



CENTRE FOR PROCESS ANALYTICS AND CONTROL TECHNOLOGIES

CPACT NEWSLETTER

October 2013



The European PAT community will hold its **3rd European Conference on Process Analytics and Control Technology in Barcelona on 6-9 May 2014** - a high profile conference and expo with anticipated attendance of around 250 delegates. EuroPACT provides a meeting and a discussion forum for scientists and users of process analytics from academia and industry. The conference programme will include plenary lectures and discussion during poster sessions. One day of pre-conference courses will provide a good introduction to the field for newcomers and advance the knowledge of existing practitioners.

The conference programme will be issued in Feb 2014 and will include the following sessions:

- Systems integration for intelligent manufacturing
- PAT in real life manufacturing
- Process chemometrics and multivariate process modelling
- New technologies for process analysis
- Real-time process performance monitoring
- What's next for PAT in the pharmaceutical industry?
- Image analysis and process tomography
- PAT in agrofood and life sciences

For further details about the conference, please visit: www.euro-pact.org

CPACT COMPANY IMB REPRESENTATIVES

Members are reminded to contact their CPACT IMB representative if they have any general questions about CPACT or if they have any project ideas that they would like to start up.

The current IMB representative for your company is listed below:

- **AJM Consulting** — Alan Mason
- **Art Photonics** — Viacheslav Artyushenko
- **Astrazeneca** — Caroline Rodger
- **BP** — Craig Herdsman
- **CAMO Software** — Brad Swarbrick
- **Clairet Scientific** — John Andrews
- **CPI** — Chris Dowle
- **Eigenvector Research** — Barry Wise
- **Fibre Photonics** — Gary Colquhoun
- **Fujifilm** — Alan Dickinson
- **Genzyme** — Bob Samuel
- **GE Healthcare** — Odd Ingvoldstad
- **GlaxoSmithKline** — Luke Bellamy/
Louise Fido
- **Hilase Development** — Zoltan Bozoki
- **Indatech** — Richard Escott
- **Infineum** — Alasdair Graham
- **Johnson Matthey** — Peter Ash
- **MKS Instruments** — Claire Beckett
- **National Nuclear Laboratory** — Colin Clarke
- **Perceptive Engineering** — David Lovett
- **Pfizer** — Mojgan Moshgbar
- **Plaxica** — Ed Marshall
- **Syngenta** — Sebastian Buerki



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Centre for Process Innovation (CPI) and CPACT Newcastle University

Knowledge Transfer Partnership

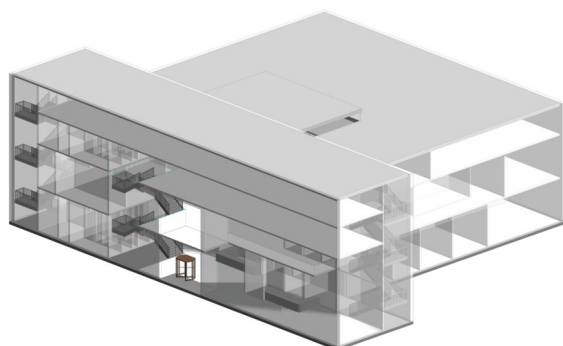
Accelerating Process Development & Optimisation through Advanced Process Analytics

Dr Ornella Preisner has finished her Knowledge Transfer Partnership (KTP) project with the Centre for Process Innovation (CPI) in Wilton, Redcar and the School of Chemical Engineering and Advanced Materials at Newcastle University.

CPI is a UK-based technology innovation centre and part of the High Value Manufacturing Catapult established in the UK by the Government's Technology Strategy Board (TSB), to stimulate product development through academic and business collaboration.

KTP's are Europe's leading programme helping businesses to improve their competitiveness and productivity through the better use of knowledge, technology and skills that reside within the UK knowledge base. Through KTP's, academics develop business relevant teaching and research, apply knowledge and expertise to important organisational problems, and identify new research themes and projects. Ornella's KTP has catalysed the translation of advanced process analytical and modelling technologies into the 'bio-chemicals and speciality chemicals' sectors. In addition it contributed to defining CPI R&D technologies which are aimed at underpinning future chemical and bio-chemical processes. It addressed the immediate need to evaluate and advance the impact of process analytics and predictive control strategies using multivariate statistical data analysis and smart spectroscopic calibrations. Many of these techniques have been developed by the academic community but not routinely used within industry.

The KTP project enabled CPI to successfully implement this type of sophisticated control strategy in the context of rapid bio-process development and scale up. It also confirmed the value of collaboration between academia and industry where the practical demonstration of how on-line measurement techniques help to increase process understanding enabling the acceleration of process development, optimisation and scale-up.



At the moment Ornella is looking to set up a Quality by Design platform at CPI's National Biologics Manufacturing Centre (NBMC – <http://www.uk-cpi.com/biologics/>) focussing on more effective, accessible and innovative strategies for analytics and modelling of complex biopharmaceutical processes and products. The rapid emergence of new classes of medicines requires an integrated approach to disruptive process innovation, free of the

risks and constraints experienced by the pharmaceutical industry. Within the new NBMC open-access facility, UK industry will be supported in the development and trialling of proprietary solutions, with the overall aim of enabling and encouraging growth in UK Biopharmaceutical sector.

UNDERSTANDING AND OPTIMISING PROCESSES THROUGH STATISTICAL DESIGN OF EXPERIMENTS

Do you want to:

- significantly expand process understanding?
- establish and develop capability?
- ensure robust and in-control processes?
- improve quality?
- reduce operational and environmental costs?

The statistical methodology of Design of Experiments (DoE) is a tool used for both designing and optimising robust processes. It is recognised as an essential skill by many of the world's leading process organisations.

The Industrial Statistics Research Unit (ISRU), Newcastle University, deliver a programme providing delegates with an opportunity to augment their process knowledge through the understanding of a sequential strategy that incorporates DoE techniques. The programme is targeted at scientists, working at all scales from research to manufacturing, from both academia and industry including chemical, pharmaceutical, food & beverages and paints & coatings organisations.

The programme involves a series of facilitated workshops, involving experimental design, analysis and interpretation of data, that explore scoping, screening, optimisation and robustness methods. Delegates are encouraged to apply the strategy within their own business environments.

ISRU deliver the programme bespoke for industry or academia and also hold an open programme annually in the North East of England.

If you are interested in arranging or attending a programme please contact Matthew Linsley, Matthew.Linsley@newcastle.ac.uk, to explore your requirements and to receive further information.

Matthew Linsley, Director ISRU/Maths-Aid
School of Mathematics and Statistics, Newcastle University

DATES FOR YOUR DIARY 2013

TUNEABLE LASER SPECTROSCOPY WEBINAR

11 November 2013

ASSESSING ANALYTICAL CHEMISTRY WEBINAR SERIES

13, 20, 27 November &
2, 4, 18 December 2013

CPACT STEERING COMMITTEE MEETING

10 December 2013,
University of Strathclyde,
Glasgow

CPACT NEWSLETTER

*Do you have an article to
contribute to the CPACT
newsletter?*

*If so, we would love to hear from
you. Please email your
articles to:*

natalie.kerr@strath.ac.uk

LOOKING AHEAD TO 2014 ...

FREE WEBINARS FOR CPACT MEMBERS

Introduction to Process Control
February 2014 (date to be confirmed)

Reactors webinar series
March 2014 (dates to be confirmed)

Introduction to Process
Spectroscopy techniques
April/May 2014 (date to be confirmed)

Design of experiments
webinar series
April/May 2014 (dates to be confirmed)

PLANNED COURSES

Process Control for Chemists,
Pharmacists & Formulation
Scientists
Monday 20th January 2014
(Pre-conference course at IFPAC 2014)

Introduction to Process Control for
Chemists, Pharmacists &
Formulation Scientists
Summer 2014 (dates to be confirmed)

Process Spectroscopy
September/October 2014
(dates to be confirmed)