

Education

**Core Programming Topic at the 2012 AIChE Spring Meeting
cpf '8th Global Congress on Process Safety**

**Houston, Texas, USA
1-5 April 2012**

ISBN: 978-1-62276-554-6

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© (2012) by AIChE
All rights reserved.

Printed by Curran Associates, Inc. (2012)

For permission requests, please contact AIChE
at the address below.

AIChE
3 Park Avenue
New York, NY 10016-5991

Phone: (203) 702-7660
Fax: (203) 775-5177

www.aiche.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

TABLE OF CONTENTS

Process Safety and Corporate Responsibility	N/A
<i>Michael Dolan</i>	
Equations of Change: How Patent Law Has Changed, and What Changes Are to Come.....	1
<i>Jeffrey L. Wendt</i>	
What Is Prior Art in the "First-to-File" Patent System Under the America Invents Act of 2011	2
<i>Mark Rygiel, Anbar Khal</i>	
Avoiding Common Mistakes in Licensing Agreements and Other Technology Agreements	3
<i>Anthony Venturino</i>	
Misappropriation of Trade Secrets by Departing Employees or Other Agents	9
<i>Teresa Lechner-Fish, Chris Perque</i>	
Environmental Liability: Regulation, Compliance and Litigation Risk	17
<i>Mary Ellen Ternes</i>	
Propellant Systems for Household Spray Products	18
<i>Carl Abraham</i>	
Tips From 25 Years of Environmental and Product Liability Litigation	33
<i>Gayle S. Koch</i>	
Preliminary Technical Feasibility Study Into Effect of Withdrawing Spent Caustic Stream From Existing Activated Sludge Treatment Plant	34
<i>Janit Pongpuak, Wiwut Tanthanapichakoon, Vasimon Ruanglek, Nakarin Mongkolsiri, Surachate Chalothonr</i>	
Cleaner Chemical Industry Through HEN Advanced Retrofit Approach	35
<i>Mahmoud Bahy Noureddin, Mohammad Alibrahim, Mana Al-Owaiddah, Ali Alqahtani</i>	
Energetic Self Sufficiency: Theory and Application	37
<i>Vasilios Manousiouthakis, Jorge Pena Lopez</i>	
Impact of Flaring Emissions on Regional Air Quality Associated with An Ethylene Plant Start-up	38
<i>Jian Zhang, Qiang Xu, Thomas C. Ho</i>	
Phytoremediation of A Wetland SOIL, by TWO METHODS In Bogota Colombia.....	39
<i>Ingrid Rivera, Sergio Pedraza, Gabriel Camargo</i>	
Search of Suitable Halon 1301-Like Fire Suppressants Based on Flame Inhibition Mechanism Understanding.....	40
<i>Carmen H. Osorio, Eric L. Petersen, M. Sam Mannan</i>	
Optical Fiber Reflectance Probe for Detection of Supercritical Transition.....	49
<i>Yujian Sun, Boung Wook Lee, Milorad P. Dudukovic</i>	
Musings on Management	56
<i>Frank Van Lier</i>	
Synthesis of PVA Based Membranes Modified by Benzimidazole Group for Direct Methanol Fuel Cells	57
<i>Pratima Gajbhiye, Jayant K. Singh, Anil Kumar</i>	
Operation and Controls of Operating Direct Methanol Fuel Cells with PVA Based Membranes Modified by Benzimidazolium Groups	60
<i>Pratima Gajbhiye, Pranjal Joshi, Jayant K. Singh, A. Kumar</i>	
Numerical Investigation in Heat Conduction Effect on Heat Exchange for Mini Cross-Flow Heat Exchanger (MCHE).....	63
<i>Hongyue Duan, Wei Mu, Xigang Yuan, Lingai Luo</i>	
The Effects of Out Gassing Through Cylindrical Walls on the Transport Coefficients	64
<i>Luma H. Yaseen, Nada B. Nakkash, M. N. Latif</i>	
Down the Hubbert Curve.....	65
<i>Ian Sutton</i>	
Statistical Decision Making for In-Service Inspection of Underground Waste Storage Tanks.....	66
<i>Emily Mitchell, Stephen P. Harris</i>	
Thermal Inbreathing Requirements of Low Pressure Storage Tanks At Elevated Temperatures.....	67
<i>Donald E. Brooks</i>	
Dynamic Operational Risk Assessment with Bayesian Networks.....	68
<i>Shubharthi Barua, Xiaodan Gao, M. Sam Mannan</i>	
Comparing the Performance of Compact Heat Exchange Reactor to CSTR for Fischer Tropsch Synthesis	75
<i>Hani Gadalla, Zhijun Jia, Steven J. Vallee, Burtron H. Davis, Dennis Sparks</i>	

The Connection: Our Industry and the STEM Initiative.....	76
<i>Toni J. Crawford, Ranessa U. Davis</i>	
Teaching Life Cycle Sustainability Assessment Via Online Course	77
<i>Anthony Halog, Najet Bichraoui</i>	
On Instruction of Statics and Dynamics to a Large Class.....	78
<i>Kal Renganathan Sharma, Ramalingam Radhakrishnan</i>	
Trends of Chemical Engineering Curriculum in Iran and New Challenges.....	81
<i>Yousef Jalali</i>	
Teaching Chemical Engineering Principles to Non-Chemical Engineers	82
<i>Jack Hippie</i>	
"Reverse Circular Teaching": A Pragmatic and Effective Way to Increase Successful Understanding	84
<i>Phaneendra B. Kondapi</i>	
Liquid Level Systems for Process Control Education and Researches	85
<i>Jietae Lee, Dong Hyun Kim</i>	
USING PFD Diagrams AS Teaching TOOL for NON Chemical Engineers.....	86
<i>Lady Gaitán, Johanna García, Luisa Martín, Gabriel Camargo</i>	
A Microfluidic Platform for University-Level Analytical Chemistry Laboratories.....	88
<i>Jesse Greener, Ethan Tumarkin, Michael Debono, Andrew Dicks, Eugenia Kumacheva</i>	
Using LEGO NXT Robotics, Vernier Sensors and Imagination to Build An Integrated Freshman Engineering and Service Learning Program.....	89
<i>Bill B. Elmore</i>	
Author Index	