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, 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, Peter Poechlauer, Patheon; Kurt VandenBussche, UOP; Paul Watts, Nelson Mandela U

Monday, March 19, Conference Room, 1st Floor

<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
</tr>
</thead>
<tbody>
<tr>
<td>12:00</td>
<td>Registration Opens</td>
</tr>
<tr>
<td>13:00</td>
<td><strong>Introduction</strong>&lt;br&gt;Mel Koch, CPAC/APL, University of Washington, USA</td>
</tr>
<tr>
<td>13:10</td>
<td><strong>Review of the Summary and Charts from the 2017 Rome workshop and the Plan for this year’s event</strong>&lt;br&gt;Ray Chrisman, MK Opt and Control and Peter Poechlauer, Patheon</td>
</tr>
<tr>
<td>13:30</td>
<td>Welcome from the US Embassy in Rome, Italy</td>
</tr>
</tbody>
</table>

**Session One**

<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
</tr>
</thead>
<tbody>
<tr>
<td>13:45</td>
<td><strong>The Circular Economy, When Problems Become Opportunities for New Thinking in Product Development and New Ways of Production</strong>&lt;br&gt;Harald Sverdrup, University of Iceland and Norsemetal, Norway</td>
</tr>
</tbody>
</table>
14:20 Incorporating and Substituting Operator Experience in Development of Processes - some Critical Issues  
Olav Kvalheim, University of Bergen, Norway

**Session Two** Enabling process understanding to enable the Integration of Multiple Unit Operations for Continuous Processing

14:50 Process Analytical Technology in Biologics  
Cyrus Agarabi, US FDA CDER, USA

15:20 Break

15:35 University of Washington Rome Center Welcome  
Amity Neumeister, Director, UWRC, Italy

15:45 Introduction of Participants

16:15 The use of Extruders to make Polymer Nanocomposites  
Babatunde Ogunnaike, University of Delaware, USA

16:45 Hierarchical "Milli-Foam" Internals for Demanding G-L-S Chemistries  
Régis Philippe University of Lyon, France

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, Conference Room, 1st Floor**

**Session 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 The Medicines For All Initiative  
Katherine Belecki, Virginia Commonwealth University, USA  TBC
<table>
<thead>
<tr>
<th>Time</th>
<th>Session</th>
<th>Title</th>
<th>Speaker(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>10:10</td>
<td>Break</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
17:20 | **Discussion:** Ray Chrisman, MK Optimization and Control LLC, USA

17:40 | Reception Con Apertivo, UW Rome Center, Apartment 422

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

<table>
<thead>
<tr>
<th>Session Six</th>
<th>Advances in Process Unit Operations and Solution Providers</th>
</tr>
</thead>
</table>
| 9:00 | **Introduction**  
Mel Koch, CPAC, University of Washington, USA |
| 9:10 | **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 |
| 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 | **Chemical Nanotechnologies and Strategies for Sustainable Protection from the Olive Quick Decline Syndrome**  
Giuseppe Ciccarella, U Lecce, Italy |
| 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 | **The Implémentation of a Platform for Innovation**  
Franck Baco-Antoniiali, IFP and Axel One, France |
| 12:30 | Lunch |
| 14:00 | **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 |
| 14:30 | **The Combination of flow Chemistry and the elements of Green Chemistry**  
Luigi Vaccaro, University of Perugia, Italy |
| 15:00 | **Advances in the use of Single-Sided NMR magnets**  
Michele Martin, Matt Augustine, and Michael McCarthy, University of California at Davis, USA |
<table>
<thead>
<tr>
<th>Time</th>
<th>Session Title</th>
<th>Speaker(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>15:30</td>
<td><strong>Green Chemistry</strong></td>
<td>Antimo Gioello, University of Perugia TBC</td>
</tr>
<tr>
<td>16:00</td>
<td><strong>Summary and Final Discussion leading to 2018 Chart Preparation and Action Plans</strong></td>
<td>Ray Chrisman, MK Opt and Control and Peter Poechlauer, Patheon</td>
</tr>
<tr>
<td>16:30</td>
<td><strong>Conclusion of Rome Workshop</strong></td>
<td></td>
</tr>
</tbody>
</table>