

## Content

<b>M. Banchemo, L. Manna, A. Ferri and S. Sicardi</b>	<b>1</b>	THE KETOPROFEN PARTITION BETWEEN SUPERCRITICAL CO <sub>2</sub> AND POLY-VINYL-PYRROLIDONE FOR DRUG DELIVERY SYSTEMS PREPARATION
<b>R.M. Baptista, M.B. Quadri, R.A.F. Machado, A. Bolzan, A.L. Nogueira, T.J. Lopes and G.C. Mariano</b>	<b>9</b>	EFFECTIVE INTERFACIAL TENSION AND GEOMETRICAL PARAMETERS RELATIONSHIP FOR THE DESCRIPTION OF OIL LEAKAGES FROM SUBMARINE PIPELINES
<b>F. Bonas, J. Westerlund and T. Westerlund</b>	<b>19</b>	AN OPTIMISATION TOOL FOR ALLOCATION PROBLEMS
<b>G. Bozzano and M. Dente</b>	<b>29</b>	MODELLING OF A RDC COLUMN FOR GLYCEROL RECOVERY
<b>C. Brecknell, M. Lillioth and A. Pavlik</b>	<b>39</b>	EFFLUENT TREATMENT USING EVAPORATION AND CRYSTALLISATION TECHNOLOGY
<b>M. Campolo, M. Andreoli, L. Tognotti and A. Soldati</b>	<b>47</b>	ANALYSIS OF MULTIPHASE REACTING TURBULENT JETS: CASE STUDY ON CARBON INJECTION IN SIDERURGIC FURNACES
<b>A. Cannavacciuolo, D. Barletta, G. Donsi, G. Ferrari, J. Schwedes and M. Poletto</b>	<b>57</b>	ARCH STABILITY IN AIR ASSISTED SILO DISCHARGE OF COHESIVE POWDERS
<b>P. Ciambelli, V. Palma, E. Palo, G. Iaquaniello, A. Mangiapane and P. Cavallero</b>	<b>67</b>	ENERGY SUSTAINABLE DEVELOPMENT THROUGH METHANE AUTOHERMAL REFORMING FOR HYDROGEN PRODUCTION
<b>P. Cosoli, G. Scocchi, M. Ferrone, A. Danani, P. Posocco, M. Fermeglia and S. Pricl</b>	<b>77</b>	NEW MATERIALS FROM MULTISCALE MODELLING PROCEDURES: PROPERTIES PREDICTION AND CUSTOMISATION OF POLYMERIC NANOCOMPOSITES
<b>M. De Falco, L. Marrelli and L. Di Paola</b>	<b>87</b>	MEMBRANE REFORMERS HEATED BY MOLTEN SALTS: A SIMULATION STUDY

<b>D. Dionisi, M. Beccari, M. Majone and L. Bornoroni</b>	<b>97</b>	INVESTIGATION ON THE REMOVAL MECHANISMS OF ORGANIC MICROPOLLUTANTS IN ACTIVATED SLUDGE PROCESSES
<b>I. Dones and H. Preisig</b>	<b>103</b>	DYNAMIC MODELING AND SIMULATION TO OVERCOME THE INITIALIZATION PROBLEM IN STEADY STATE SIMULATIONS OF DISTILLATION COLUMNS
<b>S. Esposito, S. Dal Vecchio, G. Ramis, M. Bevilacqua, M. Turco, G. Bagnasco, C. Cammarano, A. Aronne and P. Pernice</b>	<b>111</b>	NANODISPERSED Co/SiO <sub>2</sub> CATALYST: PREPARATION AND CHARACTERIZATION
<b>I. Ferreira, S. Rocha, J. Gomes, M. Pereira and M. Coelho</b>	<b>119</b>	ENCAPSULATION OF ANTIOXIDANTS BY SPRAY-DRYING
<b>O. Foddi, M. Grosso, S. Tronci, A. Sesselego, U. Spanu and R. Baratti</b>	<b>125</b>	NEURAL MODELING OF DISTILLATES YIELD IN VISBREAKING PROCESS
<b>S. Franceira, S.S. De Almeida and R. Guirardello</b>	<b>131</b>	OPTIMIZATION OF PROCESS PLANT LAYOUT USING A QUADRATIC ASSIGNMENT PROBLEM MODEL
<b>G. Franceschin, M. Sudiro, A. Zamboni, F. Bezzo and A. Bertucco</b>	<b>141</b>	ENERGY AND ECONOMIC ASSESSMENT OF BIOETHANOL PRODUCTION BY A DRY MILLING PROCESS
<b>S. Grimaz, S. Allen, J. Stewart and G. Dolcetti</b>	<b>151</b>	PREDICTIVE EVALUATION OF THE EXTENT OF SURFACE SPREADING FOR THE CASE OF ACCIDENTAL SPILLAGE OF OIL ON GROUND
<b>F. Grisafi, F. Scargiali and A. Brucato</b>	<b>161</b>	CFD SIMULATION OF A PARALLEL-COMPETITIVE REACTION SCHEME IN AN UNBAFFLED VESSEL
<b>P. Gronchi, M. Pinali, P. Centola and R. Del Rosso</b>	<b>167</b>	DANGEROUS SUBSTANCES FROM INDUSTRIAL ACTIVITIES. EMISSION ESTIMATION METHOD FOR SURFACE WATER CONCENTRATION

<b>O. Hadac, M. Kohout, I. Schreiber, M. Marek and M. Kubicek</b>	<b>175</b>	<b>STOICHIOMETRIC NETWORK ANALYSIS OF DYNAMICS OF CATALYTIC OXIDATION OF CO AND HYDROCARBONS</b>
<b>J. Hancsok, S. Magyar and A. Hollo</b>	<b>183</b>	<b>IMPORTANCE OF ISOPARAFFINS IN THE CRUDE OIL REFINING INDUSTRY</b>
<b>V. Kirillov, A. Shigarov, N. Kuzin and V. Kireenkov</b>	<b>193</b>	<b>A MATHEMATICAL MODEL OF THE CATALYTIC HEAT-COUPLED REACTOR OF STEAM METHANOL REFORMING</b>
<b>Y. Masuda, H. Imakoma, E. Ymaguchi, K. Tsubota and N. Ohmura</b>	<b>203</b>	<b>FUNCTIONALIZATION OF CASTING MOULD BY MICROWAVE DRYING</b>
<b>M. Miranda, F. Pinto, I. Gulyurtlu, I. Cabrita and A. Matos</b>	<b>211</b>	<b>TYRES AND PLASTICS WASTES KINETICS STUDY</b>
<b>A. Moral, R. Irusta, J.M. Martin and L. Martinez</b>	<b>217</b>	<b>DEPOLIMERIZATION OF PET BOTTLE WASTES TO PRODUCE HIGH-VALUE BHET MONOMER USING ETHYLENGLYCOL</b>
<b>G. Nagy, J. Hancsok, G. Polczmann, Z. Varga and D. Kallo</b>	<b>227</b>	<b>STUDY ON THE EFFECT OF SULPHUR AND NITROGEN CONTENT OF GAS OIL ON THE HYDRODEAROMATIZATION ACTIVITY OF Pt,Pd/USY CATALYST</b>
<b>Y. Naka, H. Seki, S. Hoshino and K. Kawamura</b>	<b>233</b>	<b>INFORMATION MODEL AND TECHNOLOGICAL INFORMATION - INFRASTRUCTURE FOR PLANT LIFE CYCLE ENGINEERING</b>
<b>N. Nishioka, Y. Tago, T. Takigawa, M.N. Noui-Mehidi, J. Wu and N. Ohmura</b>	<b>243</b>	<b>PARTICLE MIGRATION IN A STIRRED VESSEL AT LOW REYNOLDS NUMBERS</b>
<b>R. Oronzio, G. Monteleone, A. Pozio, M. De Francesco and S. Galli</b>	<b>249</b>	<b>ON-DEMAND HYDROGEN PRODUCTION FROM BOROHYDRIDE ALKALINE SOLUTION</b>
<b>E. Palazzi, R. Pastorino, F. Curro and B. Fabiano</b>	<b>255</b>	<b>EFFECTIVENESS EVALUATION AND DESIGN OF SPRAY BARRIERS FOR THE MITIGATION OF TOXIC GASEOUS RELEASES OF DIFFERENT WATER SOLUBILITY</b>

<b>M. Parisi, A. Festuccia and A. Chianese</b>	<b>265</b>	RECOVERY OF 4-METHYLCHATECOL FROM AQUOEUS SOLUTIONS BY ADSORPTION ON POLYMERIC RESINS
<b>L. Russo, E. Mancusi, P. Altimari, P.L. Maffettone and S. Crescitelli</b>	<b>275</b>	SPATIO-TEMPORAL PATTERNS IN LOOP REACTORS WITH DIFFERENT SWITCH STRATEGIES
<b>M. Sabatini, S. Zanelli and V. Cozzani</b>	<b>285</b>	INTENTIONAL ACIS OF INTERFERENCE: ATTRACTIVENESS AND VULNERABILITY OF INDUSTRIAL SITES
<b>S. Sironi, L. Capelli, P. Centola, R. Del Rosso and M. Il Grande</b>	<b>295</b>	ODOUR IMPACT DETERMINATION OF A MSW TREATMENT PLANT: DISPERSION MODELLING AND ELECTRONIC NOSE
<b>Q. Smejkal, J. Martinec, M. Svatek and J. Najemnik</b>	<b>303</b>	REVAMP OF ACRYLIC ACID PURIFICATION UNIT - OPTIMIZATION OF ACETIC ACID SEPARATION
<b>M. Stoller, M. Mescia, Valencia Peroni and A. Chianese</b>	<b>311</b>	CONTROL OF THE CRYSTAL SIZE DISTRIBUTION OF TITANIUM DIOXIDE PARTICLES USING A SPINNING DISC REACTOR
<b>V. Terentyev, O. Brizitski, A. Khristolubov and V. Kirillov</b>	<b>317</b>	DEVELOPMENT OF SMALL-SIZE SYN-GAS GENERATION UNITS BY PARTIAL OXIDATION OF NATURAL GAS
<b>M. Tramsek and A. Gorsek</b>	<b>321</b>	VOLUME OPTIMIZATION OF AEROBIC DIGESTER FOR THE BIODEGRADATION OF PLANT TANNINS IN INDUSTRIAL WASTEWATER
<b>F. Trieb, R. Karl and R. Moderer</b>	<b>327</b>	DEVELOPMENTS ON FLOW RATE AND HIGH PRESSURE STABILITY OF PEROXIDE DOSING PUMPS FOR THE CHEMICAL INDUSTRY
<b>K. Yamawaki, H. Hosoi, T. Takigawa, M.N. Noui-Mehidi and N. Ohmura</b>	<b>335</b>	GAS-LIQUID TWO-PHASE FLOW IN A TAYLOR VORTEX FLOW REACTOR
<b><i>Author Index</i></b>	<b>341</b>	