CPAC Summer Institute 2018

Process Characterization leading to Process Optimization

July 17-19, 2018, University of Washington, Seattle, WA

Tuesday, July 17, 2018 – University of Washington Club

8:30	**Meeting Registration Desk Opens** – University of Washington Club,
9:00-9:10	**Introduction to the Summer Institute Theme** Mel Koch, CPAC, APL, UW
9:10- 9:45	**The Case for a Circular Economy; What Technology is Needed to Help Make it Happen?** Ray Chrisman, MK Optimization and Control
9:45-10:20	**Designing and Operating the Modular Chemical Plants of the Future, through Better Process Models and the Use of Advanced Analytics** Linda Shi Cheng, Director, Materials Characterization - Honeywell UOP, USA TBC
10:20-10:35	**Break**
10:35-11:05	**What's Next? The Changing Role of Chemometrics and Instrumentation for Process Analytics** Brian Rohrback, Infometrix, Inc.
11:05-11:35	**Process Analytical Technology in Biologics** Cyrus Agarabi, US FDA CDER
11:35-11:55	**The Use of In Situ Infrared as Innovation Tool,** Paul Weider, Shell Technology Center
11:55-12:10	**Introduction of Meeting Participants and Discussion**
12:10-1:15	**Lunch**
1:15-1:30	**Update on CPAC Activities** Mel Koch, CPAC, UW
1:30-2:00	**Battery Free Sensing and Communication** Josh Smith, Electrical Engineering and Computer Sciences, UW

2:00-2:35	**Can Flow Synthesis Enable Chemical and Pharmaceutical Provision in Africa**? Paul Watts, Nelson Mandela University, South Africa – presented by Ray Chrisman, MK Optimization and Control
2:35-3:00	**Break**
3:00-3:40	**Advances in the Use of PAT for Developments in Process Control** Brian Marquardt, UW, APL, CPAC, and MarqMetrix
3:40-4:10	**Effective use of Encapsulated Micro-Organisms**, Ameen Razavi, Microvi
4:10-4:40	**Wireless Sensor Platforms** Chris Rudell, UW Electrical Engineering
4:40-5:00	**Discussion**
5:15	Dinner at Ivar's Salmon House

Wednesday, July 18, 2018 – UW Club

9:00-9:10	**Daily Overview** Ray Chrisman, MK Optimization and Control
9:10-9:40	**Expansion of PAT Tools with the Emphasis on the Integration of the Associated Technologies into an Integrated Informatics Communication, Analysis, and Control Solution.** Ernie Hillier, Waters
9:40-10:10	**Process Monitoring 4.0 and Elevation of the Process Analytical Enterprise,** Marcus Trygstad, Yokogawa
10:10-10:30	**Break**
10:30-11:00	**Dielectric Sensors** Alex Mamishev. UW Electrical Engineering
11:00-11:30	**Application of TPM Framework to Enable Needs-Based PAT/APC Strategies,** Dan Hill, Biogen
11:30-12:00	**Fluidic Analyzers for Process Control** Jamin Hoggard, FIAlab Instruments, Inc

12:00-1:15	**Lunch**
1:15-1:45	**Advances in Inductively Coupled Plasma Mass Spectroscopy (ICPMS)**, Jay W. Grate, Pacific Northwest National Laboratory
1:45-2:15	**Optimization of Separation Conditions for Multi-Dimensional Gas Chromatography** Derrick V. Gough, Sarah E. Prebihalo, Robert E. Synovec
2:15-2:45	**Multi-Level Simultaneous Components Analysis (MLSCA) for Process and Instrument Characterization**, Barry Wise, Eigenvector Research Inc.
2:45-3:00	**Break**
3:00-3:30	**Rethinking Deployment of Process Spectroscopy** Michael F. Roberto, Infometrix Inc.
3:30-4:00	**TBA**
4:00	**Discussion** (arrange car-pools for Thursday)

Thursday, July 19, 2018 - Lake Kachess Clubhouse

10:15-10:45	**Continuous Fermentation for Protein Production: Sensor Designs and Needs** Clem Furlong, Tom Bukowski, and Scott Soelberg. Medical Genetics and Genome Sciences, UW Medicine
10:45-11:15	**Implementing Gas Chromatography with Chemometrics for Real Time Process Analysis** Paige E. Sudol, Dong Song, Derrick V. Gough, Robert E. Synovec
11:15-11:45	**The Impact of Chromatographic Alignment** Brian Rohrback, Infometrix Inc.
11:45-12:30	**Lunch**
12:30-1:00	**TBA**
1:00-1:30	**Nuclear Magnetic Resonance for Process Analysis** Julia Kerr, Matt Augustine, Chemistry, U California Davis
1:30-2:00	**Supporting Continuous Chromatography in Biotechnology Processes through FDA Research** Scott Lute**,** US FDA CDER
2:00-2:30	**The Medicines for All Initiative** Tyler McQuade, Virginia Commonwealth University

2:30-3:00	**Practical Considerations for Sensor Cluster Arrays** Nelson Lytle, Lytle Consulting
3:00-3:30	**Selected Topics Discussed at the 2018 CPAC Rome Workshop that are Related to the Summer Institute Theme** Ray Chrisman, MK Optimization and Control
3:30-4:00	**Final Discussion, Summary, and Development of Action Plans**
4:00	**Reception**
5:00	**BBQ Dinner**