FOCAPO / CPC 2017
POSTER SESSION B

Tuesday January 10, 2017
8:00 pm to 11:00 pm

OPERATIONAL SAFETY OF CHEMICAL PROCESSES VIA SAFE MODEL PREDICTIVE CONTROL
Fahad Albalawi, **Helen Durand** and Panagiotis Christofides
(Paper ID C8)

TWO DIMENSION CYCLIC HOIST SCHEDULING
Min Chen, Honglin Qu and Qiang Xu
(Paper ID F49)

RESOLVING CONFLICTS AMONG STAKEHOLDERS IN REAL-TIME OPERATIONS
Alexander Dowling and Victor Zavala
(Paper ID F51)

FEEDSTOCK STORAGE ASSIGNMENT IN PROCESS INDUSTRY QUALITY PROBLEMS
Jeffrey Kelly, **Brenno Menezes**, Ignacio Grossmann and Faramroze Engineer
(Paper ID F52)

SOUTHERN OCEAN SEA SPRAY EMISSIONS PARAMETER ESTIMATION WITH AN OBSERVER
Dana McGuffin, Erik Ydstie and Peter Adams
(Paper ID C54)

INTEGRATION OF PRODUCTION SCHEDULING AND MODEL PREDICTIVE CONTROL UNDER PROCESS UNCERTAINTIES
Lisia Dias and Marianthi Ierapetritou
(Paper ID F57)

OPTIMIZATION FOR THE REHABILITATION OF INTEGRATED WATER NETWORK SUPERSTRUCTURE IN THE INDUSTRIAL APPLICATION
Tianxing Cai and Qiang Xu
(Paper ID F59)

GRAPH-BASED MODELLING - CONCEPTS
Arne Tobias Elve and Heinz A Preisig
(Paper ID F60)

STRATEGIC ALLOCATION OF TIME WINDOWS IN VEHICLE ROUTING PROBLEMS UNDER UNCERTAINTY
Anirudh Subramanyam and Chrysanthos Gounaris
(Paper ID F62)

A NOVEL DERIVATIVE-FREE OPTIMIZATION METHOD BASED ON SINGLE DIMENSION PROJECTION
Ishan Bajaj and M.M. Faruque Hasan
(Paper ID F64)

COMBINED SCHEDULING AND CONTROL WITH DIURNAL CONSTRAINTS AND COSTS USING A DISCRETE TIME FORMULATION
Logan Beal, Jacob Clark, Matthew Anderson, Sean Warnick and John Hedengren
(Paper ID F65)

OPTIMAL SIZING AND PLACEMENT OF GRID-LEVEL ENERGY STORAGE
Oluwasanmi Adeodu and **Donald Chmielewski**
(Paper ID C68)

THE USE OF DECISION-DEPENDENT UNCERTAINTY SETS IN ROBUST OPTIMIZATION
Nikolaos Lappas and Chrysanthos Gounaris
(Paper ID F71)

A MULTI-PARAMETRIC PROGRAMMING APPROACH FOR THE SIMULTANEOUS PROCESS SCHEDULING AND CONTROL – APPLICATION TO A DOMESTIC COGENERATION UNIT
Nikolaos A. Diangelakis, Baris Burnak and **Efstratios N. Pistikopoulos**
(Paper ID F72)

MIXED INTEGER BILEVEL OPTIMIZATION THROUGH MULTI-PARAMETRIC PROGRAMMING
Styliani Avraamidou, Nikolaos A. Diangelakis and Efstratios N. Pistikopoulos
(Paper ID F73)

DYNAMIC OPTIMIZATION OF A SYSTEM WITH INPUT-DEPENDANT TIME DELAYS
Charles-Henri Clerget, Nicolas Petit and Lorenz Biegler
(Paper ID C74)

TERMINAL CONSTRAINTS FOR SINGLE-STAGE MULTI-PRODUCT SCHEDULING PROBLEMS
Yachao Dong and Christos Maravelias
(Paper ID F79)

ANALYSIS OF THE MULTIPLICITY OF STEADY-STATE PROFILES OF TWO TUBULAR REACTOR MODELS
Denis Dochain
(Paper ID C80)

HARDWOOD BIOMASS TO OLEFINS AND AROMATICS: PROCESS SYNTHESIS AND DETERMINISTIC GLOBAL OPTIMIZATION
Alexander Niziolek, Onur Onel and Christodoulos Floudas
(Paper ID F81)

SCHEDULING OF MULTIPRODUCT MULTISTAGE BATCH PLANTS WITH UNCERTAIN PROCESSING TIMES: AN INNOVATIVE CONSTRAINT PROGRAMMING APPROACH
Franco Novara and **Gabriela Henning**
(Paper ID F82)

NONLINEAR MODEL PREDICTIVE CONTROL OF A SMART-SCALE EMULSION POLYMERIZATION PROCESS
Preet Joy, Adel Mhamdi, Falco Jung, Kristina Rossow, Hans-Ulrich Moritz, Werner Pauer and Alexander Mitsos
(Paper ID C85)

MODELING OF MULTIPHASE SYSTEMS: A THERMODYNAMIC APPROACH
Aaron Romo-Hernandez, Denis Dochain, B. Erik Ydstie and Nicolas Hudon
(Paper ID F89)

BATCH-CENTRIC CONTINUOUS-TIME FORMULATION FOR PIPELINE SCHEDULING
Pedro Castro and Hossein Mostafaei
(Paper ID F90)

OFFSET-FREE NMPC WITH ROBUST CONSTRAINT SATISFACTION USING MODEL-ERROR MODELING
Sakthi Thangavel, Sankaranarayanan Subramanian and Sebastian Engell
(Paper ID C91)

QUADRATIC APPROXIMATION IN PRICE-BASED COORDINATION OF CONSTRAINED SYSTEMS-OF-SYSTEMS
Simon Wenzel, Radoslav Paulen and Sebastian Engell
(Paper ID C92)

CLOSED-LOOP SCHEDULING WITH PROCESS FAULTS: FRAMEWORK AND AN AIR SEPARATION UNIT EXAMPLE
Richard Pattison and Michael Baldea
(Paper ID F93)

COMBINED TASK BAYESIAN OPTIMIZATION: A SMART SOLUTION TO SCALE-UP PROBLEM
Ryosuke Yoshizaki and **Manabu Kano**
(Paper ID F95)

A MULTI-OBJECTIVE APPROACH ON THE OPTIMAL PRODUCTION AND MAINTENANCE PLANNING OF BIOPHARMACEUTICAL PROCESSES UNDER PERFORMANCE DECAY USING CONTINUOUS-TIME FORMULATION
Miguel Vieira, **Tânia Pinto-Varela** and Ana Paula Barbosa-Póvoa
(Paper ID F96)

DATA-DRIVEN MODELING IN BIOMEDICAL APPLICATIONS: THE SEARCH FOR BIOMARKERS IN AUTISM SPECTRUM DISORDER
Daniel Howsmon, Uwe Kruger, Stepan Melnyk, Jill James and Juergen Hahn
(Paper ID C99)

REDUCED ORDER: MODELING FOR RESERVOIR INJECTION OPTIMIZATION AND FORECASTING
Jackson Udy, Landen Blackburn, **John Hedengren** and Mark Darby
(Paper ID C102)

SOLVING TWO-STAGE STOCHASTIC MILP CHEMICAL BATCH SCHEDULING PROBLEMS BY EVOLUTIONARY ALGORITHMS AND ORDINAL OPTIMIZATION
Thomas Siwczyk and Sebastian Engell
(Paper ID F103)

DYNAMIC MODELING OF THROMBOELASTOGRAPHY TO INFORM STATE OF COAGULOPATHY IN TRAUMA PATIENTS
Michelle Pressly, Matthew Neal, Gilles Clermont and Robert Parker
(Paper ID C105)

MODELLING PRESSURE REGULATORS USING OPERATIONAL DATA
Harsha Nagesh Rao, Lee Ren Xiang and Iftekhar A. Karimi
(Paper ID F106)

DYNAMIC OPTIMIZATION OF UV FLASH PROCESSES
Tobias K. S. Ritschel, Andrea Capolei and **John Bagterp Jørgensen**
(Paper ID C107)

IMPACT OF CONTROL STRATEGIES ON THE OFF-DESIGN OPERATION OF THE GAS TURBINE IN A COMBINED CYCLE GAS TURBINE (CCGT) POWER PLANT
Zuming Liu and I A Karimi
(Paper ID F108)

TOWARD SHALE GAS TO LIGHT OLEFINS: AN INTEGRATED NGL RECOVERY, STEAM CRACKING, AND METHANE CONVERSION SUPERSTRUCTURE
Onur Onel, Alexander Niziolek and Christodoulos Floudas
(Paper ID F109)

TEACHING PROCESS CONTROL IN THE TIME DOMAIN
Erik Ydstie
(Paper ID C114)

ADVANCED PROCESS CONTROL IN INDUSTRY: THE CASE OF GLASS MANUFACTURE
Erik Ydstie **(Yu Jiao, Presenter)**
(Paper ID C115)

INFORMATIVE MPC FORMULATIONS FOR ORTHONORMAL LAGUERRE SERIES MIMO MODELS
Juan Morinelly and Erik Ydstie
(Paper ID C118)