

# Contents

Preface	iii
Organizing Committees	xiii
<b>Session 1 Chemistry and Chemical Engineering</b>	
Factorial Design of Experiments for Comparative Study of Lactic Acid Esterification with Ethanol and n-Butanol <i>Panarat Rattanaphanee</i>	1
A New Technique for Photovoltaic Module Performance Mathematical Model <i>A. Elkholly, F. H. Fahmy and A. Abu Elela</i>	6
Fuzzy Modeling and Optimization of Biochemical Processes: A Case Study <i>Ali Chaibakhsh, Naz Chaibakhsh and Mohd Basyaruddin Abdul Rahman</i>	11
Ethanol Production From Rice Straw Using Ultrasonic Pretreatment <i>Issara Wongjewboot, Tawiwat Kangsadan, Sasithorn Kongruang, Vorakan Burapatana and Pichit Pripanapong</i>	16
Ultrasonic Pretreatment Enhanced The Enzymatic Hydrolysis of Rice Straw <i>Chantraporn Wongsorn, Tawiwat Kangsadan, Sasithorn Kongruang, Vorakan Burapatana and Pichit Pripanapong</i>	20
Recycling of waste cured epoxy molding compound as a filler in Poly (Vinyl Chloride) composites <i>Wenjiao Xu and Shuyu Lu</i>	24
Discovering New Competitive Dengue DEN2 NS2B/NS3 Inhibitors Using Similarity Searching <i>Neni Frimayanti, Sharifuddin M. Zain and Noorsaadah Abd. Rahman</i>	30
Identification of Citrinin Biosynthesis Gene under the Ultrasonic Induction of <i>Monascus purpureus</i> <i>Kunat Suktham, Oraya Suwansungsa, Benjamporn Wonganu, Sasithorn Kongruang and Sittiruk Roytrakul</i>	35
Spectroscopic Study of Hg(II)-complex with 4-(dimethylamino)benzaldehyde 4-ethylthiosemicarbazone <i>Tara F. Tahir, Abdussalam Salhin and Sulaiman Ab Ghani</i>	40
High pressure CO <sub>2</sub> adsorption in functionalized graphite nanoplatelets <i>Ashish Kumar Mishra and Sundara Ramaprabhu</i>	44
<b>Session 2 Chemistry and Chemical Engineering</b>	
Study of The Synthesis of TNT and Pt/TNT catalyst for CO Photocatalytic Oxidation <i>Chi-Yuan Lu, Shin-Hsien Chang, Yu-Tsai Pan, Wei-Cheng Wang and Kun-Jheng Fan Jiang</i>	47
The permeation performance of SBA-15/CAP/PVDF blend membranes <i>Yun-Chieh Su, Kuo-Liang Chuang, Ming-Chi Hsieh, Hui-Hsin Tseng and Li-Luen Huang</i>	51
The Factors Affecting on Bitumen Emulsion Properties <i>H. Kazemi Esfeh, B. Ghanavati and R. Shojaei Arani</i>	55
Preparation and characterization of PPSU/PEI blend membranes <i>Ming-Chi Hsieh, Yun-Chieh Su, Guo-Liang Zhuang, Hui-Hsin Tseng and Li-Luen Huang</i>	60

Permeation performance of Cellulose acetate propionate/polyvinylidene fluoride blend membranes by phase inversion	63
<i>Kuo-Liang Chuang, Ming-Chi Hsieh, Yun-Chieh Su, Hui-Hsin Tseng and Li-Luen Huang</i>	
A Multi Sensor Data Fusion Approach to Fault Diagnosis of CSTR	67
<i>Mahboobeh delbari and Karim salahshoor</i>	
Estimating the feasibility of raw carbon nanotubes used as catalyst for CO oxidation	72
<i>Kui-Hao Chuang, Ming-Yen Wey, Zhen-Shu Liu and Chi-Yuan Lu</i>	
Effect of operating conditions on emission concentration of PAHs during fluidized bed air gasification of biomass	76
<i>Jia-Hong Kuo, Yi-Hui Lian, Jui-Yeh Rau, Ming-Yen Wey and Chiou-Liang Lin</i>	
Removal of Ammoniacal Nitrogen and Oxidised Nitrogen in Landfill Leachate Using Vegetated Constructed Wetland with Continuous Flow through Different Filter Media	80
<i>Ahmad Md Noor, Lim Chin Shiam, Suryani Soetardjo and H.P.S. Abdul Khalil</i>	
Mesoporous Cu/SAB-15 as potential catalysts for SCR NO <sub>x</sub> by CO	85
<i>Yi-Ling Li , En-Chin Su and Hui-Hsin Tseng</i>	
Influence of supports structure on the synthesis of biodiesel from canola oil	89
<i>En-Chin Su , Yi-Ling Li, Hui-Hsin Tseng and Ssu-Pei Wu</i>	
<b>Session 3 Chemistry and Chemical Engineering</b>	
Application of Bayesian Belief Networks to Fault Detection and Diagnosis of Industrial Processes	92
<i>Maryam Azhdari and Nasir Mehranbod</i>	
Research on biomass and carbon storage of <i>Picea schrenkiana</i> var. <i>tianshanica</i> community in Central Tianshan Mountain, Xinjiang	97
<i>Zhang YuTao , Hao Shuai and Li JiMei</i>	
Epoxidation of Candlenut Oil	102
<i>Aswati Mindaryani and Suprihastuti Sri Rahayu</i>	
Study Of The Technology Development Of Harvesting Gravitational Potential Energy For Transportation By Using Caswat-G	106
<i>Daham Jayawardana and Lok Bahadur Baral</i>	
Modification of Square Root Formula for Approximate Estimation of Diffusion Coefficient of Particulate Adsorbents	110
<i>Mohammad Outokesh, Fatemeh Grayeli, AhmadTayyebi and Alireza Khanchi</i>	
Evaluation of Cadmium Contamination Due to Bed Load Sediment Transport in Mae Tao Creek, Mae Sot District, Tak Province, Thailand	114
<i>Pimprapa Karoonmakphol and Pichet Chaiwiwatworakul</i>	
The exhibition of polyethylene imine/DNA coated with oligonucleotides for gene delivery	119
<i>Yi-Chen Chung and Tai-Horng Young</i>	
The application of macroelectrophoresis in studying the cellular behaviors on biomaterials ——The relationship between cell membrane potentiation and cellular behaviors	124
<i>Jui-Nan Lu and Tai-Horng Young</i>	

Photoelectrochemical Response for Cu-doped ZnIn <sub>2</sub> S <sub>4</sub> Electrode Created Using Chemical Bath Deposition	129
<i>Ya- Cian Yu, Ming-Zong Liou, Wei-Che Li and Kong-Wei Cheng</i>	
Photoelectrochemical Study of AgInS <sub>2</sub> Thin Films Prepared Using Sulfurization of Evaporated Metal Precursors	133
<i>Bo-Hong, Liou, Jyun-Ting, Li, Han-Jhong, Lai and Kong-Wei Cheng</i>	
<b>Session 4 Chemistry and Chemical Engineering</b>	
Red Bacterial Cellulose Production by Fermentation of <i>Monascus purpureus</i>	137
<i>Benjamaporn Wonganu and Sasithorn Kongruang</i>	
Synthesis and characterization of vanadium oxides by hydrothermal method for hydrogen production under visible light	142
<i>Tina F.-R. Shen, Thomas C.-K. Yang, Ming-Hong Lai, I-Ping Fu, Nai-Yun Liang and Wen-Tung Chen</i>	
An effective method for controlling the nanoparticle size of anatase TiO <sub>2</sub>	147
<i>Bing-Shun Huang and Ming-Yen Wey</i>	
Electromagnetic interference (EMI) shielding of carbon nanostructured films	150
<i>V.Eswaraiah, Ashish Kumar Mishra, V.Sankaranarayanan and Sundara Ramaprabhu</i>	
The Investigation of a new catalytic system with high efficiency for production of 1-butene at ethylene dimerization reaction	153
<i>Seyed Hamed Mahdavian, Matin Parvari and Davood Soudbar</i>	
Application of Response Surface Methodology in Optimization of Cadmium Adsorption By Raw Rice Husk	157
<i>Monik Kasman and Shaliza Ibrahim</i>	
Study of proximate composition of female <i>Oreochromis nilotica</i> in relation to body size and condition factor	162
<i>Muhammad NAEEM , Abdus SALAM and Qurat-ul-Ane GILLANI</i>	
Proximate Composition and Economic Feasibility Of Some Edible Meats in Pakistan	165
<i>Muhammad Naeem, Abdus Salam, Muhammad Ali and Qurat-ul-Ane Gillani</i>	
An Optimum Operation and Mathematical Model of Tidal Energy System at Red Sea Area	169
<i>Faten H. Fahmy</i>	
A simulation Model for Predicting the Performance of PV Powered Space Heating System in Egypt	173
<i>F. H. Fahmy, A. A. Nafeh, N. M. Ahamed and H. M. Farghally</i>	
<b>Session 5 Chemistry and Chemical Engineering</b>	
Trace Metal Analysis Of Edible Portion Of <i>Oreochromis nilotica</i> In Relation To Growth	178
<i>Muhammad Naeem , Abdus Salam , Muhammad Yunas Khokhar , Muniba Bashir and Razia Allah yar</i>	
Study of physical properties of Zn:Mn Nano Particles prepared by co-precipitation Method	182
<i>Issa Piri, A.Rahdar and M.Sargazi</i>	
Study on Terahertz radar Anti-electromagnetic interference	186
<i>GuiLin Lu, YuePing Cao, ShaoHong Wang and HaiYuan Xie</i>	
Role of Oil-Water Emulsion in Enhanced Oil Recovery	190

*Ajay Mandal, Abhijit Samanta, Achinta Bera and Keka Ojha*

Study of Expression and Correlation of R-Ras ,PR and ER in breast cancer <i>SONG Jie,XU Xiang-ling and DONG Kai</i>	195
Design studies on Granulation Processes in a Fluidized Bed <i>K. S. K. Rao Patnaik,P. Vijay Kumar,K. Sri Harsha and B. Satyanarayana</i>	199
Experimental Investigation of Hydrate Formation in a High Pressure Cell and Comparison of the Results with Thermodynamic Models <i>S. Hesam Najibi, Vahid Abkhiz, Ali Naderi, and Amin Kordestani</i>	204
An Optimum Design Method for High Pressure Natural Gas Trunk-Lines <i>S. Hesam Najibi and N. Taghavi</i>	208
Design of 3-D Mesoporous Silylated Titanosilicate Supported Gold Nanoparticles for Direct Vapor Phase Epoxidation of Propylene: Role of Solid and Gaseous promoters <i>Biswajit Chowdhury and Masatake Haruta</i>	213
Leaching of copper from tailings using ammonia/ammonium chloride solution and its dynamics <i>Guo-dong ZHAO and Qing Liuc</i>	216
Optimal Sizing Of Solar Water Heating System Based On Genetic Algorithm For Aquaculture System <i>Faten H. Fahmy,Doaa M. Atia, Ninet M. A. El-Rahman and Hassen T. Dorrah</i>	221
Spacecraft Power System Controller Based on Neural Network <i>Faten H. Fahmy, Hanaa T. El-madany, Ninet M. A. ElRahman and Hassen T. Dorrah</i>	227
<b>Session 6 Environmental and Agriculture Engineering</b>	
Application of Seaweed as an Alternative for Leachate Treatment of Heavy Metal <i>Wan Mohd Faizal Bin Wan Ishak and Siti Syazwani Bt Hamzah</i>	232
Assessment of landslide zonation by multi variant statistical method: In the Case of Iran <i>S. A. Almodaresi , M. H. Ramesht , M. Entezari , and Ali Boloor</i>	236
Testing Stochastic Convergence of Carbon Dioxide Emissions in Malaysia <i>Siok Kun Sek</i>	241
Enhanced O <sub>2</sub> /N <sub>2</sub> separation performance of poly(phenylene oxide)/SBA-15/carbon molecule sieve multilayer mixed matrix membrane using SBA-15 zeolite particles <i>Tzu-Hsiang Weng, Hui-Hsin Tseng, and Ming-Yen Wey</i>	245
Optimization of the Route of the Forest Logging Road <i>Saftah Yusmah Muhammad Yusoff and Rodziah Hashim</i>	249
Effects of super absorbent polymer and plant growth promoting rhizobacteria (PGPR) on yield and oxidative damage of maize under drought stress <i>Davood Habibi, Zahra Moslemi, Mohammad Reza Ardakani, Abdollah Mohammadi and Ahmad Asgharzadeh</i>	253
Organizing the dairy chain through productivity indicators for a sustainable supply chain <i>Marcelo Tsugio Okano, Oduvaldo Vendrametto and Osmildo Sobral dos Santos</i>	258
Establishment and Applied Research on Green Economy Assessment Indicators in Taiwan	261

<i>Yung-Kun Chen, and Tsuifang Hsieh</i>	
A Comparison Pixel and Object Based Method for Tree Extraction by ALOS Data (A Case Study in Juniper Forest in the Northeast of IRAN) <i>Hadi Fadaei, Tetsuro Sakai, Tetsuhiko Yoshimura and Kazuyuki Moriya</i>	265
Investigation of Damages to residual trees due to outdoor recreational activities in Fandoghlu forest, Ardabil <i>F. K. Behjou, J. Mirarab Razi, and H. Fadaei</i>	269
<b>Session 7 Environmental and Agriculture Engineering</b>	
Application of Extended Producer Responsibility in Chinese WEEE Management <i>Yiping Zhao and Jun Ohya</i>	272
The Oral Bioaccessibility of Heavy Metals in Soil in a Contaminated Area in Thailand <i>Wilailuk Niyommaneerat and Nyein Nyein Aung</i>	276
Studies on development of headspace - gas chromatographic determination of volatile fatty acids in troublesome environmental samples <i>Bogdan Zygmunt, Anna Banel, Marta Wasielewska, and Monika Felchner-Żwirello</i>	281
The effects of salinity and alkalinity of soil on growth of <i>Haloxylon</i> sp. in Segzi plain (Iran) <i>Naser Honarjoo , Amin Mojiri, Ahmad Jalalian and Hamid Reza Karimzadeh</i>	285
Simulated Rainfall erosivity: measurement and evaluation using piezoelectric sensors <i>Mohamed A. M. Abd Elbasit, Hiroshi Yasuda, and Atte Salmi</i>	289
An IFM-based flood damage reduction: A small case study in Iran <i>Saeed Golian, Saber Moazami, Jafar Yazdi, and Sara Sheshangosht</i>	292
Characterization of <i>Pteris vittata</i> rhizosphere during treatment of arsenite in hydroponics <i>Yi Huang, Masayoshi Hatayama and Chihiro Inoue</i>	296
Forage safety and rations for new beef feedlot project in Western Kazakhstan <i>D.Hutcheson, J.A.George, and G.Beisembay (Isaeva)</i>	300
Aspects of regulation of food safety issues at designing of feedlots in Kazakhstan <i>G.Beisembay (Isaeva), K.U.Medeubekov, and J.A.George</i>	304
Filtration of Nanoparticles by a Fluidized-Bed Adsorption Reactor during Toluene Adsorption <i>Jui-Yeh Rau, Kuang-Yu Liu ,Jia-Hong Kuo, Jung-Liang Chen, and Ming-Yen Wey</i>	308
<b>Session 8 Environmental and Agriculture Engineering</b>	
Coastal Wetland Monitoring and Evaluation By Integrated Multitemporal Remote Sensing Images and Historical Maps <i>Ming-Chee WU and Mon-Shieh Yang</i>	312
Determination of different cover crop efficiency for weed control in citrus orchard <i>Roja Farzarian, Hemmatollah pirdashti, Yusoof Niknejhad, Sobhanollah Ghanbari</i>	315
The effect of rice ( <i>Oryza sativa</i> L.) cultivation on the soil physical properties <i>Zahra Kazemi , Ahmad Jalalian, Nasser Honarjo, Shamsalah Ayoubi and Ali Rezainejad</i>	318
FENCE to prevent deforestation using An Event Based Sensor Network	322

*Chethan.K.P, Aravind.K.G, Srinivasan Jayaraman, Balamuralidhar P*

Infants Ingesting High Breast Milk Levels of Polybrominated Diphenyl Ethers May Have Negative Impact on Their Neurodevelopment <i>Ding-Yan Lin, How-Ran Chao, Yan-You Gou, and Chih-Yu Huang</i>	325
Dog recloning from muscle fibroblasts in transgenic cloned beagle Regeneration of an identical transgenic dog <i>So Gun Hong, Hyun Ju Oh, Jung Eun Park, Min Jung Kim, Ji Eun Kim, Goo Jang, and Byeong Chun Lee</i>	328
Heavy metals recovery from spent catalyst using <i>Acidithiobacillus ferrooxidans</i> and <i>Acidithiobacillus thiooxidans</i> <i>R. Mafi Gholami, S. M. Borghei, and S. M. Mousavi</i>	331
Ecological study of Micro flora in Assessment of Pollution Level of River Water <i>Seemaa Dwivedi</i>	336
Effect of Stimulation of follicle growth and egg production of breeder hens with hormone injection <i>Ansari Pirsaraei, Z., A. Zare Shahneh, M. Zaghari, M.J. Zamiri and G. Rahimi Mianji</i>	339
Evaluation Contribution of Ground shallow Water table to Irrigation of Date palm trees under Irrigation Reduction in Saudi Arabia <i>Faisal I. Zeineldin and Yousif J. Aldakheel</i>	342
<b>Session 9 Environmental and Agriculture Engineering</b>	
Water Quality Description and Modelling for South of Kuwait: Az-Zour Area <i>Faisal Al-Hulail</i>	346
Advance Emission Control & Precision Agriculture; CO <sub>2</sub> Sequestration Using Algae Integrated Management System <i>Syed Isa Syed Alwi, Ruzanna Abdul Rahman and Mohd Norsham Bin Che Yahya</i>	350
Investigation of fuzzy as well as Boolean logics application in land evaluation (Case study: Taleghan basin-Iran) <i>Narges Zaredar ,Mir Masoud Kheirkhah Zarkesh , Ali Ghadirpour, Seyed Ali Jozi , and Sudabe Jafari</i>	354
Presentation of Strategic Management Plan in Ecotourism Development through SWOT (Case study: Qeshm Island) <i>Seyed Ali Jozi, and Sahar Rezaian</i>	358
Combination of Indexing System Method with Analytical Hierarchy Process to Assess the Environmental Risks in Gas-Transfer Pipe lines <i>Sahar Rezaian, and Seyed Ali Jozi</i>	363
Influence of Spatial Information on Watershed Simulation <i>Chia-Ling Chang, Ling-Hsuan Wang and Chuan-Yi Wang</i>	366
Measuring petroleum hydrocarbon Concentration and heavy metals in agricultural outturn and soil –case study Tehran's refinery area <i>Qolamreza Miraki, Arash Rezaee, and Homayoon FakhimAhmadi</i>	369
The study of humification process of compost using humic acid and its functional groups <i>Natdhera Sanmanee, Anchalee Chainet, Kamolchanok Panishkan, Kullanart Obsuwan, and Siricha Dharmvanij</i>	372

Towards a Deductive Model for Studying Air Movement in Underground Buildings, with reference to Egypt <i>Dr. Sherif El-Fiki and Arch. Ali Assem</i>	375
Solar Food Processor <i>R.Bakyalakshmi Nisha, and S.Madhumitha</i>	381
<b>Session 10 Environmental and Agriculture Engineering</b>	
In –Site Permeability Test in Tehran Oil Refining Company (T.O.R.C) in REY Area in Iran <i>Mohammad Ali Hosseinpour, Saeid Gitipour Hossein Ghoreishi, and Mona Jafarnejad</i>	386
Gardening Waste Management - Case Study: Tehran - Iran <i>Homayoon FakhimAhmadi, Arash Rezaee, and Qolamreza Miraki</i>	391
Effect of drought stress on dry forage yield, plant height , Prussic acid and LAI in four varieties of Sorghum bicolor <i>Payam Moaveni</i>	395
Water crisis in Iran <i>Fereshteh Karbalaee</i>	398
The Study Water Table Fluctuation in Tidal Lowland for Developing Agricultural Water Management Strategies (A Case Study for Corn Cultivation After Rice) <i>Imanudin, M.S, Armanto E, Susanto, R.H, and Bernas S.M</i>	401
The Study on the odor emission sources & the state of air pollution in Incheon area (I) <i>Park Chan Jin</i>	406
Multi-pathway Cancer Risk Assessment of Trihalomethanes Exposure from Chlorinated Tap Water and Indoor Swimming Pool <i>Pongsri Paopuree, Mallika Panyakapo , and Sarisak Soontornchai</i>	409
Assessing the Groundwater Resources Pollution Potential by Beheshte Zahra Cemetery <i>Sanaz Khorami Pour, and Seyed Mostafa Khezri</i>	414
Effect of Two Plant Toxic Proteins on Some Digestive Enzymes in Waxy Aphid of Rape Seed (Brevicoryne brassicae L.) <i>A. Balvasi1, G.R. Rassoulia, A.R. Bandani and J. Khalaghani</i>	419
Study of nitrogen fixation bacteria population and determination of suitable medium for growing in saline and non saline soils <i>Azam. Moradi, Arezoo.Tahmoures poor, Mehran.Hoodaji, and Farhad.Khorsandi</i>	422
<b>Session 11 Environmental and Agriculture Engineering</b>	
Analysis of Four Seeds Used as Soup Thickeners in The South Eastern Part of Nigeria <i>Ikechuku Okorie Igwenyi and Emmanuel I. Akubugwo</i>	426
Biodiversity and Utilization Potential of Indigenous Vegetables for Food in Kong Ra District, Phatthalung Province, Thailand <i>Nantida Sutummawong , Tiptiwa Sumpantamit, Wichuda Ketmai, Sompong Othong and Naiyana Tessana</i>	431
Determination of Canola losses in Harvest operation with three types of heads	435

*Seyed Arsalan Mohammadian, Hossein Mobli, Shahin Rafiee, Hamid Reza Sadegh Nejad, and Ali Mohammadi*

Environmental Evaluation for Porcelain and Ceramic Factory <i>S.Baby, S.A.Abraham, and R.Rasheed</i>	438
Application of RIAM for Evaluation of Potential Environmental Impacts for Shore-zone Development <i>S.Baby, and El-Sammak</i>	444
Author Index	451