



APACT 16



www.apact.co.uk

The APACT 16 conference will take place on 20-22 April 2016 at the Crowne Plaza Hotel in Chester (pre-conference courses will be held on 19th April).

APACT is an open forum for the presentation and discussion of recent scientific and engineering advances relevant to process analytics and control technologies. Plenary and keynote speakers (below) will report recent advances in the development and application of novel process analytics, predictive modelling and control technologies, and will review the benefits achieved. Following the success of previous conferences, APACT 16 will be a 3 day meeting featuring plenary and parallel sessions on topics crucial to the achievement of manufacturing excellence.

Plenary Speakers at APACT include:

Sean Goodhart, BP, UK – “Play chess in 3D: Solving multivariate optimisations involving people, process and plant technology”

Martin Warman, VRTX – “PAT for in process control (IPC) and real time release testing (RTRT) in DP continuous manufacturing”

Mary Beth Seasholtz, Dow – “Using data to make money in the chemical industry: Success stories and challenges”

Keynote Speakers at APACT include:

Dave Lovett, Perceptive Engineering, UK – “Frugal Engineering For APACT”

Alison Nordon, University of Strathclyde, UK – “What can NMR offer process analysis?”

Walter Broeckx, Procter & Gamble, Belgium - “PAT in manufacturing of fast moving consumer goods. Perfect! And how do I convince the different stakeholders? “

Peter Hamilton, GSK – “PAT in continuous API manufacturing - an industrial case study”

Richard Bourne, Leeds University - “Strategies in rapid reaction optimisation using flow reactors”

Sergei Kazarian, Imperial College London – “Chemical imaging for process analysis”

The CPACT team look forward to seeing you in Chester :)

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: admin@cpact.com

www.cpact.com



Malcolm Mclvor Prize 2015

Malcolm Mclvor was one of the key people in ICI who helped establish CPACT in 1997 and he played a prominent role in project supervision during the early stages of CPACT's activities.



Malcolm enjoyed his engagement with CPACT and has generously endowed a prize to be awarded annually to a postgraduate student at a CPACT partner university in recognition of that student's achievement in process analytics and control technologies. The prize will recognise an individual's excellence in terms of academic achievement, creative thinking and/or engagement between academia and industry.

The CPACT Chairman and the selection panel, which comprised of academic and industrial members of the CPACT Industrial Management Board decided that the winner for 2015 would be Andrew Ewing from Imperial College, London.

Andrew gave a presentation at the CPACT Research Day on 6th October 2015 at the University of Strathclyde and was presented with his prize by Malcolm (see photograph).

Andrew talked about the PhD project that won him this award: "This project has demonstrated exciting applications of ATR-FTIR spectroscopic imaging for in situ tablet dissolution and drug release studies. The chemical images that are generated as a function of time using this innovative and powerful approach reveal spatially resolved and chemically specific information about the samples. We have utilised ATR-FTIR spectroscopic imaging to provide further information and understanding about the systems which has shown great potential to impact and aid the process analytics of pharmaceutical systems. Throughout this PhD project a range of formulations have been investigated which include the effect of polymeric excipients on drug crystallinity, the stability of ionised drugs in aqueous environments and the influence of carriers on poorly water-soluble drugs. There are opportunities to apply this method to different areas of drug discovery which include formulation preparation, drug release and online monitoring of the behaviour of drug in situ".

Andrew also added "It is extremely rewarding that the work carried out during my PhD project has been recognised by experts in the field on the CPACT committee. It was a pleasure to meet Malcolm and discuss more about process analytics and I would like to thank him for the generous award. The opportunity to present my work to the wider CPACT community is one that I am very grateful for".

Congratulations to Andrew!

CPACT Feasibility Studies

All members of CPACT are entitled to a free feasibility study to investigate some aspect of process analysis that they would otherwise find difficult to achieve. This can involve anything from assessing the feasibility of using a new spectroscopic technique to monitor materials, to aiding in the development of predictive models (often using more complex algorithms than may be possible in house). Examples which have been carried out recently have involved assessing the use of a new mid-infrared instrument to monitor crystallisation and another aiding with the development of a predictive near-infrared model for use on plant.

We are open to different types of study involving both industry partners and academia and are always happy to discuss possibilities. Please contact Jaclyn Dunn in the first instance if you would like further information about the studies or to apply (jaclyn.dunn.100@strath.ac.uk).

CPACT TEAM



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DATES FOR YOUR DIARY

FORTHCOMING WEBINARS

Batch Process Modelling

21st January 2016

3 pm (UK time)

Introduction to DoE Series

17th, 24th & 31st March

and 7th April 2016

3 pm (UK time)

MANAGEMENT MEETINGS

Research Day & IMB meeting

9 & 10th March 2016

AstraZeneca, Macclesfield

Steering Committee meeting

25 & 26th May 2016

Ross Priors,

Loch Lomond



Natalie Kerr
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leave)
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Carol Badger returns to CPACT!

Natalie Kerr will be leaving us on the 18th December 2015 to go on maternity leave for a few months. Carol Badger (who some of you may remember) will be covering Natalie's maternity leave and will join the team on Tuesday 5th January 2016.

Carol worked for CPACT in the past and has been based in Singapore for the last four years. She has just recently left her post with Glasgow University (where she was based in Singapore) to join the CPACT team. Carol is looking forward to seeing some familiar faces and working with the various universities and member companies again over the coming months.



**MERRY CHRISTMAS AND A HAPPY
NEW YEAR FROM
ALL AT CPACT**

CPACT welcomes a new PhD student

Catriona McFarlan graduated from the University of Strathclyde this year with a Masters degree in Forensic and Analytical Chemistry, and has recently started a PhD with CPACT. Catriona's project is based on the design and application of measurement technologies for process monitoring and control. The aim is to reduce the size, and thus the cost, of process analysers to allow wider commercial availability and to increase the speed and sensitivity of measurements. The reduction in size will be achieved by measuring only the spectral regions of greatest importance, along with the use of advanced narrowband sources, tunable filters and fibre optic probes. In addition, Catriona will be developing advanced chemometric procedures to apply to the data collected.

Grants recently awarded to two of the CPACT University members!

Alison Nordon and Julian Morris (CPACT Strathclyde) together with Simon Duckett (Principal Investigator) and Meghan Halse (CPACT York) have been awarded £780k by EPSRC to develop novel nuclear magnetic resonance (NMR) methodologies for process monitoring and control. This project brings together CPACT's expertise in process NMR spectrometry with York's expertise in hyperpolarisation techniques and also involves the Centre for Process Innovation, Domino UK, GSK and Pfizer.

Alison and Julian are also part of a Marie Skłodowska-Curie Innovative Training Network (H2020-MSCA-ITN-2015 Grant Agreement 675251) that started on 1st November 2015. The Network, led by the Technical University of Denmark, will provide training for 15 early stage researchers (ESRs) across Europe in advanced modelling, optimisation, monitoring and control in the life sciences. Two ESRs will work with Alison and Julian at CPACT Strathclyde on *in situ* measurements and data integration methods, and dynamic model-based performance monitoring.

CPACT would like to congratulate everyone involved.