

17th Topical Conference on Gas Utilization 2017

Topical Conference at the 2017 AIChE Spring Meeting and
13th Global Congress on Process Safety

San Antonio, Texas, USA
26 – 30 March 2017

ISBN: 978-1-5108-4130-7

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© (2017) by AIChE
All rights reserved.

Printed by Curran Associates, Inc. (2017)

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

AIChE
120 Wall Street, FL 23
New York, NY 10005-4020

Phone: (800) 242-4363
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: 845-758-2633
Email: curran@proceedings.com
Web: www.proceedings.com

TABLE OF CONTENTS

| | |
|--|------------|
| (1A) AGILE AWARD KEYNOTE ADDRESS | 1 |
| <i>John Televantos</i> | |
| (6A) ENERGY-INDUSTRY TRENDS AND INSIGHTS FROM THE WELLHEAD TO DOWNSTREAM PRODUCTS..... | 2 |
| <i>Claire Cagnolatti</i> | |
| (71A) DEPRESSURIZATION OF PROCESS EQUIPMENT DURING EMERGENCY OR PLANNED SHUTDOWN ON A HIGH POTENTIAL CO₂-SOLID-FORMING STREAM UTILIZING THE LATEST DYNAMIC SIMULATION AND BLOWDOWN MODELS..... | 3 |
| <i>Scott M. Wozniak, Fadhli Hadana Rahman, Raad Assaf, M Faudzi B Mat Isa</i> | |
| (71B) INHERENTLY SAFER PIPING - BEST PRACTICES | 4 |
| <i>Steve Streblov</i> | |
| (71C) UNDERSTANDING TOLERABLE RISK CRITERIA - CONSIDERING THE GROWTH OF LNG TRANSPORTATION..... | 26 |
| <i>Ryan J. Hart, Delmar "Trey" Morrison</i> | |
| (93A) CHALLENGES IN THE APPLICATION OF ADSORBENT TECHNOLOGIES FOR MIDSTREAM CONTAMINANTS CONTROL | 41 |
| <i>Mahdi Nouri, Olivier Ducreux, R. Paul Clewis, Lorrel Hodgson</i> | |
| (105A) IRON-CONTAINING CARBON MOLECULAR SIEVE MEMBRANES FOR ADVANCED OLEFIN/PARAFFIN SEPARATIONS | 81 |
| <i>Yu-Han Chu, David F. Yancey, Mark Brayden, Marcos Martinez, Liren Xu, William J. Koros</i> | |
| (105B) COMBINING ADD-ON TECHNOLOGIES FOR GSP PLANTS WITH UP-TO-DATE PLATE FIN HEAT EXCHANGER DESIGN | 100 |
| <i>Thomas Walter, Thomas Martin, Adrian Wegmann</i> | |
| (105C) MODELING AND SIMULATION FOR FLOW ASSURANCE IN FCC-CRACKED GAS PROCESSING | 110 |
| <i>Mustafa Karakaya, Rakib Mohammad, Mohamed Al Musharfy, Mabruk Issa Suleiman</i> | |
| (126A) CONSIDER THE ALTERNATIVES - NGL FRACTIONATION CONFIGURATIONS..... | 128 |
| <i>Scott Schroeder</i> | |
| (126B) DEVELOPMENT OF FUEL PROCESSOR FOR RESIDENTIAL PEFC SYSTEMS | 143 |
| <i>Masafumi Ohashi, Yoshitaka Baba, Shin Inagaki</i> | |
| (126C) SYNERGY OF LARGE-SCALE CRYOGENIC AIR SEPARATION UNIT AND LIQUEFIED NATURAL GAS IMPORT TERMINAL | 154 |
| <i>Ravinder Singh, Helen Lou</i> | |
| (153A) PROS AND CONS OF DIFFERENT BLANKET GAS (PAD GAS) CONTROL FOR DIFFERENT UNIT FOR LNG BASELOAD PLANT | 166 |
| <i>J. C. Kuo, Yoshitsugi Kikkawa</i> | |
| (153B) HOW NON-CONDENSABLES AFFECT YOUR ETHANE/ETHYLENE LIQUEFACTION PROCESS - DIFFERENT CONCEPTS TO REDUCE POWER CONSUMPTION AND PRODUCT LOSSES | 172 |
| <i>Thomas Walter, Adrian Wegmann, Kathy Bigger</i> | |
| (153C) ENHANCED SAFETY IN LNG PLANT DESIGN..... | 180 |
| <i>Augusto Bulte, Lourdes Martinez</i> | |
| (170A) LIQUID DENSITY BY EOS | 188 |
| <i>Yoshitsugi Kikkawa, David Hill</i> | |
| (170B) VERSATILE CRYOGENIC NITROGEN REJECTION..... | 200 |
| <i>Heinz C. Bauer</i> | |
| (170C) AN AUTOMATED MAIN CRYOGENIC HEAT EXCHANGER COOLDOWN TECHNOLOGY | 208 |
| <i>Matthew J. Okasinski, Fei Chen, Mark Roberts</i> | |
| (180A) ANATOMY OF A PT FLASH..... | 217 |
| <i>Anand Solanki</i> | |
| (180B) DYNAMIC ANALYSIS OF FEED GAS CONTROL IN LNG PLANTS..... | 223 |
| <i>Amudha Valli Narasimhan, Haribabu Chittibabu, Jaleel V. Valappil</i> | |
| (180C) OPERATIONAL AND SAFETY ASPECTS OF LNG PLANTS THROUGH DYNAMIC SIMULATIONS: DISTURBANCE SCENARIOS, STORAGE AND FLARE NETWORKS | 224 |
| <i>Dimitrios Georgis, Matthew J. Okasinski, Pieter Schmal, Amit Goda, Praveen Lawrence</i> | |

| | |
|--|------------|
| (180D) DYNAMIC SIMULATION OF LNG LOADING, BOG GENERATION, AND BOG RECOVERY AT LNG EXPORTING TERMINALS | 237 |
| <i>Yogesh Kurle, Qiang Xu</i> | |
| (192A) NGL PRODUCT STORAGE AND BOIL OFF COMPRESSION SYSTEM | 264 |
| <i>Haribabu Chittibabu, Amudha Valli Narasimhan, Sameera Thakore, Giridhar Pydisetti</i> | |
| (192B) DYNAMIC SIMULATION AND OPERABILITY STUDY ON PARALLEL COMPRESSOR STRINGS FOR LNG APPLICATION | 265 |
| <i>Laurence Casali, Lorenzo Gallinelli, Fabio Baldanzini, Marco Pelella</i> | |
| Author Index | |