-Wittenberg/D
- P.26 **Intelligent reactor and data capture for PAT**  
K. Hipkins, Powder Systems Ltd., Liverpool/UK

# SCIENTIFIC POSTER PROGRAMME

## Process performance optimisation

- P.27 **On-line particle size analysis using TWISTER & MYTOS**  
A. Pankewitz, Sympatec GmbH, Clausthal-Zellerfeld/D
- P.28 **Influence of extrusion conditions on the in-line measured electrical conductivity of polymer-multiwalled carbon nanotube composites**  
D. Lellinger, M. Engel, I. Alig, T. Skipa, Deutsches Kunststoff-Institut, Darmstadt/D; P. Pötschke, Leibniz-Institut für Polymerforschung e.V., Dresden/D
- P.29 **Process analytical optimisation of wastewater treatments**  
A. Rehorek, A. Fakouri, Cologne University of Applied Sciences, Cologne/D; Ö. Tunc, Hacettepe University, Ankara/TR; J. Wittmann, Chr. Rieker, Cologne University of Applied Sciences/D, Z. Aksu, Hacettepe University, Ankara/TR
- P.30 **Optimisation of a paper production process by on-line control of water conditions**  
P. Behnsen, Papiertechnische Stiftung, Heidenau/D; J. Mannhardt, J&M Analytische Mess- und Regeltechnik GmbH, Aalen/D
- P.31 **New tools for biotechnological process development**  
F. Kuhnen, A. Blesgen, M Lüpkes, V.C. Hass, University of Applied Sciences, Bremen; K.-M. Schoop, Ingenieurbüro Dr.-Ing. Schoop GmbH, Hamburg

## Production 2020 with respect to process analysis and control

- P.32 **Measurement and simulation for process analysis at a card**  
I. Mählmann, G. Seide, P. Jungbecker, P. Mathis, T. Gries, RWTH Aachen/D

## Status & development of PAT

- P.33 **In-line monitoring of the dispersion of nanofillers in polymer composites**  
I. Alig, B. Steinhoff, D. Lellinger, Deutsches Kunststoff-Institut, Darmstadt/D

# SCIENTIFIC POSTER PROGRAMME

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## ► Poster Sessions / Informal Mixer

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Visit the posters and talk to the exhibitors and to your colleagues during the following times:

### - Poster Session 1

on Wednesday, April 23, from 14:00 – 15:30

### - Informal Mixer

on Wednesday, April 23, from 17:15 – 20:00

### - Poster Session 2

on Thursday, April 24, from 14:00 – 15:30

*Please register on the registration form (free of charge).*

## ► Last-Minute Poster Submission

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Further poster contributions can be accepted as last-minute posters, subject to approval by the Scientific Committee and as long as space is available. These last-minute posters will be announced in the last-minute information available for participants at the beginning of the conference. **Submission of last minute posters is possible until February 29, 2008 at the latest.** Full information and submission: [www.euro-pact.org](http://www.euro-pact.org).

*Please notice: registration fee can not be waived for authors.*

## ► Grants for Students

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For students a limited number of grants is available. The committee is free to decide who will receive grants. Applicants must have an **accepted** contribution to EuroPACT 2008 for poster or oral presentation (only presenting authors will be taken into consideration). For students receiving a grant the conference ticket is free of charge and EUR 500 per grant will be given at the conference office in Frankfurt am Main. Students who want to apply for grants please contact the conference office.

# AWARD INFORMATION

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## ▶ Award Information

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Awards and prizes will be presented during the closing session. Three poster prizes will be awarded to poster presentations.

Siemens Process Analytics Prize for Young Scientists: In cooperation with Siemens and the Organising Committee the Siemens prize will be awarded to a young scientist for an outstanding publication in the field of Process analytics.

Applicants should be the first author of a paper printed or accepted for publication in an international peer-reviewed journal in 2006 or 2007. They should be no older than 30 years of age.

Applicants may apply themselves or they can be recommended by another scientist.

The prize is endowed with EUR 1000.

A EuroPACT 2008 prize committee will choose the winner.

Applications or recommendations should be submitted in electronic form (preferably PDF) by January 15, 2008 and should include a copy of the paper, the CV and the reason why the candidate merits the award. All applications should be sent to the following address:

Dr. Stephan Küppers

ZCH

Research Centre Jülich

D-52425 Jülich

Germany

or by email to:

[ak\\_prozess@fz-juelich.de](mailto:ak_prozess@fz-juelich.de)



# GENERAL INFORMATION

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## ▶ Registration and Welcome Reception

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The conference will start with a welcome reception for all participants on Tuesday, April 22, 2008 from 17:00 – 21:00 in the DECHEMA house. Drinks and snacks will be served by invitation of the organisers. You will have the opportunity to register at the conference office and pick up your conference documents.

## ▶ Conference Dinner

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- Thursday, April 24, 2008 19:00 – 23:00

19:00 Bus transfer to the conference dinner

23:00 Estimated return to Frankfurt am Main

The conference dinner will take place during a cruise on the river Main. The ticket is included in the registration fee, registration is necessary as places are limited.



## ▶ Conference Office / Conference Location

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### **DECHEMA e.V.**

Claudia Martz

Theodor-Heuss-Allee 25

60486 Frankfurt am Main/Germany

Phone: +49 69 7564 129, Fax: +49 69 7564 176

E-Mail: [martz@dechema.de](mailto:martz@dechema.de)

Internet: [www.euro-pact.org](http://www.euro-pact.org) and [www.dechema.de/location](http://www.dechema.de/location)

# GENERAL INFORMATION

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## ▶ Registration Fee

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Please complete the enclosed registration form and return it to DECHEMA e.V. Please use a separate copy for each participant. In general there is no registration deadline as long as free capacity is available. Please note: registrations submitted after April 10, 2008 are not guaranteed to appear in the list of participants. The registration fee includes admission to all sessions, the exhibition, the poster programme, the list of participants, a CD-ROM with all abstracts and presentations, the welcome reception, the informal mixer, the conference dinner as well as the catering during the breaks.

### **Participant registration fee\***

Early registration before January 31, 2008	EUR 365
Late registration	EUR 415
Student (proof of status required)	EUR 150

*\* No VAT requested according to § 4.22 UStG.*

Fees should be remitted after receipt of the invoice in favour of DECHEMA e.V., using the keyword "EuroPACT" and stating the invoice number and the name of the participant to one of the accounts of DECHEMA which will be given on the invoices. Payment by credit card is also possible.

## ▶ Cancellation and Refunds

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EUR 30 administrative costs will be charged for each cancellation made before April 10, 2008. Thereafter 80% of the registration fee will be invoiced, however the CD-ROM will be sent. Cancellation needs to be made in writing (letter, fax or e-mail).

# GENERAL INFORMATION

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## ▶ Accommodation

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Accommodation has been reserved for conference participants. Reservations should be directly made by the participants with the keyword "EuroPact" before March 21, 2008:

### **Hotel Mercure & Residenz Frankfurt**

**Voltastraße 29**

**60486 Frankfurt am Main/Germany**

**Phone:+49 69 7926 2709, Fax:+49 69 7926 2707**

**E-Mail: H1204-RE5@accor.com**

PLEASE NOTE: Due to a fair at the same time in Frankfurt the Hotel Mercure might increase the rates for accommodation. Reservations are binding. Charges for rooms which are not used, or cancelled too late, must be paid by the participant.

The conference location is easily reachable from the main railway station (see page 28).

Alternative overnight accommodation in Frankfurt nearby the main railway station might be available for lower rates. Please contact the room reservation service of our partner, absolutely free of charge:

### **Frankfurt Tourist+Congress Board**

Reservation hotline: +49 69 21 23 08 08

E-Mail: [info@infofrankfurt.de](mailto:info@infofrankfurt.de)

Online reservation: [www.frankfurt-tourismus.de](http://www.frankfurt-tourismus.de)

## ▶ Visa Formalities

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Participants from a number of countries may need an entry visa for the Federal Republic of Germany. It is recommended that this be applied for well in advance of the conference. If a formal invitation letter is needed please contact the conference office at DECHEMA e.V. in good time.

# GENERAL INFORMATION

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## ► How to reach DECHEMA

### By public transport

#### From Frankfurt Airport (Frankfurt am Main)

- approx. 20 min. by taxi
- S-Bahn: S 8, S 9 (line 8 or 9) to the main station (Hauptbahnhof), change to S 3, S 4, S 5 or S 6 (platform 104, underground) to the station Messe, exit „Emser Straße“.

#### From Frankfurt Hahn Airport

- approx. 90 min. by bus shuttle to Frankfurt main railway station (Hauptbahnhof)

#### From the main railway station (Hauptbahnhof)

- approx. 20 min. walk
- approx. 10 min. by taxi
- S-Bahn: S 3, S 4, S 5 or S 6 (platform 104, underground) to the station „Messe“, Exit „Emser Straße“
- Underground: line U 4 (line 4) direction „Bockenheimer Warte“ to the station „Messe“, Exit „Festhalle“ and 10 min. walk
- tram/streetcar line 16 to the station „Festhalle/Messe“ and 10 min. walk

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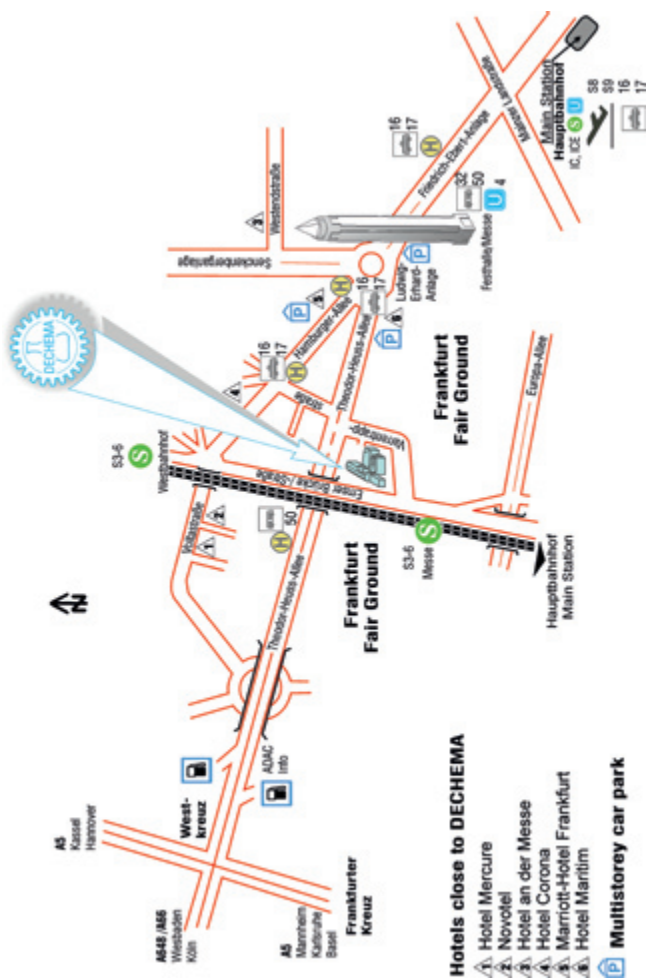
## ► By car

Via Autobahn/Westkreuz to Frankfurt Stadtmitte,  
turn right at first traffic light after the railway bridge

From the city centre in direction Messe (exhibition grounds),  
on the Theodor-Heuss-Allee first left-hand turn-off  
lane before the railway bridge, Entrance  
Varrentrappstraße.

*Please use one of the parking garages near DECHEMA*

# Map



# Notes





DECHEMA e.V.

Society for Chemical Engineering and Biotechnology

Claudia Martz

Theodor-Heuss-Allee 25

60486 Frankfurt am Main/Germany

Phone: +49/(0)69 / 7564-129

Fax: +49/(0)69 / 7564-176

E-Mail: [martz@dechema.de](mailto:martz@dechema.de)

[www.euro-pact.org](http://www.euro-pact.org)