

*CALL FOR PAPERS AND POSTERS
DUE JUNE 26, 2009*

*CPAC SUMMER INSTITUTE 2009
TOPICS IN PROCESS ANALYSIS AND CONTROL*

*Product and Process Optimization using Micro-Instrumentation and Process Intensification:
with an Emphasis on Improvements in Bio-Processing (particularly Bio-Process Intensification)*

A Valuable Tool for Achieving Quality by Design (QbD) using Process Analytical Technology (PAT)

JULY 21-23, 2009 Seattle, Washington

CPAC has an established track record in fostering academic/industrial/national laboratory interactions, which aims at bridging the gap between basic research and full-scale process/product development. CPAC's Summer Institute (SI) will provide continuing education opportunities in the areas of advances in measurement science linked to process control. The CPAC 2009 Summer Institute Meeting Agenda is being finalized.

CPAC will hold its annual Summer Institute (July 21-23) with a theme of Product and Process Optimization using Micro-Instrumentation and Process Intensification. There will be an emphasis on how historical approaches in the chemical and pharmaceutical industries can improve Bio-processing. A series of presentations will address the challenges in Bio-processing. This will involve optimization needs within the Bio-technology, Bio-energy, and Bio-sustainability industries. A variety of case studies will be presented and discussed. A key part of the outcome of this Summer Institute will be new approaches to education and training in these Bio-processing fields.

The bulk of the conference will contain selected talks on technology advances in both unit operations (reactions, mixing, separations, and fluidics) and in measurement sciences, with a focus on improvements in miniaturization and

related process intensification efforts. Recently there have been significant advances in measurement strategies that compliment micro-unit operations developments and new sampling approaches.

The impact of these technology advances on the challenges within the Bio-processing industries and other industrial segments will be discussed and action plans developed. Past action plans have resulted in successful collaborations between participants, including a multi-author book published by John Wiley Publishing and a successful series of Satellite Workshops in Rome, Italy. Some of this year's presentations will be included in a special edition of *Talanta*.

OBJECTIVES AND SCOPE

The theme of miniaturization, initiated at the first Summer Institute in 1996, emphasized the concept of the versatile micro-analytical system (VMAS) and the feasibility of developing VMAS for process control. The SI objectives are to explore the needs of the end-users for new micro-measurement technologies and the potential impact of these technologies on product discovery and process control. Since 1996 the SI discussions have progressed through various concepts related to the miniaturization of measurement instrumentation, while refining user needs and process control impacts. Past participants have helped guide the direction of the Summer Institute toward today's topic: Micro-Instrumentation supporting High Throughput Experimentation (being used in many phases of product development and process optimization) and Process Intensification. "Process Intensification," an increasingly important area utilizing miniaturization, involves approaches for drastic reductions in resource use and waste generation per unit mass of product. This is achieved by reducing the footprint of the production unit operations often by employing micro-reactor concepts. CPAC is now developing measurement strategies that complement this micro-reactor approach. In support of these efforts the New Sampling/Sensor Initiative (NeSSI™) is being deployed for implementing new measurement tools, including various CPAC technologies.

ATTENDEES

Workshop attendees include: industrial 'end-users', government scientists and engineers, instrument manufacturers, and researchers from the UW and other universities. Enrollment is open to all industries and organizations.

FORMAT

The three day schedule ends on Thursday evening with a BBQ. Morning lectures serve as the basis for afternoon open discussions with a futuristic outlook toward the technology presented. The final afternoon will summarize the

technical areas and meld the conclusions into a broader look at the future impact of Process Analytical Technology (PAT).

CONFERENCE SITE

The seminars will be held in two locations. Tuesday and Wednesday, July 21 and 22, will be held at the University of Washington, Seattle, WA, and Thursday, July 23, at a Club House in the nearby Cascade Mountains. Please note that the UW site is within walking distance of Hotel Deca.

FURTHER INFORMATION & PAPER AND POSTER SUBMISSION

Please send your submissions and questions to: Nan Holmes, CPAC Administrative Manager, +1 206 685 4323, nan@cpac.washington.edu, <http://www.cpac.washington.edu>