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T3-642 - Multi-Objective Optimization of Dairy Supply Chain,

Natasha Vaklieva-Bancheva, Antonio Espuña, Elisaveta Shopova, Luis Puigjaner, Boyan Ivanov

T3-159 - Design of recovery supply chains: a Portuguese recovery network for WEEE,

Maria Isabel Gomes Salema, Ana Paula Barbosa-Póvoa, Augusto Q. Novais, Mónica Luizio

T3-383 - Outsourcing and Optimization of Logistics Services for Chemical Companies,

Mukta Bansal, Iftekhar A. Karimi, Rajagopalan Srinivasan

T3-138 - Optimal Fed-Batch Bioprocess Control. An Advanced Approach,

Mihai Caramihai, Ana Chirvase, Christian Fonteix, Ivan Marc, Franz Fournier, Raluca Misleanu, Camelia Ungureanu

T3-14 - Design and control analysis of thermally coupled configurations for quaternary distillations

Juan Gabriel Segovia – Hernández, Jesús Rafael Alcántara –Ávila, Julián Cabrera – Ruiz, Salvador Hernández, Ben - Guang Rong

T3-143 - Optimal Temperature Control of an Industrial Batch Reactor with Regard to Swelling,

Levente L. Simon, Marina Introvigne, Ulrich Fischer, Konrad Hungerbühler

T3-178 - Closed-loop Implementation of Optimal Trajectories in Batch Distillation,

José Espinosa, Jacinto L. Marchetti

T3-185 - Advanced Control of a Reactive Distillation Column,

Zoltan K. Nagy, Reinhardt Klein, Anton A. Kiss, Rolf Findeisen

T3-210 - Robust Dynamic Programming via Multi-Parametric Programming,

Nuno P. Faisca, Kostas I. Kouramas, Pedro M. Saraiva, Berç Rustem, Efstratios N. Pistikopoulos

T3-253 - Optimal Control of a Hybridoma Bioreactor. Changes Induced by Considering by-Products in the Objective Function,

Irina Dana Ofițeru, Alexandru Woinaroschy, Vasile Lavric

T3-333 - On the Application of Model Reduction to Plantwide Control,

Bogdan Dorneanu, Costin Sorin Bildea, Johan Grievink

T3-340 - Nonlinear Predictive Control of a pH Process,

Corneliu Lazăr, Răzvan Pinte, Robin De Keyser

T3-411 - Iterative Controller Tuning for Processes with Fold Bifurcations,

Jakob Kjøbsted Huusom, Niels Kjølstad Poulsen, Sten Bay Jørgensen

T3-446 - Control System Pcs7 and M.I.S. Together for the Complete Automation of the Process in the Sugar Beet Factory of Co.Pro.B. –

Minerbio – Italy,

Sandro Castaldin

T3-455 - Comparison between Different Control Approaches of the UOP Fluid Catalytic Cracking Unit,

Mircea V. Cristea, Paul Ș. Agachi

T3-48 - Iterative Batch-to-Batch Control of Particle Size Distribution in Semi-Batch Emulsion Polymerisation,

Charles D. Immanuel, Ying Wang, Nicola Bianco

T3-570 - A Tool for Kalman Filter Tuning,

Bernt M. Åkesson, John Bagterp Jørgensen, Niels Kjølstad Poulsen, Sten Bay Jørgensen

T3-7 - Extremum-seeking Control of Redox Processes in Wastewater Chemical Treatment Plants,

Ernesto Martínez

T3-486 - Five Formulations of Extended Kalman Filter: Which is the best for D-RTO?,

Nina Paula Gonçalves Salau, Argimiro Resende Secchi, Jorge Otávio Trierwieler

T3-112 - Analysis of Design and Control of Reactive Thermally Coupled Distillation Sequences,

Fabricio Omar Barroso-Muñoz, Salvador Hernández, Babatunde Ogunnaike

T3-157 - Comprehensive Process Investigation Methodology for Energy-Integrated Distillation,

Hajnalka Kencse, Peter Mizsey

T3-22 - Design and Control of Thermally Coupled and Heat Integrated Distillation Sequences for Quaternary Separations,

Jorge Alberto Porras-Rodríguez, Héctor Hernández-Escoto, Juan Gabriel Segovia-Hernández, Salvador Hernández

T3-224 - Process Modeling and Simulation for Optimization of Operating Processes,

Balazs Balasko, Sandor Nemeth, Akos Janecska, Tibor Nagy, Gabor Nagy, Janos Abony

T3-407 - Improved Analytical PID Controller Design for the Second Order Unstable Process with Time Delay,

M. Shamsuzzoha, Jongpal Jeon, Moonyong Lee

T3-431 - Dynamic Simulation and Analysis of a Solid Oxide Fuel Cell (SOFC),

Debangsu Bhattacharyya, Raghunathan Rengaswamy, Caine Finnerty

T3-475 - Study of an Integrated System for the Production of Hydrogen by Autothermal Reforming of Methanol,

Dimitrios Ipsakis, Panagiotis Kechagiopoulos, Christina Martavaltzi, Spyridon Voutetakis, Panos Seferlis, Prodromos Daoutidis, Fotis Stergiopoulos

T3-94 - Iterative Specification Refinement in Deriving Logic Controllers,

Sven Lohmann, Lan Anh Dinh Thi, Thanh Ha Tran, Olaf Stursberg, Sebastian Engell

T3-137 - Pareto optimal design and operation of multivessel batch distillation,

Sven Gruetzmann, Matthias Leipold, Georg Fieg

T3-432 - Control of Temperature Profile in the Injection Molding Process for Part Consistency

Brian Bullocks, Samantha Burnham, Gregory Campbell, Raghunathan Rengaswamy, Ravi Kumar Mandela

T3-577 - Robust implementation of optimal strategies accounting for controller performance and uncertainty,

Tilman Barz, Harvey Arellano-Garcia, Günter Wozny

Theme 4 Systems Biology and Biological Processes

Keynote Lectures

T4-593 - Analysis and Design of Metabolic Networks - Experiments and Computer Simulation,

Elmar Heinzle, Tae Hoon Yang, Rahul Deshpande

T4-647 - Live & let die - A Systems Biology View on Cell Death,

Thomas Eißing, Madalena Chaves, Frank Allgöwer

Papers

T4-230 - Bioethanol Production Sustainability: Outlook for Improvement using Computer-Aided Techniques,

Elmer Ccopa Rivera, Aline Carvalho da Costa, Rubens Maciel Filho

T4-244 - Modeling of Counter Current Monoclonal Antibody Extraction using Aqueous Two-Phase Systems,

Joachim Ahmed Samatou, Annebart Engbert Wentink, Paula Alexandra J. Rosa, Ana Margarida Azevedo, Maria Raquel Aires-Barros, Werner Bäcker, Andrzej Górak

T4-511 - A CAPE Approach to gamma-Linolenic Acid Production via Lipase-Catalyzed Enzymatic Hydrolysis,

Patricia B. Lucente Fregolente, Elmer C. Rivera, Leonardo Vasconcelos Fregolente, Patricia de Oliveira Carvalho, Aline Costa, Maria Regina Wolf-Maciel, Rubens Maciel Filho

T4-52 - Parameter Identification for a Mechanistic Model of Poly- β -hydroxy-butyrate Production,

Mark A. Pinto, Charles D. Immanuel

T4-528 - Increasing the Predictivity of Kinetic Models for High-Cell-Density Cultivations,

Harvey Arellano-Garcia, Anja Drews, Udo Schubert, Günter Wozny, Matthias Kraume

T4-356 - A by-product oriented simulator with structured model: application for acrylic acid production from renewable sources,

Betânia H. Lunelli, Rubens Maciel Filho, Maria R. W. Maciel, Eduardo C. Vasco de Toledo, Dile P. Stremel

T4-379 - Strain improvement and mediator selection for microbial fuel cell by genome scale in silico model,

Rajib Saha, Selvarasu Suresh, Wonjun Park, Dong-Yup Lee, Iftekhar A. Karimi

T4-458 - CFD Simulation of concentration profiles and velocity field.
Application: in bioleaching process,
S.Mohammad Mousavi, Arezou Jafari, Soheila Yaghmaei, Manouchehr Vossoughi, Ilkka Turunen, Mohammad Reza Kamali, Pertti Sarkomaa

T4-625 - Research regarding obtaining volatile oils from native plants in microwave assisted vacuum systems,
Moşteanu Daniel, Miclăuş Simona, Bârsan Ghiţă

T4-182 - A New De Novo Approach for Optimizing Peptides that Inhibit HIV-1 Entry,
Ho Ki Fung, Christodoulos A. Floudas, Martin S. Taylor, Robert F. Siliciano

T4-212 - Modelling the Inhibition Activity on Carbonic Anhydrase I of Some Substituted Thiadiazole- and Thiadiazoline- Disulfonamides: Integration of Structure Information,
Sorana-Daniela Bolboacă, Lorentz Jäntschi

T4-426 - Controlled Release of Drugs from Polymeric Devices,
Vivek Dua

T4-621 - QSAR Analysis of 1,4-Dihydropyridine Calcium Channel Antagonists,
Pınar Kahraman, Metin Türkay

T4-164 - A Novel Clustering Approach: Global Optimum Search with Enhanced Positioning,
Meng P. Tan, James R. Broach, Christodoulos A. Floudas

T4-175 - De Novo Peptide Identification via Mixed-Integer Linear Optimization and Tandem Mass Spectrometry,
Peter A. DiMaggio Jr., Christodoulos A. Floudas

T4-2 - Development and Implementation of a non-Parametric/Metabolic Model in the Process Optimisation of PHA Production by Mixed Microbial Cultures,
João Miguel Lopes Dias, Paulo Lemos, Luísa Serafim, Adrian Oehmen, Maria A. M. Reis, Rui Oliveira

T4-204 - Mathematical Modeling of Single Cell Protein and Ethanol Production by *Kluyveromyces cicerisporus* Fermentation on Whey,
Márcia Peixoto Vega, Rodrigo da Silva Leite, Maria Alice Cruz Lopes de Oliveira

T4-378 - Identifying Synergistically Switching Pathways for Multi-Product Strain Improvement using Multiobjective Flux Balance Analysis,
Suresh Selvarasu, Dong-Yup Lee, Iftekhar A. Karimi

T4-498 - A PCA-Based Approach for Gene Target Selection to Improve Industrial Strains,
Sudhakar Jonnalagadda, Rajagopalan Srinivasan

T4-90 - Modular and Multilayer Modeling – Application to Biological Processes,
Michael B. Cutlip, Mordechai Shacham

T4-123 - Automatic Synthesis of Alternative Paths of Biochemical Networks using Model Checking,
Jinkyung Kim, Il Moon

T4-395 - Evaluation of sunflower collection by genetic variability based on germination and plantlet development parameters using Artificial Neural Networks,
Dorina Bratfalean, Mircea Vasile Cristea, Paul Ş. Agachi, Dan Florin Irimie, Ahmad Sarrafi, Michel Petitprez

T4-425 - Modeling of the fermentation in an internal loop airlift reactor,
Ivan Sikula, Martin Juraščík, Jozef Markoš

Theme 5 Process Integration and Sustainable Development

Keynote Lectures

T5-453 - Integration of Process Site Utility Systems,
Robin Smith

T5-88 - The Ecological Impact of the Sugar Sector- Aspects of the Change of a Key Industrial Sector in Europe,
Gernot Gwehenberger, Michael Narodoslawsky

Papers

T5-142 - Novel Energy Saving Technologies Evaluation Tool,
Jiří Klemeš, Igor Bulatov, Jaap Koppejan, Ferenc Friedler, Jens Hetland

T5-252 - A Design Method for Internal Heat Integrated Distillation Columns (iHIDiCs),
Mamdouh Gadalla, Zarko Olujić, Laureano Jiménez Esteller, Gonzalo Guillén-Gosálbez

- T5-270 - Optimal Operation of the Cyclic Claus Process,
Assanousi Abufares, Sebastian Engel
- T5-271 - Rate-based Design of Integrated Distillation Sequences,
Ivo Mueller, Oana-Marlena Penciu, Eugeny Y. Kenig, Maria Gavrilescu
- T5-329 - Process Integration under Size Constraints: Logistical Fuels for Mobile Applications,
Jennifer L. Wilder, Rose M. Hanks, Kristin H. McGlocklin, Norman E. Sammons Jr., Mario R. Eden, Bruce J. Tatarchuk
- T5-588 - Absorption with Chemical Reaction: Evaluation of Rate Promoters Effect on CO₂ Absorption in Hot Potassium Carbonate Solutions,
Teodor Todinca, Cristian Tănăsie, Tobias Pröll, Adina Căta
- T5-613 - Recovery of Aromatics from Pyrolysis Gasoline by Conventional and Energy-Integrated Extractive Distillation,
Faten Abushwireb, Hadi Elakrami, Mansour Emtir
- T5-637 - DME Synthesis via Catalytic Distillation: Experiments and Simulation,
Marco Di Stanislao, Alberto Malandrino, Renata Patrini, Carmen Pirovano, Aurora Viva, Elisabetta Brunazzi
- T5-146 - Systematic retrofit design of batch processes using an indicator and model based framework,
Levente L. Simon, Ulrich Fischer, Konrad Hungerbühler
- T5-57 - Minimum Reflux in Liquid–Liquid Extraction,
Santanu Bandyopadhyay, Calin-Cristian Cormos
- T5-72 - Plate and Spiral Heat Exchangers for Wet Phosphoric Acid Production Processes,
Petro Kapustenko, Gennadiy Khavin, Oleksandr Perevertaylenkor, Olga Arsenyeva
- T5-135 - Steam CHPP Site Level Optimal Integration into a Refinery/Petrochemical Plant,
Victor Eduard Cenușă, Horia Ionuț Petcu, Florin Niculae Alexe
- T5-203 - Integration of Fuel Cells into Combined Power Cycles,
Petar Varbanov, Jiří Klemeš, Ferenc Friedler
- T5-255 - Modelling, Investment Planning and Optimisation for the Design of a Polygeneration Energy System,
Pei Liu, Dimitrios I. Gerogiorgis, Efstratios N. Pistikopoulos

T5-275 - Methodology and Software for Prediction of Cogeneration Steam Turbines Performances,

George Darie, Horia Ionuț Petcu

T5-36 - Optimization of Electricity / Hydrogen Cogeneration from Generation IV Nuclear Energy Systems,

Adrien Gomez, Catherine Azzaro-Pantel, Luc Pibouleau, Serge Domenech, Christian Latgé, Patrick Dumaz, David Haubensack

T5-44 - Steam System Design Using a Novel Graphical Targeting Method and MILP Model,

Sternberg Willem Andries Coetzee, Thokozani Majozi

T5-473 - Review of Optimization Models for the Design of Polygeneration Systems in District Heating and Cooling Networks,

Jordi Ortiga, Joan Carles Bruno, Alberto Coronas, Ignacio E. Grossmann

T5-606 - Design and Optimization of District Energy Systems,

Céline Weber, François Maréchal, Daniel Favrat

T5-623 - A new Process Synthesis Methodology utilizing Pressure Exergy in Subambient Processes,

Audun Aspelund, Truls Gundersen

T5-631 - NLP Optimization of Gas Turbine Including Experimental Catalyst Conversion Data in Methanol Plant,

Anita Kovač Kralj, Peter Glavič

T5-201 - Integrating Recovered Jetty Boil-off Gas as a Fuel in an LNG Plant,

Danan S. Wicaksono, Iftekhar A. Karimi, Hassan Alfadala, Omar I. Al-Hatou

T5-105 - Adaptive Control Approach in Modeling Life-cycle Maintenance Policy Selection and Optimisation During Infrastructure Systems Conceptual Design & Operation,

Augustine N. Ajah, Johan Grievink, Paulien Herder, Margot Weijnen

T5-122 - Integration and Resources Management of Small and Medium Enterprises,

Toshko Zhelev, Bernadette O'Regan, Richard Moles

T5-158 - A Chemical Process Design Framework Including Different Stages of Environmental, Health and Safety (EHS) Assessment,

Hirokazu Sugiyama, Ulrich Fischer, Masahiko Hirao, Konrad Hungerbühler

T5-251 - Application of Life Cycle Assessment to the Structural Optimization of Process Flowsheets,
Gonzalo Guillén-Gosálbez, José A. Caballero, Laureano Jiménez Esteller, Mamdouh Gadalla

T5-443 - Modelling and Numerical Simulation of Ice Slurry Storage Tank,
Denis Flick, Christophe Doursat, Mohamed Ben Lakhdar

T5-562 - Business Model of Plant Maintenance for Lifecycle Safety,
Tetsuo Fuchino, Masazumi Miyazawa, Yuji Naka

T5-580 - Minimization of Life Cycle CO₂ Emissions in the Operation of a Steam and Power Plant,
Ana Maria Eliceche, Pablo E. Martinez

T5-59 - Extension of Computer-Aided Process Engineering Applications to Environmental Life Cycle Assessment and Supply Chain Management,
William M. Barrett, Svetlana Strunjaš-Yoshikawa, Jonathan H Bell

T5-607 - Modeling of Main Material and Energy Flows of a Chemicals Company and LCA of Products thereof,
Christiane Richard-Elsner, Christiane Glasmacher-Remberg

T5-247 - A Web-based Infrastructure for Integrated Life-cycle Engineering,
Rafael Batres, Kazumasa Hayashi, Yoshiaki Shimizu

T5-579 - Small Scale and Large Scale Plants – Effect on Life Cycle Assessment,
Maiya Shibasaki, Stefan Albrecht, Thilo Kupfer

T5-101 - A Hierarchical Approach for the Estimation of Environmental Impact of a Chemical Process: from Molecular Modeling to Process Simulation,
Maurizio Fermeglia, Gennaro Longo, Letitia Toma

T5-140 - Risk Assessment of the Respiratory Health Effects Due to Air Pollution and Meteorological Factors in a Population from Drobeta Turnu Severin, Romania,
Cristina Petrescu, Uwe Schlink, Matthias Richter, Oana Suci, Romanița Ionovici, Olf Herbarth

T5-145 - Risk of Gaseous Release Assessment Based on Artificial Intelligence Methods,
Călin Ioan Anghel, Alexandru Ozunu

T5-150 - An Agent-based Model for Water Quality Control,
Constantin Nichita, Mihaela Oprea

T5-219 - Integrated Design of Process and Operation Considering Local Risks and Global impacts: A Case Study on Metal-degreasing Process Design

Yasunori Kikuchi, Masahiko Hirao

T5-279 - Process Plant Risk Analysis and Modelling,

Jelenka Savkovic-Stevanovic

T5-410 - Impact of Mathematical Model Selection on Prediction of Steady State and Dynamic Behaviour of a Reactive Distillation Column,

Zuzana Švandová, Juraj Labovský, Jozef Markoš, Ludovít Jelemenský

T5-418 - Design, Optimization and Safety Analysis of a Heterogeneous Tubular Reactor by using the HAZOP Methodology,

Juraj Labovský, Pavol Laššák, Jozef Markoš, Ludovít Jelemenský

T5-427 - Environmental Impact Assessment of the Vegetable Cultivations using the Pimentel-Euleistein Model. Case Study Arges Lower Watershed,

Cristian Ioja, Maria Pătroescu, Marius Matache, Gabriela Pavelescu, Radu Damian

T5-439 - Simultaneous Fault Diagnosis in Chemical Plants using Support Vector Machines,

Ignacio Yélamos, Gerard Escudero, Moisès Graells, Luis Puigjaner

T5-449 - Combining Disturbance Simulation and Safety Analysis Techniques for Improvement of Process Safety and Reliability,

Naveed Ramzan, Werner Witt

T5-97 - Modeling and Verification of Control Logics in Safety Instrumented System for Chemical Industrial Processes

Jinkyung Kim, Younghee Lee, Il Moon

T5-98 - Functional Modeling for Risk Analysis,

Manuel Rodríguez, José Luis de la Mata

T5-409 - Safety analysis of a heterogeneous catalytic tubular reactor for complex reactions,

Pavol Laššák, Jozef Markoš, Ludovít Jelemenský

T5-547 - Global modelling with LIS for water pollution,

Costica Nitu, Anda Sabena Dobrescu

T5-316 - Ethanol From Lignocellulosic Biomass: A Comparison Between Conversion Technologies,

Chiara Piccolo, Fabrizio Bezzo

- T5-370 - Biodiesel Production by Integrated Reactive-Separation Design,
Anton A. Kiss, Alexandre C. Dimian, Gadi Rothenberg
- T5-385 - Methodology for the Optimal Thermo-economic, Multi-objective Design of Thermochemical Fuel Production from Biomass,
Martin Gassner, François Maréchal
- T5-43 - Integration of the bio-Ethanol Process in a Network of Facilities for Heat and Power Production from Renewable Sources using Process Simulation,
Walter Wukovits, Martin Pfeffer, Bettina Liebmann, Anton Friedl
- T5-632 - NLP Optimization of a Methanol Plant by using H₂ co-Product in Fuel Cells,
Anita Kovač Kralj, Peter Glavič
- T5-86 - Process for Fatty Acid Methyl Esters by Dual Reactive Distillation,
Alexandre C. Dimian, Florin Omota, Anton A. Kiss
- T5-1 - Topological Impact of Regeneration Unit Constraints upon Water and Wastewater Network,
Petrica Iancu, Valentin Pleșu, Vasile Lavric
- T5-116 - An MINLP Reconstruction of Networks for the Collection, Recycling, Treatment and Disposal of Municipal Solid Waste,
Nataša Iršič Bedenik, Zdravko Kravanja
- T5-163 - General Framework for Solving the Design and Operation of Wastewater Treatment Networks,
Cristina Martín-Sistac, Gerard Escudero, Moisès Graells
- T5-400 - Comparison of Reverse Flow and Counter-Current Reactors in Case of Selective Catalytic Reduction of Nox,
Claudiu C. Botar-Jid, Paul Ș. Agachi, Davide Fissore
- T5-490 - State Detection of a Wastewater Treatment Plant,
Aki Sorsa, Kauko Leiviskä
- T5-55 - Process Water Management with Regeneration and Recycle,
Călin-Cristian Cormoș, Santanu Bandyopadhyay
- T5-609 - Targeting the Freshwater for Water Networks with Single Contaminant,
Zhi-Yong Liu, Yu-Zhen Yang, Yan-Mei Li
- T5-248 - A Two-stage Approach for the Design of Biomass Conversion Processes,
Rafael Batres, Teppei Nagatomi, Ricardo Martins, Eric Fraga, Yuji Naka

T5-29 - Towards an effective scheduling technique for zero-effluent multipurpose batch plants,

Jacques F. Gouws, Thokozani Majazi

T5-450 - Artificial Neural Networks Based Model Predictive Control of the Wastewater Treatment Plant,

Mircea V. Cristea, Paul Ş. Agachi

T5-645 - Novel types of equipment for off-gas cleaning,

Radek Dvorak, Vitezslav Masa, Petr Chlapek, Kirill Solodyankin

T5-646 - Emissions abatement in Waste-to-Energy Systems,

Tomas Parizek, Ladislav Bebar, Jaroslav Oral, Petr Stehlik