



CPAC Rome Workshop 2016
Utilization of Cascade Concepts and
MVA for Next Generation Process Optimization
March 21-23, 2016, University of Washington Rome Center
Piazza del Biscione 95, Rome, Italy 00186

Rome Workshop Organizers: Ray Chrisman and Mel Koch, MK Optimization and Control LLC

Rome Workshop Advisory Steering Committee: Giancarlo Cravotto, U Turin;
 Claude De Bellefon, U Lyon; Ludo Diels, VITO; Volker Hessel, U Eindhoven;
 Simone Maccagnan, Gimac Microextruders; Peter Poechlauer, Patheon;
 Kurt VandenBussche, UOP; Paul Watts, Nelson Mandela U

Rome Workshop 2016 Sponsors

Center for Process Analysis and Control (CPAC), Evolved Analytics LLC,
 Falcon Analytical, MK Optimization and Control LLC, Optimal,
 Nano Coordinates, Rollo Agro Enterprises, and UOP-Honeywell

Monday, March 21, Conference Room, 3rd Floor

12:00	Registration Opens
13:15	Introduction Mel Koch, CPAC/APL, University of Washington, USA
13:30	Welcome from the US Embassy in Rome, Italy
Session One	Examples of Cascade Concepts with Emphasis on Technology Needs that will Enable Efficient Scale-Up
13:45	Efficient Use of Cascade Concepts Opens the Door to Broader Use of Renewable Feedstocks Ray Chrisman, Mk Optimization and Control LLC, USA
14:25	The Use of Multi-Step Continuous Manufacturing to Enable Sustainable Synthesis in Emerging Markets Paul Watts, Nelson Mandela University, South Africa

Session Two	Coupling Multiple Unit Operations for the Cascade Approach to Continuous Processing
15:05	Cascade Reactions: From Batch to Flow Claude de Bellefon, University of Lyon, France
15:35	Break
15:55	University of Washington Rome Center Welcome Sheryl Brandalik, Director, UWRC, Italy
16:10	Introduction of Participants
16:30	Optimal Utilization of Foods by Use of On-Line Spectroscopic Techniques Jens Petter Wold, Nofima, Norway
17:00	Discussion: Ray Chrisman, MK Optimization and Control LLC, USA
17:30	Con Apertivo, UW Rome Center, Apartment 422, 4th Floor

Tuesday, March 22, Conference Room, 3rd Floor

Session Two	Coupling Multiple Unit Operations for the Cascade Approach to Continuous Processing
9:00	Introduction Mel Koch, CPAC, University of Washington, USA
9:10	Developing Multi-Step Chemical Synthesis Using Micro-Reactors Frank Gupton, Virginia Commonwealth University, USA
9:50	Flow Chemistry and Engineering Using Water for a Heck Alkynylation Ryan Hartman, New York University, USA

10:20	Break
10:45	Developing Process Control for Flow Chemical Reactions – Using Unique Approaches to Sampling, Sensing, and Data Handling Brian Marquardt, CPAC, University of Washington, MarqMetrix, USA
11:15	Linking the Manufacture of Pharmaceutical Ingredients to their Formulation Peter Poechlauer, Patheon, Austria
11:45	Challenges of API Continuous Manufacturing Paul Desmond, Eli Lilly, Ireland
12:15	Lunch, Da Pancrazio, Palazzo Pio, Ground Floor
Session Two	Coupling Multiple Unit Operations for the Cascade Approach to Continuous Processing
14:00	Fit Your Reactor to Your Chemistry and Not the Chemistry to Your Reactor Ildikó Kovács, Thales Nano, Hungary
14:30	Process Intensification via Integrated Separation Technology Ludo Diels, VITO, Belgium
Session Three	Sampling, Sensing, and Multivariate Analysis, MVA of Large Data Sets for Optimized Process Control
15:00	Accelerating the Generation of Multistep Kinetic Models Using Flow Technologies Christopher Hone, U of Leeds/U of Graz, UK/Austria
15:30	Break
15:50	Using PAT Based Knowledge Management in a Continuous Manufacturing Environment Martin Gadsby, Optimal, UK
16:20	Continuous Process Insights: What Matters and Why Theresa Kotanchek, Evolved Analytics, USA

Session Four	Advances in Process Unit Operations
16:50	A Cascade Approach to Selective Biomass Extraction and Conversion Prof. Giancarlo Cravotto, DSTF Director (Dept Drug Science and Technology, U Turin) and ESS President (European Society of Sonochemistry), Italy
17:20	Discussion: Ray Chrisman, MK Optimization and Control LLC, USA
17:40	Reception Con Apertivo, UW Rome Center, Apartment 422

Wednesday, March 23, Conference Room, 3rd Floor

Session Five	Advances in Process Unit Operations and Solution Providers
9:00	Introduction Mel Koch, CPAC, University of Washington, USA
9:10	Analytical Solutions in Marine Industry Vitali Judin, Siemens, Germany
9:40	Continuous Crystallization Merino Nebuloni, U Parma, Italy
10:10	Useful Applications of Smart Micro-Gas Chromatography with the NeSSI™ Platform John Crandall, Falcon Analytical, USA
10:40	Break
11:10	Corning® Advanced-Flow™ Reactors: The Tool for Intensifying Chemical Processes and Boosting the Productivity Daniela Lavric, Corning SAS
11:40	Automation for Continuous Manufacturing and Microscale Production Marco Banti, ABB, Italy
12:10	Final Discussion and Action Plans
13:00	Conclusion of Rome Workshop