

# **CPAC Spring member's meeting**

## **April 30 May 1, 2018 Agenda**

**Sunday, April 29, 2018 (5:30-8:00 pm) Informal Reception in the café space at the Watertown Hotel, 4242 Roosevelt, Seattle**

### **April 30 – May 1, 2018**

**APL-UW, Hardisty Conference Center, Henderson Hall**

The CPAC meeting (Monday, April 30, and Tuesday, May 1, 2018) will include progress reports from CPAC funded research projects and research proposals for next year's funding. Attending this meeting would also be an excellent opportunity to experience CPAC technology and innovation as well as assess how a relationship with CPAC can add value to your organization. Valuable aspects of the CPAC meeting include formal and informal opportunities for networking, meeting CPAC Graduate Students and getting to know the principle investigators and their research.

As a tribute to the impact that Bruce Kowalski had in founding the field of Chemometrics we plan to schedule a couple of invited industry speakers to present case studies on the value of multidisciplinary approaches to problem solving. Along with that, we will have 'lighting' presentations related to advances in the handling of multivariate data given by selected graduate students. This will give the graduate students a unique opportunity to meet industry leaders – and to hear some of the inside details of identifying a problem that is data rich and needs analysis, the development of the chemometric model to address the problem, real-time adjustments during beta-testing, and the process analysis enhancement since implementation. This also answers a request from industry that it needs better trained students for the highly interdisciplinary data-driven work required to maintain their company's research leadership.

## Monday, April 30

8:50-9:00	Welcome by Brian Marquardt, UW, CPAC
9:00-9:10	Program Introduction by Mel Koch, UW CPAC
9:10-9:35	New Technology talk – <i>Expansion of PAT Tools with the emphasis on the integration of the associated technologies into an integrated informatics communication, analysis, and control solution.</i>  Ernie Hillier, Waters
9:35-10:00	New Technology Talk - <i>Innovations in Raman for Industrial Applications</i>  Giora Proskurowski, MarqMetrix
10:00-10:25	New Technology Talk – <i>Prioritizing Multivariate Control (4.0)</i>  Brian Rohrback, Informetrix and John Crandall, Falcon Analytical
10:25-10:40	Break
10:40-11:05	<i>Wireless Sensors for Instrumentation, Processes, and Body-Worn Applications</i>  Chris Rudell, UW Electrical Engineering
11:05-11:30	<i>Benefits of High Throughput Raman Measurements for Process Understanding, Process Development and Process Monitoring</i>  Mark Kemper, Tornado Spectral Systems, Inc
11:30-11:55	<i>Non-Destructive Evaluation of Multilayer Films with Micrometer Resolution, Using a Fast, Portable, and Low Cost Terahertz Spectrometer</i> Hassan Arbab, NYU Stonybrook, NY
11:55-12:10	Introduction of Meeting Participants
12:10 – 1:00	Lunch
1:00 – 1:15	Update on CPAC Activities Mel Koch, CPAC
1:15-1:30	<i>Introduction to the Special Symposium for Bruce Kowalski – on the Value of Multidisciplinary Activities</i>  Brian Rohrback, Infometrix. Mel Koch, CPAC, Nan Holmes UW Library, Katherine R Day Hase and Victor V. Nirapienranant, UW Graduate School
1:30-1:50	Video of Bruce Kowalski
1:50-2:10	Sonja Sekulic, Pfizer

2:10-3:10	Lightning talks by students - Derrick Gough (Synovec), Jeff Thomas (Mamishhev), Tricia Wong (Augustine), Julia Greenwald (Bush)
3:10-3:30	Break
3:30-3:45	Wrap up / summary of Kowalski session
3:45-5:00	Poster session
6:00	Dinner at Ivar's Alaskan Salmon House

## Tuesday, May 1

8:15-8:20	CPAC meeting overview, Mel Koch, Brian Marquardt, UW, APL, CPAC
8:20-8:40	<i>Development, Evaluation, and Application of the 2D m/z Cluster Method for GC-TOFMS Analysis</i> Kelsey L. Berrier and Robert E. Synovec, UW Chemistry
8:40-9:00	<i>Impact of GC × GC – TOFMS Experimental Design on PARAFAC Deconvolution</i> Sarah E. Prebihalo and Robert E. Synovec, UW Chemistry
9:00-9:20	<i>Development of Pulse Flow Valve Modulation for Multidimensional GC and GC Sensing</i> H. Daniel Bahaghighat and Robert E. Synovec, UW Chemistry
9:20-9:50	<i>Raman Spectroscopy for Process Analysis: Advancing Analytical methodology, Data Processing, and Instrumentation</i> <u>Brian J. Marquardt</u> , Applied Physics Laboratory (APL), UW
9:50-10:15	<i>Implementing NMR Analysis for Continuous Flow Reaction Monitoring</i> Brian J. Marquardt, APL, CPAC, UW
10:15-10:35	Break
10:35-11:05	<i>Magnetic Resonance Imaging applied to Process Analysis</i> Michael J. McCarthy, Matt Augustine, Tricia Wong, Food Science, University of California, Davis
11:05-11:35	<i>Rf Spectroscopy and Relaxometry With and Without a Magnet: High Pressures and Challenging Environments</i> Matt Augustine and Mike McCarthy University of California, Davis

11:35-12:00	<i>Detection of Incipient Heat Damage in Composite Materials</i> Alexander Mamishev, Electrical Engineering, UW
12:00-1:10	Lunch (dining with a student is encouraged)
1:10-1:40	<i>Optimization of ethanol production during conversion of poplar to jet fuel by removal of nonstructural extractives</i> Renata Bura and Rick Gustafson, Forest Resources, and Brian J. Marquardt, APL, UW
1:40-2:10	<i>New Characterization Tools for Biomolecules,</i> Matt Bush, UW Chemistry
2:10-2:40	<i>Continuous manufacturing system for pharmaceutically useful proteins, and monitoring with a NeSSI system and Surface Plasmon Resonance (SPR) Based Assays</i> Clement E. Furlong, Medical Genetics, UW
2:40-3:00	Break
3:00-3:20	Technology Challenge Talk <i>Potential of Raman Spectroscopy as a Multi-attribute Measurement Platform</i> Elliott Schmitt, Biogen
3:20-3:50	<i>Leveraging PAT for the Analytical Control Strategy of a Small Volume Continuous Drug Substance Process</i> Gordon Lambertus, Eli Lilly
3:50-4:10	<i>Shell's Thoughts on the Coming Energy Transition</i> Paul Weider, Shell
4:15	General meeting concludes
4:15-4:30	Industrial Advisory Board (IAB) – CPAC Sponsors
4:30-7:00	Reception and Lab tour, MarqMetrix Inc, 2157 N. Northlake Way #240