

Table of Contents

Preface and Organizing Committee

Chapter 1: Nanomaterials and Applied Nanotechnologies

Study on the Bactriostasis of Nano-Silver against Four Strains of Bacteria L. Qiu, H.H. Yang, J.Y. Lv, S.G. Fan, M.H. Xie, Z.J. Wang and J.H. Gao	3
Process Parameters Optimization for Plasma Spraying Nanostructured $\text{ZrO}_2\text{-7\%Y}_2\text{O}_3$ Coating Based on Simulated Annealing Algorithm B. Yang	12
Determination of Quantum Confinement Effect of Nanoparticles S. Chellammal and S. Manivannan	17
An Amphiphilic Chitosan-Polylactide Graft Copolymer and its Nanoparticles as Fungicide Carriers X.D. Mei, Y.H. Liang, T. Zhang, J. Ning and Z.Y. Wang	21
The Characteristic Analysis of Electroosmotic Micropump with Multistage Nano-Tubes F.C. Tsai and J.C. Huang	29
Synthesis and Magnetic Properties of FeTiO_3 Nanoparticles P. Srinivas, A. Sendil Kumar, V.R. Reddy and A.K. Bhatnagar	34
Green Synthesis of Spinel Magnetite Iron Oxide Nanoparticles R. Yuvakkumar and S.I. Hong	39
Preparation of Nanometer Chitosan - RNA Composite and the Role in Induced Type I Interferon L.H. Zhao, H.N. Zhao and D.M. Han	43
Using Anthropogenic Hydrocarbon Stock to Capture nano Carbon S. Petters, K. Mauthner and K. Tse	48
Study on the Bactriostasis of Nano-Silver against <i>Penicillium</i> L. Qiu, M.H. Xie, J.Y. Lv, S.G. Fan and J.H. Gao	62
Fabrication of Indium-Tin Alloy and Oxide Nanowires Using Extrusion Molding Process in the Air S.H. Chen, C.W. Hun, C.Y. Chou, J.S. Lin and Y.H. Chu	70

Chapter 2: Applied Material Science and Chemical Engineering

Study on the Stimulated Reservoir Volume Technology in Tight Carbonate Reservoir H. Zheng, N. Cheng, Z.W. Cao, W.T. Lu and J.S. Sun	77
Preparation of Hydrophilic-Oleophobic Antireflective Coatings with High Transmittance S. Cai, Y.L. Zhang, H.W. Yan, H.B. Lv and B. Jiang	81
Humidity Sensitive Properties of Graphene Oxide Investigated by Quartz Crystal Microbalance H.Y. Yu, Y.L. Yao and X.H. Wang	85
Functionalization of Starch for Macro-Initiator of Atomic Transfer Radical Polymerization (ATRP) M. Chalid, A.S. Handayani and E. Budianto	90
Sound Absorption Measurements and Numerical Estimation of Non Acoustical Parameters of some Moroccan Raw Green Materials G. Mohammed and C. Benayad	95
Investigation on Flexural and Impact Properties of Abaca and Manila Hybrid Composite B. Vijaya Ramnath, V.M. Manickavasagam, C. Elanchezhian, A. Santhosh Shankar, R. Sundarrajan, S. Vickneshwaran and S. Pithchai Pandian	102
Hydrogen Separation Using Silica-Based Composite Membranes M.N. Kajama, N.C. Nwogu and E. Gobina	107

Degradation of Rhodamine B by Highly Efficient Photocatalyst TiO₂-Ag/Ag⁺ under Simulated Sunlight Irradiation Y.N. Yang, Q. Zhu, D.W. Li and X.H. Hu	112
Influence of Low Temperature Plasma on Chitosan/ Waterborne Polyurethane Finishing on Cotton Fabric W.L. Wang and W. Yu	117
Preparation of Expandable Graphite by Ozone Oxidation Method D.F. Liu and J.Z. Liang	121
Synthesis of 3-tert-butylaniline by Using Hydrodechlorination Technology C.L. Li	125
The Research on Performance of Mixed Soft Ferrite Y.J. Chen, X.H. Li, M. Yu and S.L. Tian	130
Comparison of the Determination Methods for the Calcium Sulfate Content in Phosphogypsum L. Qin, K.B. Luo, H.P. Li and X.J. Zhao	135
Investigation on Shear Behaviour of Flax-Kenaf Hybrid Composite V.S. Srinivasan, S. Rajendra Boopathy and B. Vijaya Ramnath	139
Two-Step Catalytic Pyrolysis of Corn Stover in a Dual Bed Reactor Z.P. Zhong, Z.W. Song, B. Zhang, Z.C. Liu and Z.Y. Xue	143
Preparation of Polystyrene / Fe₃O₄ Magnetic Composite Microspheres R. Yin, J.L. Zhao, Y.R. Wang and X.Z. Zou	148
Studies on Evaluation of Reaction Rate of Lithium Ortho-Silicate for Chemical Heat Storage T. Esaki, N. Kobayashi, A. Inagaki, H. Kita and S. Yamashita	153
Flow and Die-Swell Behavior in Extrusion of PLLA Melts F.J. Li, J.Z. Liang, B. Zhu and K.J. Wang	156
The Thermodynamic Characterization in Cs-I-O Reaction C.C. Chen, C.M. Chu, C.J. Wang, K.J. Huang and J.S. Lin	162
Surfactant Accelerating Leaching of Uranium Ores Y. Lv, J.W. Lv, J.L. Zhou and J. Shen	166
Research on Corrosion Prediction Technology of Lap Joint Structures with Dissimilar Materials Based on Boundary Element A.D. Wang, Y.L. Chen, Y. Zhang and G.X. Bian	171
Study of Performance and Synthesis of Et₃NHCl-AlCl₃ L.M. Zhang and H.Y. Hu	178
Synthesis of Bromoalkanols under Microwave Irradiation T. Zhang, F.P. Zheng, X.H. Xu, C. Huang, Y.P. Liu and B.G. Sun	182
Electrocatalytic Activity of Fe-N Doped Carbon Material Derived from Polyaniline-Prussian Blue Composite towards Oxygen Reduction Reaction M.Y. Chen, B. Lai, Y.F. Zhou and G.Q. Zhang	186
Cathode Performance Degradation of SOFC from Sodium Chloride R.R. Liu, D.J. Wang, L. Jing and X.Y. Bai	191
Effect of Al5Ti1B Master Alloy on Microstructure and Mechanical Properties of Al-5wt.%Cu based Alloy M.Y. Xie, S.H. Ao and X. Wang	195
Electrochemical Characteristics of TiAl Coating on Aluminum Alloy Surface by Supersonic Particles Deposition S. Zhu, G.F. Han, X.M. Wang, Y.X. Liu and Z.Q. Wang	199
Multiple Regression and Neural Network Based Characterization of Friction in Sheet Metal Forming H.G. Lemu and T. Trzepieciński	204
Investigation on the Discharge Behaviors of AZ31 and AZ61 Magnesium Alloys as Anode Material of Metal-Air Fuel Cells Z.P. Xiong, Y.J. Si, X.S. Feng and M.J. Li	211
Ultrasonic and Density Studies of D(+) Mannose with Aqueous Electrolytes at 303K Y. Akhtar	215
Selective Oxidation of Corn Starch in TEMPO-Mediated System Y.F. Hu, X.D. Zhang, Z.G. Nie, Y.C. Xing, B.Q. Lin and L.L. Song	221

A Selective Plugging Agent for Horizontal Wells X.M. Zhu, J.J. Ge, G.C. Zhang, P. Jiang, L. Zhang and L.F. Chen	225
Preparation of α High-Strength Gypsum from FGD Gypsum by Autoclaved Semi-Dry Process Y. Li, P.X. Duan, Y.C. Miao and Q. Li	230
Catalytic Activity of PILCS for Water Gas Shift Reaction of CO C.H. Dai, P. Ning, S.L. Tian and P.F. Qin	237
Determination and Comparison of Material Properties of Commercial Wood-Plastic Composite Products M. Hyvärinen, J. Pääjnen and T. Kärki	242
Improvement of Mechanical Properties in Bamboo Maleic Anhydride Grafted Polypropylene/Polypropylene Composite Enhanced with Resin Impregnation Method G. Nam, N. Wakamoto, K. Okubo and T. Fujii	250
The Effects of Cationic Type Ionic Liquids on Methane Hydrate Formation C.Y. Lu	256
Effect of Urban Domestic Wastes on Refractory for Cement Rotary Kiln J.T. Wang, S.L. Chen, X.Y. Dong, C. Liu, R.L. Xu and Y.D. Zhou	260
Simulation of TL Mechanisms in Materials with Using Fractal Rate Kinetics I.A. Weinstein and O.A. Evsegneev	265
Degradation Behavior of CFB Fly Ash Filled Unsaturated Polyester Composites under Acidic Environment T.P. Tumolva, R.A. Apayla and A.M. Dolor	268
Study on the Fire Retardant Treatment Technologies of Bamboo Particleboard C.G. Du and J.G. Song	273
Effect of Microstructure of Graphene Oxide Fabricated Composite Membranes on Alcohol Dehydration W.S. Hung, K.R. Lee and J.Y. Lai	278
The Effect of Deformation on the Carbide Precipitation Morphology in the Ti Microalloyed Steel C.Y. Chen and W.D. Jheng	283
Reaction Performance of Propylene Carbonate Manufacturing by Using a Green Synthetic Route R.S. Horng, S.K. Lee, M.L. Hwang and H.Y. Tsai	289
The Synthesis of Xylene Formaldehyde Unsaturated Polyester Resin and its Application in the Putty F.F. Liu, Q.N. Feng, X.H. Yuan and X.W. Liu	294
The Synthesis from α-SiO₂ and Graphite System to Coesite under High Temperature High Pressure D.J. Wang, R.R. Liu, L. Jing and X.Y. Bai	299
Water/Alcohol Soluble Poly(3-Alkylthiophene) Derivative Self-Assembly with Fullerene Derivative via Hydrogen Bonding Y.C. Huang, H.F. Lee, P.H. Wang, P.C. Huang, J.H. Lin, Y.C. Tseng, Y.K. Han and W.Y. Huang	303

Chapter 3: Biology, Biotechnologies and Biomedical Engineering

Phylum-Specific Primer Design and Implication in Quantification of the Microbial Community Structure in GuJingGong Pit Mud X.M. Luo, Z.L. Gao, H.M. Zhang, A.J. Li, H.K. He, C.L. Guo and Z.Z. Zhang	311
Methane Generation via Two-Phase Anaerobic Digestion of Organic Fraction of Municipal Solid Wastes M. Baynosa, G.A. Bondoc, L.A. Miguel Sanchez and A. Rollon	317
Role of Postradiation Genome Instability in Evaluating the Development of Radiation-Determined Pathology in Children after the Chernobyl Accident and Investigation Perspectives A.E. Sipyagina, L.S. Baleva, N.M. Karakhan, V.S. Sukhorukov and M.K. Tagirova	322
Side Effect of Production of Biodiesel from Jatropha Seed Oil: A Case Study in Thailand K. Rodjanakid, C. Charoenphonphanich and T. Srinorakutara	326
Physiological and Biochemical Responses of <i>Miscanthus sacchariflorus</i> to Salt Stress C.T. Hong, H.P. Guo, J. Fang, W. Ren, T.F. Wang, M.C. Ji and B.S. Zheng	333

<i>Bacillus pumilus</i> to Disrupt the Quorum Sensing Reduce the Mortality of Gibel Carp (<i>Carassius auratus gibelio</i>) Caused by <i>Aeromonas hydrophila</i>	341
Z.F. Song, B. Fan, J.Q. Qiu, B. Chen, J. Guo, W.H. Chu and Q.H. Zhang	
Formation of THMs, Microcystin-LR and Odors from <i>Microcystis aeruginosa</i> - Derived Organic Matter	348
H. Wang, D.M. Liu, P. Wang and F.Y. Cui	
<i>In Vitro</i> Cytotoxic Studies of Ultrafine TiO₂/Graphene Oxide Sheet Nanocomposites in Human Alveolar Epithelial Cells	353
J. Gao, X.S. Yuan, Y. Wang, L. Cao, P.Y. Dong and B.C. Cao	
Effect of Curcumin on Diabetes in an Alloxan Mice Model	363
M.S. Miao, S. Tian and L. Guo	
Physiological and Biochemical Changes of Cherry Rootstocks under Salt Stresses in Greenhouse Environment	368
F.H. Liang, J.H. Yang, Y.J. Liu, Y.Y. Shi, C.X. Wu and H.J. Xu	
Research of the Unknown Cause of Death of <i>Caesio diagramma</i>	373
J.Q. Qiu, Z.F. Song, H.Y. Su, S.T. Yang, K. Hu and P.M. He	
The Effects of Quality Changes in Pomfret (<i>Pampus argenteus</i>) Fillets from Different Treatments during Chilled Storage	378
W.Q. Lan, J. Xie, F. Zhu and R.Q. Zhu	
Effects of Nano-Selenium on Kindey Selenium Contents, Glutathione Peroxidase Activities and GPx-1 mRNA Expression in Mice	383
S.Y. Qin, F. Chen, Y.G. Guo, B.X. Huang, J.B. Zhang and J.F. Ma	
Biochar Production from Agricultural Waste in Amphawa District, Samutsongkram Province Thailand	388
C. Tarasawatpipat, T. Kreetachat, W. Mekhum and K. Suwannahong	
Biogenic Gold Nanoparticles and its Antibacterial Activities: Houttuynia Cordata Leaf Extract	392
T.V.M. Sreekanth and I.Y. Eom	
Isolation, Identification, and Characterization of an Organophosphorous Pesticide Degrading Bacterium, <i>Enterobacter ludwigii</i> M2	398
Y. Zhao, P. Zhao, Y. Wang and W.J. Qi	
Evaluation and Application of Endogenous Microorganism Activator in Reservoir after Chemical Flooding	404
J.J. Le, J.Y. Zhang, L.L. Bai, R. Wang, Z.W. Hou and X.L. Wu	
Study on the Bacteriostasis of Nano-Silver against the <i>Aspergillus</i> from Illed Plants	410
L. Qiu, H.H. Yang, F. Lei, S.G. Fan, M.H. Xie, Z.J. Wang and J.H. Gao	
Effect of Curcumin on the Level of Blood Lipid and Blood Glucose in Diabetic Rat Model	419
M.S. Miao, L. Guo, S. Tian and T. Wang	
Optimization for the Process of Chlorophyll a Extraction by Orthogonal Method	423
J.S. Wu, C.C. Liu, B. Li and X.Z. Wan	

Chapter 4: Environmental Engineering, Waste Recycling and Sustainable Development

The Noise Characteristics Research in Subway Cars	431
J.H. Tian, L. Jian and B. Li	
Experimental Studies on the Salt Expansion Law of Gravel Sulfate Saline Soil under the Five Factors of Salt Expansion	435
S.S. Zhang and Z.R. Dai	
Prediction of Low Flow Years in the Upstream of Zhang River Based on Improved Gray Model	439
L.L. Shao, W.J. Niu, F. Tang and C. Lin	
Peculiarities of Recultivating the Ash Dump of Power Station-1 in the City of Khabarovsk	444
A.A. Suprunova, L.T. Krupskaya and T.G. Borzenkova	
Effect of 2, 4-D on Adsorption of Copper onto the Black Soil	448
L.J. Yang, F.J. Zhang, Q.S. Shao, Y.N. Wu and Y.Y. Dong	
Design and Global Sustainable Development from the Perspective of Game Theory	452
G. Liu	

Impact Assessment of the Sulfide Oxidation Processes Occurring in the Tailing Dumps of Komsomolsky District on the Hydrosphere in a Wide Temperature Range V. Zvereva, K. Frolov and A. Kostina	457
The Impact of Water Right Transfer from Agriculture to Industries: A Computable General Equilibrium Analysis W.D. He, P. Lu and P. Deng	461
Predicting Forest Fire Hazards Using Data Mining Techniques: Decision Tree and Neural Networks N. Hamadeh, A. Karouni and B. Daya	466
Research on Urban Greening Status Investigation Method Based on Spatial Information Technology - With Zoucheng as the Example J.N. Wang and D.J. Li	471
Biosorbents Derived from Fruit Wastes for Removal of Anionic Dyes in Wastewater M.Q. Ho and S.F.Y. Li	477
Modified PCA for Water Use Efficiency Research R.F. Jia, J. Wei and H. Jin	482
Assessment on 2000-2010 Ecosystem Function Changes of Yiwulvshan National Nature Scenic Area X.C. Wang, J.H. Zhu, Y.M. Hu and W.L. Liu	489
Factors Analysis about the Dam-Break of the Uranium Tailings F.K. Lv, Y. Liu and Z. Guo	495
Engineered Wetland for the Treatment of Wastewater from Fertilizer Plant N. Sapari, K.U. Orji, M.H.B. Mohamad Hazli, S. Yavari, E. Olisa and R. Asadpuor	500
Method of Biological Wastewater Final Treatment Using Bioremediation in Northern Khabarovskiy Krai K. Gula, L.T. Krupskaya, E. Shevkun and V. Zvereva	505
Examining the Relationship between Natural Gas Consumption and Sustainable Development C.K. Liu, S. Qiao, Y.Q. Guo, J. Tu and H.H. Chen	511
Research on the Methods of Cumulative Environment Impact Assessment in the High-Speed Railway Region X.C. Duan, J. Sun, Y.G. Liang, J.N. Cui and Z.Y. Wang	518
Research on the Current Treatment Status and its Effectiveness of Rural Sewage in Guangxi Z. Chen, G.W. Chen, H.X. Li, B. Han, F.P. Huang and W.W. Zhang	523
The Research on the Distribution Characteristics of Heavy Metals in Uranium Mines Soil Y. Wang and B. Gao	528
Eco-Environmental Assessment of the Low Hilly Area Based on Matter-Element Analysis Method: A Case Study of Pingdingshan City, China C.L. Yu, H.L. Yu and Y.B. Wang	536
The Management Research of the Mineral Resource Complex at the Sustainable Development Level T. Badrakh-Yeruul, J.H. Zhang and B. Chinzorig	542
Research on Multi-Rate Pyrolysis Kitchen Waste P. Qian, H.L. Wang and J.G. Wang	547
Pollution Characteristics and Ecological Risk Assessment of Hg and As in Sediments from WuHe Wetland X.T. Ma, R.J. Liang, J.C. Qiu, L.Z. Wang and X.Z. Wang	552
Assessment of Technogenic System Impact on the Environment and Technospheric Safety for Mineral Development in Amurskaya Oblast D. Golubev, L.T. Krupskaya, V. Zvereva and M. Filatova	557
The Technical Economy Analysis of Guangxi Rural Contiguous Environmental Governance Project in 2011 Z. Hu, G.W. Chen, H.X. Li, B. Han, F.P. Huang and W.W. Zhang	562
The Temporal and Spatial Vegetation Variation of Liaohe Basin and its Relation with Climate Changes X.C. Wang, J.H. Zhu, Y.M. Hu and W.L. Liu	567

Design and Implementation of Water Quality On-Line Monitoring System Based on Combination of Multiple Data Transmission	
J.D. Yu, H. Huang and G.R. Chen	573
Nitrate Removal from Domestic Wastewater by Using Denitrification Limestone Filter	
R. binti Hamdan, T.N. Zulaikha and I.I. Ibrahim	578
Adsorption of Cr (VI) from Aqueous Solution by Purified Attapulgite	
L. Tao, X.W. Song, J.L. Yuan, J. Ren and Y.Z. Zhang	583
Degradation Behaviors of Trichloroethylene by Permanganate	
Y.C. Huang, S.Y. Huang, S.S. Chen, C.Y. Ma and H.C. Chen	588
Preparation of the Core-Nanoshell Composite Materials and Adsorption of Chromium-Containing Heavy Metals	
X.N. He, R.X. Che, Y.L. Wang, Y. Li and L.P. Wan	594
Effects of Heavy Metals on the Characteristics of Microorganisms in Activated Sludge: A Review	
W. Liu, J.H. Tang and G.Q. Xia	600
Influence of Sulfur Content in Tailings on Processes of Hypergene and Technogene Mineral Formation on the Example of Kavalerovo Tin-Ore District	
A. Kostina, V. Zvereva and A. Pyatakov	605
Processing Mineralogy Characteristics and Utilization Technology of Ningxiang-Type Oolitic Hematite	
Y.H. Yang, Y.C. Liu, Y.S. Zhang and X.W. Liao	610
Exploring the Hydrology and Water Resources Engineering Speciality System of North China Electric Power University	
B.H. Men	616
Investigation of Green Disposal of Smartphones	
D. Al-Jumeily, A. Hussain and S. Macilwee	622
Research on Influencing Factors of Public Low-Carbon Consumption	
H.L. Ma, M.G. Li and Z. Tian	627
A Study on the Evaluation Factors of Environmental Education Strategies for Cultural Heritage and Low Carbon Tourism	
K.Y. Wu, S.C. Lu and Y.Y. Wu	632
Textile Factory Energy-Efficiency Improvement in Thailand	
F. Mungtavesinsuk, H.W. Lin and K. Wonggasem	641

Chapter 5: Architecture, Technologies and Materials in Construction

Effect of Hygrothermal Transfer on Multilayer Walls Behavior, Assessment of Condensation Risk	
M.Y. Ferroukhi, R. Belarbi and K. Limam	647
Considerations on Design of Ecological Architecture	
B. Peng	656
Thinking and Discussion on Fire Fighting in High-Rise Buildings	
R. Xue	661
Evaluation and Strategy of the Campus-Front Space Present Situation in Urban Primary School	
B.T. Mao and L. Yang	665
Axial Compression Behaviour of Wallettes Constructed Using Wood-Wool Cement Composite Panel	
M.S. Md Noh, Z. Ahmad and I. Azmi	670
Experimental Study on Strength Development Pattern of Magnesium Oxychloride Cement Cured in Chloride Solution	
J.W. Yang, J. Pi, Y. Pan and X. Huang	678
Architectural Culture Represented by Famous University - Taking the Constructions in the Old Campus of Henan University as the Example	
J. Huang, K. Feng, F. Xue and J.L. Guo	683
Experimental Research on Abrasion Resistance of Alkaline Residue Concrete	
Y. Zhang, J. Cao and Y. Dong	687

Study on New Technology of Treatment of Capillary Water in Subgrade with Soft Permeable Pipe Filled with Sand X.G. Song, Y.F. Yu, H.B. Zhang, H.C. Li, J.Q. Wu and C. Li	692
Life Cycle Cost Aspects of BIPV and Conventional Building Components T. Schuetze	696
Analysis about Bending Moment of Sheet Piles Retaining Structure X. Xia, L.L. Li, Y. Huang, H.D. Xu and S.Y. Xi	701
Improving the Cement Based Reinforced Composites by Use of Partially Oxidized PP Fiber L.H. Chou, J.L. Tung and M.T. Lee	706
A Comparison Study on the Greenery Design Policies for Green Building to the Traditional Chinese Fengshui Issues S.C. Lu, J.H. Chen and D. Kashitskiy	711
Bearing Capacity Analysis of the Slab of Slipways at Marine Engineering Construction Site C. Gong, X. Meng, R.J. Gao, J.H. Shan, F.J. Li and L.L. Sun	715
Comparative Analysis of Existing Life Cycle Inventories of Cement in China Y.R. Zhang, M.H. Liu and Y.F. Wang	721
A New Meshless Simulated Method of Chloride Diffusion in Concrete L. Yao, L. Zhang, L.L. Zhang, X.Y. Zhang and Y.J. Wang	725
Self-Insulation Concrete Block Design and Optimized Design Based on Thermal and Mechanical Properties in Severe Cold Zones X.Y. Ding, Y.L. Luo, Z.F. Chen and M. Xu	730
Workability, Strength and Drying Shrinkage of Structural Mortar Containing Forest Biomass Ash in Partial Replacement of Cement S. Candamano, F. Crea, D. Romano and I. Iacobini	737
Experimental Study of CFB Modification Fly Ash in Concrete R.J. Xu, Y.K. Huo, B. Teng and S.H. Song	743
Flexural Behaviour of Reinforced Concrete Beam with Glass Fiber Reinforced Polymer (GFRP) Bar Strengthened with Carbon Fiber Reinforced Polymer (CFRP) Plate N. Salleh, A.R. Mohd Sam, J. Mohd Yatim and M.F. bin Osman	748
Changes of Mechanical Properties of Lightweight Cement Mortar Mixed with Recycled Expanded Polystyrene and Subjected to High Temperatures R. Sancho, C. Angel, M.E. Maciá Torregrosa and R. Corral	752
Compressive and Flexural Strength of Fine Grained Mortar Containing Rice Husk Ash: A Review Z. Jamellodin, M.S. Hamidah, S.H. Adnan, N.S. Mohammad and W.Y. Wan Yusof	757
Moisture Buffering Effect of Gypsum Board in a Marine Climate: A Field Experimental Study S. Pedram and F. Tariku	763
Disease Analysis on Hydraulic Concrete Structure of Reservoir Works in Jiangxi Province L.Y. Xiao, Y.Y. Lan and A.M. Zhong	774
Assessing Risk Economically on Landslide in Youyu County, Shanxi Province W.X. Hao, L.J. Wang, F. Ding and J. Guo	779
Anchored Slope Risk Analysis under Earthquake Effect X. Xia, L.L. Li, Y. Huang, S.Y. Xi and H.D. Xu	786
Research of Landscape Interactive Design J.F. Li and M.J. Ding	791

Chapter 6: Designing and Research in General Mechanical Engineering and Manufacturing Processes

Mechanical Behaviour of Al-Li Alloy Joints by Different Friction Stir Welding Parameters D.D. Zhang, W.Q. Qu, Q.B. Lv, Y.Y. Liu, W.Y. Li and X.W. Chen	799
Numerical Heat Transfer Investigation in Solar Air Heater Channel with Wavy-Baffles P. Promvong, W. Noothong and C. Tianpong	808
Study on the Operating Conditions of Micropump Components A. Rylski and K. Siczek	813
Gravity-Based Power Generation Apparatus for Emergency H.P. Wang, C.L. Wei, F.H. Liu, W.Y. Lin, J.B. Chen, Z.W. Chen and H.H. You	819

A Novel Structural Design of Heat-Dissipation Method for High Brightness LED Lighting with Thermoelectric Chip Module C.W. Wang, T.C. Yeh, K.C. Lin, K.H. Chen, W.C. Wang, P.K. Lin, C.H. Chen, T.Y. Chiu and C.W. Wu	823
Simulation Optimization and Experiment of R1234-ze on the Heat Pump Water Heater Storage Tank Y. Qu, F. Wang, Y. Wang, P. Wang, T. Li and Z.F. Meng	828
Investigation of Wind Turbine Blades with Tubercles K. Leung	832
The Simulation Optimization and Experimental Improvement of the Refrigerator Y.L. Zhao, F. Wang, J.W. Zhang, D.D. Yang, T. Li and Y. Liu	840
Thermal Behaviors in a Solar Air Heater Channel with Arc-Shaped Baffle Turbulators N. Koolnapadol, Y. Kaewkohkiat, P. Promvongse and S. Eiamsa-ard	845
Study on Vehicle Velocity Controller for the Energy Regeneration System of the Hydraulic Hybrid Vehicle Y.P. Song and W.T. Wang	850
Experimental Study on Impact Resistance of Dump Truck Bodies Floor B. Tian, D.W. Liu and L.L. Zhu	857
A Method for Design 3 Blade Type and Testing Optimum Cavitation of Tailing Thai Boat J. Noosomton and J. Charoensuk	862
Structural Strength Analysis of Dump Truck Cargo Body without Floor Beam X.Y. Liu, D.W. Liu and M.J. Si	875
Experiments of Electronic Water Cooling System on Different Inlet Type and with/without Vortex Fin inside F.C. Tsai and J.C. Huang	881
Nonlinear Finite Element Static and Corrosion Sensitive Analysis of Radial Steel Gate Y.X. Liu, H. Guo, J.L. Wang and J.H. Sun	886
Mixing Two Fluids of Different Densities in a Solar Storage Tank by Lattice Boltzmann Method Y. Su	891
Evaluation of P-T Limit Curves According to Alternative Fracture Toughness Requirements S.A. Lee, S.J. Lee, S.H. Lee and Y.S. Chang	896
Temperature-Reduction Value of Conductor with Large Aluminum-Steel Section Ratio Based on Creep Test Y. Gao and Y. Qi	902
Experimental Investigation on Damping Characteristics in Pump-Sand Box-Isolation System X.J. Kong and C.Z. Chen	906
A Measurement Based on Tunable Diode Laser Absorption Spectroscopy for Pressure in Gas Flow S.J. Peng, Y.J. Hong, G.Y. Wang and H. Pan	910
A Study on Imbalanced Sound Sensitivity of BA Earphones Inducing Deafness E.Y. Yi, M.S. Kim and M.J. Bae	915
Experimental and Simulation Research on Flow Characteristics of SCR System in a 100MW Power Station Q.J. Li, D.P. Zhang, F. Zhang and X.F. Liu	920
Analysis of Piezoelectric Energy Harvesting	927
PZT Piezoelectric Energy Harvester Enhancement Using Slotted Aluminium Beam M.H. Lam and H. Salleh	932
Design of Intelligent Lighting Control System Based on Power Line Carrier Communication Technology C.L. Zhang, W. Wang and X.J. Su	937
Heat Transfer Intensification in Finished Surface Pipes of Small Diameter M. Kubín and J. Hirš	942
The Index Matching Method and its Application in V3V Measurements J.G. Wang, H.L. Wang, Y. Fan and Y. Huang	946
Motion Simulation of Cluster Warhead Based on MATLAB G.Y. Hang, W.L. Yu, T. Wang, J.T. Wang and Z. Li	951

Aquiculture Remote Monitoring System Based on Android Platform H. Xu and Y.J. Zhang	956
Study on Evaluation of Explosion Effects of Gas Injection Wells Q. Huang, Z.Y. Liu and Z. Zuo	962
Comparative Experiment of Color Reproduction Methods Q. Jia, X.L. Lv, W.D. Xu, J.H. Hu and X.H. Rong	967
The First Two 4kW VAWT Green Energy Generation in Matsu Areas L.S. Shyu and Y.C. Hsiao	971
Parametric Analysis of Geometric Configurations of a Small-Scale Solar Chimney J.d.O. Castro Silva, S. de Moraes Hanriot and C.B. Maia	975
Performance Analysis of PMLSG for Wave Power Generation Based-On Different Magnetization Methods W.J. Wang, W.Q. Wang, H. Zhang, L.B. Mao, S. Ye and G.P. Zhang	980
Optimizing an Active Solar still for Sea Water Desalination O.A. Hamadou and K. Abdellatif	985

Chapter 7: Computational Methods and Algorithms for Engineering Research and Design

The Proposition of a Framework for Semantic Process Mining Y.X. Liao, E. Rocha Loures, E.A. Portela Santos and O. Canciglieri	995
Verifying the Soliton Solutions to the Fifth Order KdV Equation by Ordinary Inverse Scattering Method C. Ma and J.C. He	1000
SOC Estimation for Li-Ion Battery Using SVM Based on Particle Swarm Optimization G.F. Guo, L. Shui, X.L. Wu and B.G. Cao	1004
Study on Prediction of Mackey-Glass Chaotic Time Series Using Support Vector Machines Y.L. Ning, X.Y. Wang and X.P. He	1009
Performance Improvement Study of CV-EWMA Control Chart to Detect Small Shifts of CV Y.S. Park, E.P. Hong, K.Y. Park and W.H. Shon	1016
A Production Estimation Algorithm in Commingled Oil Wells Based Kernel Partial Least Square X.M. Yang, B.Y. Yan and Z.R. Yang	1023
Prediction for Gas Emission Quantity of the Working Face Based on LSSVM Optimized by Improved Particle Swarm Optimization Y.X. Feng, K.Z. Zhang, X.Z. Yu and Q.Z. Liu	1028

Chapter 8: Industrial Engineering and Business Management

Factors that Influence Green Purchase Behaviour among Young Consumers S.H. Tan, S.F. Yeo, M.L. Goh, S.W. Chong and C.S. Cheah	1035
Performance Evaluation of Agriculture and Forestry Biomass Energy Listed Companies S.Y. Wang and F. Mi	1040
Study on Application of Markowitz's Portfolio Selection Theory in Overseas Petroleum Venture Investment Decision W.N. Jiang, B.S. Ju, G.H. Zhai, Y.Q. Chen and L. Wei	1045
A Study of an Administrative System for High Risk Operations-Take a Science Park as an Example C.F. Lee, K.H. Hsu and L.H. Lee	1051
Evaluation of Production Efficiency by the Three-Stage Data Envelopment Analysis Model: Chinese Power Sector as the Study Case Y.J. Chen, S.L. Chen, Q. Yi and J. Tu	1061
Exploratory Research of the Equipment Maintenance Strategy Analysis Method in Design Stage of Nuclear Power Plants L.F. Yang, H. Jiang and F. Gu	1068

