58th Analysis Division Symposium 2013

Analytical Solutions in Paradise

ISA Volume 494

Galveston, Texas, USA 14-18 April 2013

ISBN: 978-1-62748-776-4

Printed from e-media with permission by:

Curran Associates, Inc. 57 Morehouse Lane Red Hook, NY 12571



Some format issues inherent in the e-media version may also appear in this print version.

Copyright© (2035) by International Society of Automation - ISA All rights reserved.

Printed by Curran Associates, Inc. (2015)

For permission requests, please contact International Society of Automation - ISA at the address below.

International Society of Automation - ISA 67 Alexander Drive Research Triangle Park, NC 27709 USA

Phone: (919) 549-8411 Fax: (919) 549-8288

info@isa.org

Additional copies of this publication are available from:

Curran Associates, Inc. 57 Morehouse Lane Red Hook, NY 12571 USA Phone: 845-758-0400 Fax: 845-758-2634 Email: curran@proceedings.com Web: www.proceedings.com

Session	Paper / Author(s)	Session Moderator; Page / Link
AD2013.S01	Chemical Analysis	Randy Hauer
S01.1	Process Measurement of pH for Caustic Concentration Control Timothy Davidson, Craig M Smith, Naheed Soomar, Ryan Brown, Ryan Burch and Andrew Pierce BP West Coast Products, Mangan Inc.	<u> </u>
S01.2	In-Situ, Real-Time Measurement, Monitoring and Data Analysis of Solids and Oil in Water, Using Automated Self Cleaning To Avoid Fouling	<u> Þ₩E </u>
	Gerald Cooke Advanced Sensors	
S01.3	Demystifying the On-Line Use for Biological Oxygen Demand (BOD), Chemical Oxygen Demand (COD) and Total Organic Carbon (TOC)	F€
	David Perrin and Catherine Grose Liquid Analytical Resource, LLC	
Session	Paper / Author(s)	Session Moderator; Page / Link
AD2013.S02	Emerging Technology	Bill Johnson
S02.1	Soft and Hard Process Analyzers: Complementary Tools for Enabling Crude Distillation Optimization	
	W. Marcus Trygstad and Saravanan Prabakaran Yokogawa Corporation of America	
S02.2		
502.2	Using Automated Cleaning Systems To Improve In-Line Sensor Performance	<u> </u>
502.2		<u> </u>
S02.2 S02.3	Performance John Groetsch	<u> </u>

Session	Paper / Author(s)	Session Moderator; Page / Link
AD2013.S03	Analyzer Maintenance and Engineering	Bac Vu
S03.1	Analyzer Key Performance Indicators Steve Smith and David Tamez Smith Analytical and Saudi Aramco	<u>Þ£0E</u>
S03.2	Combustion Analyzer Requirements for SIL Certification and SIS Implementation. Larry Sieker and Chris Kolesar	<u>îî</u>
	Ametek Process Instruments	
S03.3	Effective Analyzer System Project Management and Engineering Gary D. Nichols, P.E. Principal Control Systems Engineer	<u> </u>
Session	Paper / Author(s)	Session Moderator;
		Page / Link
AD2013.S04	Spectroscopy I	Yoav Barshad
AD2013.S04 S04.1	Spectroscopy I Use of PATLS Mid-IR Multi-Gas QCL Laser Based Analysers Dr. Beth Cummings, Dr. Paul Miller, Simon Nicholson, Paul Black, Steve Waldron Cascade Technologies Limited	-
	Use of PATLS Mid-IR Multi-Gas QCL Laser Based Analysers Dr. Beth Cummings, Dr. Paul Miller, Simon Nicholson, Paul Black, Steve Waldron	-

PAI Partners/WALTON Associates

Session	Paper / Author(s)	Session Moderator; Page / Link
AD2013.S05	Physical Property Analysis I	Jim Tatera
S05.1	Measurement of Sodium Ions in High Pressure Steam Nandkishor (Nand) Khidkikar CCST III, Rexford G Demazeliere BP Products North America Inc.	<u>Þ£0E</u>
S05.2	Validating the Use of a Vibrating Viscometer At Resonance Frequency for Fuel Characterization Dr. Luc Belliere and D. Chantereau SOFRASER	<u> </u>
S05.3	On-Line Viscosity Measurement At Pre-Defined Reference Temperature Under ASTM D445 Conditions, Technology and Advantages Stefanie Koch BARTEC BENKE GmbH	<u> </u>
Session	Paper / Author(s)	Session Moderator;
		Page / Link
AD2013.S06	Process Analyzer Applications I	Page / Link Steve Smith
AD2013.S06 S06.1	Utilizing Online Oil in Water Analysis for Process Management and the Prevention of Environmental Incidents Bailey Brupbacher and Frank Richerand Jr	
	Utilizing Online Oil in Water Analysis for Process Management and the Prevention of Environmental Incidents Bailey Brupbacher and Frank Richerand Jr Enviro-Tech Systems Simultaneous Monitoring of Process pH and Oxidation-Reduction Potential (ORP)	Steve Smith
S06.1	Utilizing Online Oil in Water Analysis for Process Management and the Prevention of Environmental Incidents Bailey Brupbacher and Frank Richerand Jr Enviro-Tech Systems Simultaneous Monitoring of Process pH and Oxidation-Reduction Potential	Steve Smith

Session	Paper / Author(s)	Session Moderator; Page / Link
AD2013.S07	Process Analyzer Applications II	Bob Farmer
S07.1	Dimethyl Formamide (DMF) - Simplifying the Online Measurement of Moisture	<u> </u>
	David Amirbekyan, Yoav Barshad Ph.D. Applied Analytics North America, Ltd.	
S07.2	Impact of Helium Carrier Gas Shortage on Process Gas Chromatographs	<u> </u>
	Al Kania Siemens Industry	
S07.3	Process Mass Spectrometry and Renewable Fuels Analysis	<u> </u>
	Tony Slapikas and Mike Fuller AMETEK PI	

Session	Paper / Author(s)	Session Moderator; Page / Link
AD2013.S08	Spectroscopy II	Phil Harris
S08.1	Interband Cascade Lasers for Tunable Laser Spectroscopy of Hydrocarbons	FJG
	L. Hildebrandt, J. Scheuermann, M. v. Edlinger, N. Koslowski, Johannes Koeth, R. Weih, A. Bauer, S. Höfling and M. Kamp nanoplus GmbH and University of Würzburg, TEP	
S08.2	Advantages of Using Direct Absorption Method for TDLAS Measurement	<u> </u>
	Jie Zhu, Alan Cowie, Anatoliy Kosterev and Don Wyatt Yokogawa Corporation of America	
S08.3	Advancements in Trace Moisture Measurement of Desiccant Drier Output Reduce Variable Operating Costs in Natural Gas Cryogenic Process	GF€ _
	Greg Lankford, Charles Bates, Dr. Xiang (Sherry) Liu, HsuHung (Steven) Huang, and KuanTing (Gary) Yeh SpectraSensors, Inc. and DCP Midstream	

Session	Paper / Author(s)	Session Moderator; Page / Link
AD2013.S09	Environmental Monitoring	Dale Merriman
S09.1	Case Study of CO Control of a Process Heater in an Oil Refinery Using a QCL Based Analyzer Robert Bambeck, Ken Brown Bambeck Systems Inc., Valero	<u> </u>
S09.2	Measurements of Industrial Nitrogen Oxide Emissions Utilizing Mid-Infrared Absorption Spectroscopy Dr. Peter Geiser and Ketil Gorm Paulsen Norsk Elektro Optikk AS and neoMONITORS	<u></u>
S09.3	Tunable Diode Laser (TDL) Based Hydrogen Chloride Gas (HCI) Continuous Emission Monitoring System (CEMS) Development Challenges To Meet EPA's Draft Performance Specification	<u> </u>
	Keith Crabbe, Gervase MacKay, Paul Tran, John T. Pisano and Thomas D. Durbin Cemtek Environmental, Unisearch Associates and Bourns College of Engineering	
Session	Paper / Author(s)	Session Moderator; Page / Link
AD2013.S10	Physical Properties Analysis II	Roy Muston
S10.1	Characterizing the Performance of Surface Modifications That Enhance Sensitivity, Reliability, Reproducibility and Accuracy of Analytical Instruments	<u>Ĝ</u> €
	Gary Barone, David Smith and Marty Higgins SilcoTek Corporation	
S10.2	Physical Properties Analysis in Modern Petroleum Industry Gregory Shahnovsky Modcon Systems Ltd.	Ğ€
S10.3	Hot Boxes for Sample Conditioning Martin Hess INTERTEC-Hess GmbH	<u>Þ₩</u>

Session	Paper / Author(s)	Session Moderator; Page / Link
AD2013.S11	Spectroscopy III	Mike Chaney
S11.1	Process Gas Analyzers for the Measurement of Ammonia and Acetylene Concentrations Airat Amerov and Mike Fuller AMETEK Process Instruments	<u> </u>
S11.2	Trace Moisture Process Analysis in Liquid and Liquefied Hydrocarbon Streams Stefanie Koch BARTEC BENKE GmbH	<u> </u>
S11.3	Comparative On-Line Physical Distillation and Total Sulfur Analysis Methods in the Gasoline Blender Susan P. Harris and Randy Ridge Petroleum Analyzer Co. and Marathon Petroleum Co.	<u>H</u> ê
Session	Paper / Author(s)	Session Moderator; Page / Link
AD2013.S12	The University of Southern Mississippi	Manny Alvarez
S12.1	Acoustical Detection of Oil Plumes Casey Provost, Anton Netchaev and Randy Buchanan University of Southern Mississippi	HGF
S12.2	Test Stand for Hydrogen Measurement in High Pressure Cryogenic Environment	<u> HG </u>
	Biju Bajracharya, Anton Netchaev and Randy Buchanan University of Southern Mississippi	
S12.3	In-Stream Monitoring of Photocatalytic Reactions for Coatings Characterization	<u> </u>
	Anton Netchaev and Randy Buchanan University of Southern Mississippi	