Announcement

The Process Analytical Enterprise in 2020 and Beyond

*A mini-symposium exploring the implications of Industry 4.0 for online stream analysis
in the upstream, downstream, refining, and petrochemical industries*

April 27, 2017
ISA Analysis Division Symposium, Pasadena, California

The reality of *Industry 4.0* means that the process analytical paradigm will be removed from its current silo and integrated into the broader cyber-physical production context. As yet, what that means is quite uncertain. However, what does seem certain is that process monitoring enterprise will change. The purpose of this mini-symposium is to gain a vision for Process Monitoring 4.0.

Topics to be explored through the PM 4.0 Mini-Symposium

- Holistic approach to process analyzer selection, procurement, and deployment

- Analyzer systems of the future

- The role of digitalization in analyzer system design, implementation, training, and maintenance

- Controlytics: fusion of technologies for control/optimization and process analysis

These topics will be infused and informed by a variety of industry trends and drivers including digitalization, big data, the Industrial Internet of Things (IIoT), sustainability (of technology and the human resources required to implement/maintain them), diagnostics and system monitoring, Industry 4.0, and Service 4.0. Presentations will contemplate how these factors will facilitate and shape PM 4.0.

Moving Beyond PM 3.0

The 3rd industrial revolution began in the early 1970s with the application of electronics and IT to further automate production that grew out of Industry 2.0. Inaugurated by the first programmable logic control system in 1969, the development and deployment of diverse technologies for online monitoring of chemical composition accelerated continuously during the next three decades. A process analytical paradigm matured quickly to support the ever-increasing capability of DCS and APC and to satiate their appetite for data.

Ironically, the success of that paradigm has also ensured that a) it would become commoditized and institutionalized, and therefore b) its continued evolution would proceed slowly and in very small increments. Indeed, against the backdrop of rapidly-changing technologies, workforce demographics, and economic dynamics, the traditional process monitoring paradigm appears increasingly anachronistic. The pent-up need for change will propel the advancement to PM 4.0.

List of Presenters

Presenter	Company/Institution	Presentation Title
Mel Koch *Keynote Speaker*	CPAC, University of Washington	*Process Analytical: A Field that is Surviving While Innovating*
JD Tate *Keynote Speaker*	The Dow Chemical Company	*Process Analytical Needs, Challenges and Drivers*
Paul Cammarata and Leo Chiang	The Dow Chemical Company	*Reliability through Synergies between Conventional and Inferential Process Analyzers*
Jeff Gunnell	Emerson Process Management	*Supporting PM 4.0 with Smart Spectroscopic Analyzers*
Brian Marquardt	MarqMetrix	*Moving a Prohibition-Era Sensor into the 21st Century*
Chet Mroz	Executive Advisor	*IoT: A New Paradigm Shift for Enterprise Composition Measurement Systems*
David Novak	Siemens	*Angie's List™ for Analyzers*
Jim Petrusich	Northwest Analytics	*Incorporating Sensors into Process Safety Models*
Brian Rohrback	InfoMetrix	*Multivariate Control Schemes*
Brian Smith	CAMO	*Prediction of Sulfur in Crude Oil by Multivariate Data Analysis*
Marcus Trygstad	Yokogawa	*Paradigm Shifting to PM 4.0 with a Continuously-Variable Transmission*
Jesse Underwood	Yokogawa	*A Herald of PM 4.0*
Peter van Vuuren	Endress+Hauser	*Process Analytical Systems: A Re-Vision for the Future*

Although the PM 4.0 Symposium is organized around the presentations listed above, the intention is for the event to promote dialog among all attendees. Accordingly, the program will include at least one roundtable discussion to give voice to perspectives beyond those of the formal presentations.

Who Should Attend?

Managers, scientists, control engineers, and analyzer engineers in the upstream, downstream, refining, and petrochemical industries who are concerned about the sustainability of practices in online process analysis and interested in understanding how these issues will be addressed in the context of Big Data, the Industrial Internet of Things, and other industry trends.

Registration

The PM 4.0 Mini-Symposium is being run in conjunction with the ISA 2017 Analysis Division Symposium but requires a separate registration of $25. Registration for this event can be made with the full Symposium registration.