

POSTER SESSION B

WEDNESDAY, JUNE 10, 2009

8:00 pm to 10:00 pm

MULTI-SCALE AND COMPLEX SYSTEMS

Chair: Yannis Kevrekidis, Princeton

Co-Chair: Ipsita Banerjee, University of Pittsburgh

Assessment of Regional Sustainability Associated with Biofuel Production

Kailiang Zheng

(Paper #30)

Sustainable Supply Chain Planning for the Forest Biorefinery

Louis Patrick Dansereau

(Paper #58)

A Property-Integrated Approach to the Design and Integration of Eco-industrial Parks

Dominic Chwan Yee Foo

(Paper #75)

Assessing the Risks to Complex Industrial Networks Due to Loss of Natural Capital and its Implications to Process Design

Bhavik Bakshi

(Paper #81)

Analyzing Complex Chemical and Polymer Manufacturing Plants: A Macroscopic Approach

Russell Dunn

(Paper #88)

ROBUST AND UNCERTAIN SYSTEMS

Chair: Mark Stadtherr, Notre Dame University

Co-Chair: Chau-Chyun Chen, AspenTech

Environmentally Benign Process Design of Polygeneration Energy Systems

Pei Liu

(Paper #3)

Determination of Optimal Design and Control Decisions for Reactor-Separator Systems with Recycle

Mohd. Kamaruddin Abd. Hamid

(Paper #12)

Study on Near-Zero Flaring for Chemical Plant Turnaround Operation

Kailiang Zheng

(Paper #14)

Optimal Synthesis and Scheduling Strategies for Batch Azeotropic Distillation Processes

Vincentius Surya Kurnia Adi

(Paper #16)

A Backoff-Based Strategy to Improve Robustness in Model-based Experiment Design Under Parametric Uncertainty

Fabrizio Bezzo

(Paper #20)

A Novel Perspective in the Conceptual Design Paradigm: Beyond the Steady-State Solution

Flavio Manenti

(Paper #22)

Stochastic Modeling of the Biodiesel Production Process

Sheraz Abbasi

(Paper #29)

Minimization of Fresh Water Consumption for Particulate Carbon (PC) Power Plants

Urmila Diwekar

(Paper #35)

Integrated Design and Control under Uncertainty-Algorithms and Applications

Jeonghwa Moon

(Paper #55)

Optimal Design of Cryogenic Air Separation Columns under Uncertainty

Carl Laird

(Paper #57)

Sensitivity Assess of Flotation Circuit to Uncertainty using Monte Carlo simulation

Luis Cisternas

(Paper #100)

FUTURE PROCESS DESIGN EDUCATION

Chair: Andy Hrymak, McMaster University

Co-Chair: Warren Seider, University of Pennsylvania

Submission Incorporating Sustainability and Environmental Impact Assessment into Capstone Design Projects

Mario Eden

(Paper #18)

Process Synthesis Targets: A New Approach to Teaching Process Design

Diane Hildebrandt

(Paper #49)

Design and Optimization of the Substrate Geometry for Zinc Sulfide Deposition

Luke Achenie

(Paper #56)

An Integrated Approach to Chemical Engineering Undergraduate Curriculum Reform

Lale Yurttas

(Paper #117)

EMERGING TOOLS AND TECHNIQUES IN PROCESS DESIGN

Chair: Mario Eden, Auburn University

Co-Chair: Venkat Subramanian, Tennessee Tech University

Design of Inter-Plant Water Networks on Mathematical Approach

Cheng-Liang Chen

(Paper #27)

Design and Optimization of Energy Efficient Complex Separation Networks

Jeonghwa Moon

(Paper #34)

A Systematic Methodology for Molecular Synthesis using Combined Property Clustering and GC+ Methods

Nishanth Chemmangattuvalappil

(Paper #43)

Process Optimization Using a Hybrid Disjunctive-Genetic Programming Approach

Mario Eden

(Paper #46)

A Graphical Approach to Process Synthesis based on the Heat Engine Concept

Diane Hildebrandt

(Paper #50)

CFD-based Shape Optimization of Pressure-driven Microchannels

Osamu Tonomura

(Paper #51)

Process Superstructure Optimization Using Surrogate Models

Carlos Henao

(Paper #62)

Submission Mathematical Modeling—Knowledge Acquisition about Brain Physics

Andreas Linninger

(Paper #65)

Automated Targeting for Total Property Network with Bilateral Constraints

Denny Kok Sum Ng

(Paper #76)

Multi-level Synthesis of Chemical Processes

Patrick Linke

(Paper #78)

On the Development of Optimal Process Design Knowledge Using Semantic Models

Patrick Linke

(Paper #80)

Fuzzy Logic Based System Modification for Industrial Sustainability Enhancement

Zheng Liu

(Paper #109)

PRODUCT AND PROCESS DESIGN I + II

Chairs: Andres Malcolm, Cargill & Carl Laird, Texas A&M University

Chairs: Kyle Camarda, University of Kansas & Christos Maravelias, University of Wisconsin

Simultaneous Consideration of Process and Product Design Problems Using an Algebraic Approach

Nishanth Chemmangattuvalappil

(Paper #40)

Multi-Scale Product Design Using Property Clustering and Decomposition Techniques

Nishanth Chemmangattuvalappil

(Paper #41)

Failure Analysis of Polymer Products and Chemical Processes to Identify Design Deficiencies

Russell Dunn

(Paper #89)

Design of Secondary Refrigerants. A Combined Optimization-Enumeration Approach

Nikolaos Sahinidis

(Paper #91)

Integrating Product Design with Product Portfolio Decision Making

Beverly Smith

(Paper #95)

Multidimensional Piecewise-affine Approximations for Gas Lifting and Pooling Applications

Ruth Misener

(Paper #97)

Computational Design of Nanopaint: An Integrated, Multiscale Process and Product Modeling and Simulation Approach

Zheng Liu

(Paper #108)

Product Portfolio Design for Forest Biorefinery Implementation at an Existing Pulp and Paper Mill

Virginie Chambost

(Paper #118)