

Spring 2015 CPAC Meeting Agenda

SUNDAY, May 10 - Informal Reception CPAC Meeting Attendees, Hotel Deca

5:30-8:00 District Lounge - Southeast corner, Hotel Deca

MONDAY, May 11 –

CPAC Overview, Tutorials, New Technology Developments, Vendor Display and Reception with Hors d'oeuvres

Hardisty Conference Room, Henderson Hall, Applied Physics Laboratory, University of Washington

- 8:00 Meeting Registration Desk Opens – Hardisty Conference Room, Henderson Hall, Applied Physics Laboratory, UW
- 8:30 Meeting Welcome and Introduction
Brian Marquardt, CPAC Director, Applied Physics Laboratory, UW
- 8:45 Update on CPAC Activities and Introduction to the Morning Program – ‘Addressing Needs in Bio-Processing’
Mel Koch, CPAC, UW
- 9:00 Advances in Understanding Bio-Fermentation- ‘RAPT (Reversible Acid PreTreatment) for Cellulosic Ethanol Production’,
Paul Weider, Shell Oil Company
- 9:30 New Characterization Tools for Biomolecules,
Matt Bush, UW Chemistry
- 10:00 Break
- 10:30 Evaluation of a Cost Effective Method for Real Time Determination of Advanced Bio-Refinery Processes and Measurements
Renata Bura and Rick Gustafson, UW Forest Resources
- 11:00 Improving Bio-Processing by Incorporating Sampling and Measurement Technologies,
Brian Marquardt and Sergey Mozharov, Applied Physics Laboratory (APL), UW
- 11:30 Discussion of the morning topics, with an emphasis on the need to characterize raw materials and nutrients for effective bio-processing
- Noon Lunch (Dining with a Student encouraged)
- 1:15 Process Analytical Technology at Amgen: Current Implementation and Future Directions, Dawn Cohen, Amgen
- 1:40 Ultrafast GC Performance in the Real World: Multi Lab Studies for Repeatability & Reproducibility, John Crandall, Falcon Analytical

- 2:05 Chiral Analysis in Complex Sample Mixtures by Fourier Transform Molecular Rotational Resonance Spectroscopy,
Brooks Pate, BrightSpec
- 2:30 Tutorial on the Developments in Magnetic Resonance for Process and Product Analysis.
Michael McCarthy and J. H. Walton, University of California, Davis
- 2:55 Developments related to portable NMR
John Frost, PicoSpin ThermoFisher
- 3:20 Break
- 3:50 Novel Low Field Spectroscopy,
Matt Augustine, Chemistry UC Davis
- 4:30 Introduction of Vendor Displays and Meeting Participants
- 4:40–
5:30 Poster Session
- 4:40–
6:00 Reception with Hors d'oeuvres, including Vendor Displays
- 6:30 Dinner at Ivar's Salmon House

TUESDAY, May 12 - CPAC Research Presentations and Proposals,

- 8:00 Meeting Registration Desk Opens
- 8:30 CPAC Daily Overview
Brian Marquardt, Director, CPAC, Applied Physics Laboratory (APL)
- 8:40 Fast, high peak capacity separations using low thermal mass gas chromatography (LTM-GC) and Chemometrics,
Brian D. Fitz and Robert E. Synovec, Chemistry, UW
- 9:05 Rapid discovery-based analysis with the GC×GC–TOFMS platform to facilitate molecular management, including bio-molecules,
Brendon A. Parsons and Robert E. Synovec, Chemistry, UW
- 9:30 Lignin Derived Highly Porous Carbon for Energy Applications
Guozhong Cao, Material Sciences, UW
- 9:55 Break
- 10:30 Vapochromic Detection and Identification of Important Analytes
Kent Mann, Department of Chemistry, U. of Minnesota and
Brian J. Marquardt, Applied Physics Laboratory (APL), UW

- 10:55 Evaluating Raman Spectroscopy to Improve Process Monitoring and Materials Characterization
Brian J. Marquardt and Sergey Mozharov, Applied Physics Laboratory (APL), UW
- 11:20 Understanding high-solids hydrolysis of biomass via in situ MRI rheological measurements.
Maria Cardona, Michael McCarthy and J. H. Walton, University of California, Davis
- 11:45 Evaluation (NDE) of Multi-Layer Films with Micrometer Resolution Using a Fast, Portable, and Low-Cost Terahertz Spectrometer
Hassan Arbab and Dale Winebrenner, APL, UW
- 11:45 Lunch (Dining with a Student Encouraged)
- 1:05 Rapid Analyte Purification and SPR-based Assays
Clement Furlong and Scott Soelberg. UW Medical Genetics & Genome Sciences,
- 1:30 Investigating the use of LIBS as an Effective Process Analysis Tool
Brian Marquardt and Sergey Mozharov, UW, Applied Physics Laboratory (APL)
- 1:55 High-dimensional Process Monitoring and Change Point Detection using Embedding Distributions in Reproducing Kernel Hilbert Space (RKHS),
Shuai Huang, UW Industrial and Systems Engineering
- 2:20 Break
- 2:55 Measurement of Multi-Layer Coatings of FEF Sensor
Alexander Mamishev, Electrical Engineering, UW
- 3:20 Combination of PAT (Process Analytical Technology) and Data Fusion for Characterization of Chemical Processes
Brian Marquardt, UW, Applied Physics Laboratory (APL)
- 3:45 Re-engineering Calibrations in Optical Spectroscopy,
Michael Roberto and Brian Rohrback, Infometrix
- 4:10 Discussion of the impact of incorporating chemometric methods (COPA)
Brian Rohrback, InfoMetrix, Inc., Brian Marquardt, UW, Applied Physics Laboratory (APL), and Tom Dearing MarqMetrix
- 4:35 General Meeting Concludes
- 4:35 Industrial Advisory Board Meeting – CPAC Sponsors
- 5:00 - 7:00 Reception, Benjamin Hall, 5th Floor Conference Room, APL, UW