

Table of Contents

Preface and Organizing Committee

Chapter 1: Materials Science and Mechanical Engineering

A Image Segmentation Scheme S.L. Zhang, H.P. Li and S.W. Zhang	3
Research on Cooling Effect with Cooling Groove Structure Parameters of Liquid Rocket Engine Thrust Chamber T. Nie and W.Q. Liu	7
Crystallization Kinetics of $\text{Ti}_{50}\text{Fe}_{22}\text{Ni}_{22}\text{Sn}_6$ Amorphous Powders Y.Y. Zhu, Q. Li, Y.H. He, G. Wang and X.H. Wang	12
Review on Method for Testing Filling Capacity of Liquid Alloys and its Application H.Y. Tang, D.Q. Shi, Y.J. Zhao, D.Y. Li, X.D. Shi and Z.W. Gao	18
Research on Simulation and Optimization of Facility Layout in Flexible Manufacturing Workshop D.M. Huang, G.J. Zhang and S.X. Shi	24
Survey on the Quality Management System of Power Distribution Projects Based on the Theory of TQM X.H. Song, D.X. Niu, C.Q. Ye and D.L. Lu	30
Steel Plates Subjected to Uniform Blast Loading A.V. Oskouei and F. Kiakojoori	35
Aerodynamic Investigation of Hypersonic Vehicle with Forward-Facing Cavity H.B. Lu and W.Q. Liu	41
Improving the Gas Barrier Property of SBR/Clay Nanocomposite through <i>In Situ</i> Sulfur Modification during Curing Process S.J. He, Y.Q. Wang, J. Lin and L.Q. Zhang	48
License Plate Location Method Based on LOG Edge Detection Operator Z.W. Wu	52
Talent Training Order Mode Practicing and Exploring on Insurance Claims Professional H.Z. Sun	56
Geometric Errors Sensitivity Analysis of Precision Vertical Machining Center Based on Multi-Body System Theory Q. Cheng, D.S. Xuan, J. Sun and Z.F. Liu	61
The Compensation Research of Contactless Electrical Energy Transmission System K. Huang, Z.Y. Liang, L.P. Zhang and L. Lu	67
Buckling Analysis of Multilayered Functionally Graded Composite Cylindrical Shells M.H. Kargarnovin and M. Hashemi	74
Fuzzy Comprehensive Evaluation for Reconfigurable Assembly Line M.H. Yuan and Z.Z. Wang	80
The Application of Geometric Elements in Modern Product Design M. Yang, Q.F. Bo and X. Zhang	86
Nanocomposites Based on Hyperbranched Polymers and Montmorillonite S.J. He and J. Lin	91
Impact Signal Analysis and Fault Diagnosis of High-Speed Automata M.Z. Pan, H.X. Pan and R.P. Zhao	95
The Research on the Application of the Virtual Prototype Technology in Ceramic Rolling Machine Design J.H. Fen and W.W. Hu	101
Dynamic Analysis and Research of Motor's Elastic Shaft of the Large Miner High Shearer's Cutting Parts H.B. Gao and Z.J. Yang	105
Improved Ant Colony Algorithm and its Application to the Parameter Optimization in Rainstorm Intensity Formula J.X. Du, S.H. Miao, B. Zhao and H.Y. Li	111

Characterization of Ionic Currents in Peptidergic Neurons from Eyestalks of Chinese Mitten Crab <i>Eriocheir sinensis</i> J.S. Sun, L.P. Wang and X.Y. Geng	116
Optimization of Poly(β-L-malic acid) Production Using <i>Aureobasidium Pullulans</i> by Response Surface Methodology C.S. Qiao, K. Zhong, H.X. Hao and Y.Y. Jia	121
Antagonistic Mechanism of <i>Fusarium Oxysporum</i> of Soybean Root Rot by <i>Bacillus Subtilis</i> Y.G. Li and F.M. Ma	127
Determination of Mating Type of <i>Phytophthora Infestans</i> and Long Term Preservation by Using Mineral Oil X.X. Li, S.J. Xu and X.Z. Zhang	132

Chapter 2: Materials Science and Bioengineering

Expression of HIV-1 Vif and Human APOBEC3G with a Bicistronic Vector Y.S. Yang, X.N. Sun, D. Liu, X.L. Wang, S.S. Shen, Z.L. Li and Y. Zeng	141
The Separation of Flavonoids and Polyphenols from <i>Eucommia Ulmoides</i> Leaves and their Antioxidation <i>In Vivo</i> W.B. Dong, D. Liu, J. Yang and X.M. Xu	146
Separation and Purification of <i>Alcaligenes</i> Biodemulsifier by Dichloromethane-Water Extraction and Silica Gel Column Chromatograph X.F. Huang, K.M. Peng, L.J. Lu and J. Liu	152
Breeding of Oleaginous <i>Rhodotorula Glutinis</i> and the Synthesis of Biodiesel P. He, J.L. Huang, Q.C. Shi, X.L. Li, L. Yuan and Q.R. Zou	159
Phosphate Solubilizing Rhizospherebacterial T21 Isolated from Dongxiang Wild Rice Species Promotes Cultivated Rice Growth Q.G. Zeng, F. Luo, Z.B. Zhang, R.M. Yan and D. Zhu	167
Pathway Analysis of the Restrictedly Expressed Genes in <i>Oryza Sativa</i> Implanted by the Low-Energy Nitrogen Ion H.Y. Ya, W.D. Wang, Q.F. Chen, G.Y. Qin, Z. Jiao and X.S. Zhang	176
Study on Aerobic Biological Phase in the System of Coal Tar Processing Wastewater Treatment Y.L. Lü, Y.Q. Wang, M.J. Shan, D.W. Pan, T.F. Li and H.Z. Hu	183
Lysicamine in a Lotus Leaves Extract May Be Responsible for Antibacterial and Anti-Inflammation Activity P. Wang, M.Z. Zhu, W. Huang, C.F. Huang and S. Wilson	189
Antibacterial Activities of Kappa-Carrageenan Oligosaccharides F.F. Wang, Z. Yao, H.G. Wu, S.X. Zhang, N.N. Zhu and X. Gai	194
A Microfluidic Platform for Multi-Antigen Immunofluorescence Assays B.Y. Zhang, H.X. Song, T. Chen and Z.H. Wang	200
A Design of DSPIC Based Microfluidic PCR Chip Temperature Controlling System L. Wang, H.X. Song, T. Chen and Z.H. Wang	206
Lanthanide Complex-Polyethylenimine Conjugate: A Highly Luminescent Probe for Time-Resolved Fluorescence Analysis C.N. Wu and Y. Chen	212
An Acetic-Acid Type Climax Community and its Changes Aroused by COD/SO₄²⁻ Ratio in an Acidogenic Sulfate-Reducing Reactor H.X. Bao, X.P. Ma, J. Wang, K. Jing, Z.H. Chen and A.J. Wang	217
Comparison of Evaluation Based on Different Atmospheric Correction Methods for HJ-1A Hyperspectral Imaging Data P. Wang, Z.R. Xing and Y.G. Feng	224
Evaluation of Chlortetracycline Impact on Earthworms (<i>Eisenia fetida</i>) by Quantitative Real-Time PCR D.S. Lin, K.X. He, Q.X. Zhou, Y. Li, X.J. Xie and Y. Liu	230
Preparation and Properties of Nanocomposite of Poly(L-Lactide) and Surface Grafted Hydroxyapatite B.H. Luo, J. Yang, C.E. Hsu, J.H. Zhao and C.R. Zhou	238
Effects of Gibberellins Treatment on Storage Quality and Nutrition Components of Loquat W.D. Bai, W.H. Zhao, Z.M. Lu, X.D. Cao and Z.L. Zhang	244

Transcriptional Distribution in Various Organs and Transcriptional Response to Abiotic Stress for Trehalose Metabolism Genes in <i>Arabidopsis Thaliana</i>	251
Y.Z. Song, S. Liu, M. Wen, W. Huang, X.L. Song and B. Guo	
Engineering Application Research of Enhanced Microbiological Treatment for Coking Wastewater	257
Y.Q. Wang, Y.L. Lv, M.J. Shan and D.W. Pan	
Impact of Land-Use Change on Carbon Stocks in Meadow Steppe of Northeast China	262
P.Y. Lian, D.H. Zeng, J.Y. Liu, F. Ding and Z.W. Wu	
Study on Purification of Eutrophic Lake Using Biological Agents	269
D.W. Pan, M.J. Shan, Y.Q. Wang and Y.L. Lv	
Cloning and Characterization of a Carotenoid Cleavage Dioxygenase from <i>Artemisia Annua</i> L	274
S.Q. Liu, N. Tian, Z.H. Liu, J.N. Huang and J. Li	
A Dense Deformable Model for Craniofacial Reconstruction	282
Y.L. Hu, Y.F. Sun, B.C. Yin and M.Q. Zhou	
A Low Power Amplifier for Bio-Signal Processing	289
T. Zhou	
Antitumor Activities of Hydroxylated 9,10-Anthraquinone Derivatives	294
X.P. Wang and W.F. Xu	
Mx Gene Polymorphism in Part Region of Eight Local Chicken Breeds	297
C.G. Yin, D.G. Cao and L.X. Du	
Electrophysiological and Behavioral Activity of Compounds in Metathoracic Glands of Adults of <i>Tessaratomia Papillosa</i> (Hemiptera: Pentatomidae)	301
Y.J. Wang, D.X. Zhao, J.L. Gao, Z.Q. Peng, X.N. Li and Y. Wang	
Research on Corrosion of Well-Bore Tube and Anticorrosive Measure of Tazhong-1 Gas Field	308
S.F. Tang, X. Yang and D.W. Wu	
Studies on the Functional Components and Bioactivity and the Relativity of Bamboo Shoots and Shells	314
Y.C. Jin and K. Yuan	
Composition and Antioxidant Activity of the Volatile Oil of Bamboo Leaves from Different Provenances	320
H.B. Liao, C.J. Hu and K. Yuan	
Simultaneous Determination of 10-Deacetylbaocatin, Cephalomannine and Taxol in Different Parts of <i>Taxus Media</i> with Different Growth Years by UPLC	326
J. Zhang, C.F. Yang and K. Yuan	
Biological Activity and Component Analysis on Body Surface Extracts of Adult <i>Tessaratomia Papillosa</i>	331
D.X. Zhao, Y.J. Wang, J.L. Gao, Z.Q. Peng, J. Yin and W.J. Zhu	