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Nota di bibliografia	Includes bibliographical references at the end of each chapters and indexes.
Nota di contenuto	The Proceedings of the International Conference on Process Engineering and Advanced Materials 2012 (ICPEAM 2012); Preface, Committees and Sponsors; Table of Contents; Chapter 1: Advanced Materials Development; Effect of Magnesium Coating Prior to Lithium Loading over SBA-15 for Stabilization of its Mesosstructure; Incorporation of Pd Nanoparticles on Rod and Necklace-Like SBA-15 Supports Materials; A Review on the Viscous and Thermal Transport Properties of Nanofluids; The Synergistic Effect of Thiourea and Surfactants on Corrosion Inhibition of Stainless Steel-316 in Hydrochloric Acid Optimized TiO <sub>2</sub> Nanocrystallites Aggregates for Enhanced Efficiency in Dye Solar Cells Solubility Parameters Based on Refractive Index Data of Ionic Liquid; Effect of Aluminium Sol on Silica Nanoparticles Texture and Properties; Chapter 2: Bioprocess and Biotechnology; Bio-Oil Derived from Palm Kernel Shell in Fluidized Bed Reactor: Effect of Particle Size; In Situ Methanolysis of Jatropha curcas Seeds in Soxhlet Extractor; Ethanol Production from Hydrothermal Pretreated Empty Fruit Bunches Comparative Study on Two-Step Fatty Acid Methyl Ester (FAME)

Production from High FFA Crude Palm Oil Using Microwave Technique and Conventional Technique Preliminary Study of Rambutan (*Nephelium lappaceum*) Seed as Potential Biocoagulant for Turbidity Removal; Effect of Nanonization on Physicochemical Properties of *Centella asiatica* Powders; Chapter 3: Environmental Engineering; Carbon Dioxide Retention on Bentonite Clay Adsorbents Modified by Mono-, Di- and Triethanolamine Compounds; Leachability of Solidified Petroleum Sludge; Physical Absorption of CO<sub>2</sub> Capture: A Review Solubility of Carbon Dioxide in Aqueous Solutions of Piperazine (PZ) at Elevated Pressures Visible Light Photodegradation of Azo Dye by Cu/TiO<sub>2</sub>; Photocatalytic Degradation of Diisopropanolamine in Heterogeneous Photo-Fenton System; UV/H<sub>2</sub>O<sub>2</sub> Process for Removal of Total Organic Carbon from Refinery Effluent: Screening of Influence Factors Using Response Surface Methodology; Chapter 4: Process Systems Engineering; Modeling the Effect of Temperature-Induced Surface Tension Gradient in Coating Processes; Effect of Bulk Temperature and Heating Regime on Crude Oil Fouling: An Analysis A Comparison of Co-Current and Counter-Current Modes of Operation in Urea Prilling Tower Detection and Correction of Gain Mismatches of Wood-Berry Column Using Linear Residual-Input Ratio; A Taguchi-SQP Approach for Minimizing Energy per Unit Diesel Production at Crude Distillation Unit; Resilience Analysis of a Pipe Segment System Carrying Superheated Steam; Modeling of Gas Holdup and Pressure Drop Using ANN for Gas-Non-Newtonian Liquid Flow in Vertical Pipe; Application of Response Surface Methodology to Investigate CO<sub>2</sub> Absorption Column Temperature Rise Simulation of Hydrodynamics and Reaction Behavior in an Industrial RFCC Riser

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Sommario/riassunto

Collection of selected, peer reviewed papers from the International Conference on Process Engineering and Advanced Materials 2012 (ICPEAM2012), June 12-14, 2012, Kuala Lumpur, Malaysia. The 39 papers are grouped as follows: Chapter 1: Advanced Materials Development, Chapter 2: Bioprocess and Biotechnology, Chapter 3: Environmental Engineering, Chapter 4: Process Systems Engineering

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