Nicci's trip to FACSS & South Carolina

In October 2007, Nicci Townshend (Researcher, CPACT Strathclyde) attended the 34th Annual Conference of the Federation of Analytical Chemistry and Spectroscopy Societies (FACSS) in Memphis, Tennessee. The conference covers all areas of analytical chemistry including process analytical technology. Nicci presented a paper entitled "The advantages of trace chemical analysis using on-line intracavity absorption spectroscopy compared to conventional absorption techniques" in the SAS Technical Session. The session contained process analytical monitoring presentations from industrialists representing GSK, Pfizer and Colgate Palmolive as well as papers from academic researchers. Other interesting presentations included Plenary Sessions from James Rydzak and Katherine A Bakeev. The conference networking event was held at Graceland, where the attendees were given a tour of the mansion and grounds and had a typical southern dinner in Elvis' car museum. After attending FACSS, Nicci travelled to Columbia, South Carolina where she spent 11 weeks working with Dr Michael Myrick, a Professor in the Department of Chemistry and Biochemistry at the University of South Carolina (USC).

Dr Myrick and his research group at USC developed the process of Multivariate Optical Computing™ (MOC™) and in 2001, the Myrick group demonstrated a new concept in chemical measurement based on optical spectroscopy and performed with specially designed interference filters - multivariate optical elements (MOEs) which function as beam splitters. Dr Myrick and his group design, construct and test MOEs as well as develop new theories and applications for them. Owing to the success of Michael's MOC™ work, a South Carolina based company, Ometric of which Michael is Chief Scientist, formed. Ometric SpectrInline Processware™ is the first commercial application of MOC™ and is used to bring real-time, in-line process control to the food, pharmaceutical and chemical industries.

During her time at USC, Nicci visited Ometric and learned more about the MOC™ approach and its benefits. However, her work was primarily based on the investigation of the variation of active ingredient content in pharmaceutical tablets and the analytical techniques available to carry out the analysis. Nicci is now continuing this work in collaboration with Clairet Scientific.

In November 2007, Dr Alison Nordon (Lecturer and Royal Society University Research Fellow, CPACT, Strathclyde) travelled to USC to visit Nicci and Dr Myrick. Alison spent a week in Dr Myrick's lab learning about the MOC™ technology for potential collaborations with CPACT. Whilst in the US, Alison and Nicci travelled to Clearwater, Florida to attend the 'Process Analytical Technology in Organic Process R&D', at which Alison was an invited speaker, presenting a paper entitled, "Comparison of Calorimetry and IR Spectrometry for Batch Reaction Monitoring."

Throughout her time in both Memphis and Columbia, Nicci met and worked with some well renowned scientists and gained invaluable experience. Nicci would like to take this opportunity to thank CPACT, SIET and EPSRC for funding the trip and would also like to thank Dr Myrick's students and most of all, Michael for welcoming her to South Carolina and into his group, making it an unforgettable experience.

Alison Nordon and Nicci Townshend in South Carolina November 2007

PERCEPTIVE ENGINEERING LTD

At the end of 2007, Perceptive and United Utilities began a collaborative project, using Advanced Process Control to drive energy efficiency on an Activated Sludge Plant. The remit was to improve plant performance and drive down aeration energy, with no compromise in the performance of the process. The results exceeded expectations: more stable operation, improved data integrity and a 40% reduction in energy use. "This first site was chosen because it was well operated, well instrumented and well maintained", says Adam Guest, Operational Scientist with United Utilities. "We weren't expecting big savings, as the site was seen as just a proving ground for the technology" Perceptive has now launched ***waterMV***, developed to meet the current and future needs of the water utilities industry. With increasing levels of both automation and sensor-derived data, operators and managers need tools to transform that data into reliable knowledge, to enable better operational decisions and more efficient asset management.

For more information, please visit our website or contact **water@perceptiveapc.com**

The CPACT Way

CPACT works to facilitate the creation of manufacturing excellence of the Process and Pharmaceutical Industries through leading edge R&D, technology translation and exploitation of Process Analysis, Chemometrics and Control Technologies.

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CENTRE FOR PROCESS ANALYTICS AND CONTROL TECHNOLOGY

CPACT Newsletter **June 2008**

1st European Conference on Process Analytics and Control Technology

EUROPACT 2008 was the first European Conference on Process Analytics and Control Technology. The conference took place on 22-25 April 2008 at Dechema in Frankfurt, Germany. The conference covered new technologies in process analytics, the implementation of those technologies in various fields and the transformation of data into knowledge.

A total of 267 delegates attended from countries including Algeria, Argentina, Austria, Belgium, Denmark, Finland, France, Germany, Greece, Ireland, Latvia, Netherlands, Norway, Spain, Sweden, Switzerland, Syria, Thailand and the UK.

20 vendor companies exhibited and 51 posters were presented. Poster prizes were awarded to O Steinhof, University of Tubingen (1st Prize), D Creighton, Limerick Institute of Technology (2nd Prize) and M Leistner, Technical University of Dresden (3rd Prize). The Siemens Prize for Young Researcher was awarded to Rosalynne Watt from the University of Cambridge.

The feedback on EUROPACT has been excellent. Quote from one of the attendees “I believe the ‘Euro’ aspect worked extremely well, with a large and cosmopolitan attendance”. As the EUROPACT conference has been so successful, we plan to hold the next event in 2011 in Glasgow.