



CPAC Rome Workshop 2018

March 19-21, 2018, University of Washington Rome
Center Piazza del Biscione 95, Rome, Italy 00186

Utilization of New Concepts in Developing Next Generation Materials, as well as Exploring New Reaction Routes that Benefit from the Growing Use of Continuous Flow Technology

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

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

Sponsorship: MarqMetrix Inc. and Optimal Industrial Automation Ltd

Monday, March 19, UWRC Conference Room, 1st Floor

12:00	Registration Opens
13:00	Introduction Mel Koch, CPAC/APL, University of Washington, and MK Optimization and Control LLC, USA
13:10	Review of the Summary and Charts from the 2017 Rome Workshop and the Plan for this Year's Event Ray Chrisman, MK Opt and Control and Peter Poechlauer, Patheon, Austria
Concept One	Examples of New Concepts to Facilitate Next Generation Processes
13:40	The Circular Economy, When Problems Become Opportunities for New Thinking in Product Development and New Ways of Production Harald Sverdrup, University of Iceland and Norsemetal, Norway

14:10	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
Concept Two	Enabling Process Understanding to Enable the Integration of Multiple Unit Operations for Continuous Processing
14:40	Development and Maintenance of Process Models - Automating the Selection and Updating of Models Olav Kvalheim, University of Bergen, Norway
15:10	Break
15:25	University of Washington Rome Center Welcome Amity Neumeister, Director, UWRC, Italy
15:40	Introduction of Participants
16:15	Leveraging Operational Intelligence Technology to Sustain Operational Excellence Mark Hodgkinson, The Bahrain Petroleum Company (BAPCO), Kingdom of Bahrain
16:45	Synthetic Carbon Allotropes: a Growing Family of Fascinating Architectures with Outstanding Material Properties Giancarlo Cravotto, DSTF Director (Drug Science and Technology), U Turin and ESS President (European Society of Sonochemistry), Italy
17:15	Discussion: Ray Chrisman, MK Optimization and Control LLC, USA
17:30	Con Apertivo, UW Rome Center, Apartment 422, 4th Floor

Tuesday, March 20, UWRC Conference Room, 1st Floor

Concept Three	Coupling Multiple Unit Operations for Continuous Processing
9:00	Introduction Mel Koch, CPAC, University of Washington, USA
9:10	Integrated Continuous Flow Processing of Fine Chemical and Pharmaceutical Products Paul Watts, Nelson Mandela University, South Africa
9:40	Process Analytical Technology in Biologics Cyrus Agarabi, US FDA CDER, USA

10:10	Data Analytics for Governing Big Data in Continuous Process Operations in a Digital Factory Marco Banti, ABB Industrial Automation Division, Control Technologies, Pharmaceutical Industry, Italy
10:40	Break
10:55	Welcome Caron de Mars, US Embassy Rome, Italy
11:05	Linking the Manufacture of Pharmaceutical Ingredients to their Formulation Peter Poechlauer, Patheon, Austria
11:35	Quality-In(Process)Line (QuiProLi) Process Intensification for a Micro-Flow UV-photo Synthesis Enabled by Online UHPLC Analysis Marc Escribà-Gelonch, Elnaz Shahbazali, and Volker Hessel, Eindhoven University of Technology, The Netherlands and Maarten Honing, Maastricht University, The Netherlands.
12:05	Lunch, Da Pancrazio, Palazzo Pio, Ground Floor
Concept Four	Process Automation of Coupled Multiple Unit Operations for Continuous Processing
13:30	Microfluidics with <i>In Situ</i> Raman Spectroscopy for the Characterization of Non-Polar/Aqueous Interfaces Ryan Hartman, New York University, USA
14:00	Using Lab Scale Flow Chemistry for Data Acquisition and the Development of Modularity Jean-Noël Tourvieille and Flavie Sarrazon, Solvay, France
14:30	The Medicines For All Initiative Frank Gupton, Virginia Commonwealth University, USA
Concept Five	Sampling, Sensing, and Multivariate Analysis, MVA of Large Data Sets for Optimized Process Control
15:00	Developing Process Control for Flow Chemical Reactions – Using Unique Approaches to Sampling, Sensing, and Data Handling Brian Marquardt, CPAC, University of Washington, MarqMetrix, USA presented by Ray Chrisman, MK Optimization and Control LLC, USA
15:30	Break
15:50	Process Intensification in Bio-based Industries – particularly to Achieve Efficient Lignin Processing Ludo Diels, VITO, Belgium
16:20	Developing Technology to Convert Lignin to Useful Products Per Tomani and Peter Axegård, Rise Research Institute, Sweden

16:50	In Planta Application of CaCO₃ Nanocarriers as Strategy for the Active Containment of Xylella Fastidiosa Giuseppe Ciccarella, U Salento & UdR INSTM di Lecce, Italy
17:20	Discussion: Ray Chrisman, MK Optimization and Control LLC, USA
17:40	Reception Con Apertivo, UW Rome Center, Apartment 422

Wednesday, March 21, UWRC Conference Room, 1st Floor

Concept Six	Advances in Process Unit Operations and Solution Providers
9:00	Introduction Mel Koch, CPAC, University of Washington, USA
9:10	Evaluation of New Opportunities for Pharmaceutical Manufacturing: Exploitation of Gas-Liquid Chemistry in Flow, Christopher Hone, University of Graz, Austria
9:40	The Use of a C-3 Building Block for Preparing New Chemicals for Different Applications Maurizio Galimberti, Politecnico University, Milan, Italy
10:10	Real Time PAT Based Knowledge Management and Control in Continuous Processes Martin Gadsby, Optimal Industrial Automation Ltd., UK
10:40	Break
11:00	Advances in Micro-Extruders Simone Maccagnan, Gimac, Italy
11:30	Crystallization of Drug Substances: QbD and PAT Application for CQAs Assessment Marino Nebuloni, U Parma, Italy
12:00	Axel'One Innovative Platform and Axel'One Analysis Franck Baco-Antoniali, IFP and Axel'One, France
12:30	Lunch (on your own)
14:00	Hierarchical "Milli-Foam" Internals for Demanding G-L-S Chemistries Régis Philippe University of Lyon, France
14:30	Portable, Single-Sided NMR for Industrial Applications Michele Martin, Tricia Wong, Matt Augustine, and Michael McCarthy, University of California at Davis, USA
15:00	Recent Advances in Valve-Based Two-Dimensional Gas Chromatography and Gas Chromatographic Sensing Chris E. Freye, H. Daniel Bahaghighat, and Robert E. Synovec, University of Washington, USA
15:30	TBA

16:00	Summary and Final Discussion leading to 2018 Chart Preparation and Action Plans Ray Chrisman, MK Opt and Control, and Peter Poechlauer, Patheon
16:30	Conclusion of Rome Workshop