Preface
Data Analysis
Securing a Video Segment using Proposed Blurring and De-Blurring Techniques Omar Muayad Abdullah5
Creative Computing Based Multi-Level Visual Feature Design for Oil Paintings Yue Wu, Hongji Yang and Marwan Al-Akaidi9
Sign Language Recognition Review Safa Ali Abed and Ammar Dawood Jasim14
Performance Improvement of Chaotic Masking System Using Power Control Method Hikmat N. Abdullah, Saad S. Hreshee, Gholamreza Karimi and Ameer K. Jawad19
Population Health Analysis
Measurement of Serum Glutamic Acid Decarboxylase-65 Antibody (GADA65 Level and Glutamate Decarboxylase 2 (GAD2) Gene Polymorphism in Obese Non-Obese Type II Diabetic Patients and Healthy Control Group Fadwa E. Al-Hayali, Ayşegül A. Yücel and Zainab F. Ashoor
Analysis of Interaction of <i>Cyperus Esculentus</i> Flavonoids and the Sperm Receptors of Albino Mice using Molecular Docking Approach Ragheed Hussam Yousif and Khulood Waheeb35
Medical Reconstruction Analysis
Reconstruction Methodology of the Damaged Skull Using Reverse Engineering Technique; Cranial Implant Production Wisam Kadhim Hamdan and Maythem Saad Ali43

Airway
Maryam Abdullah Suaib and Samar Ali Shaabeth50
Biomedical Engineering Simulation
Design and Manufacturing of a Low-Cost Nonconventional Controlling Intelligent Prosthesis Saad M. Ali, Jenan S. Kashan, Auob Q. Mohammed, Tabarek S. Talib and Ameer M. Qasim
Experimental and Numerical Simulation of a Non-Articulated Foot Muhsin J. Jweeg and Mustafa A. Kodi
A Review Study for Cooling and Air Circulation Systems for Sockets of Lower Limb Prosthesis Abbas H. Jeryo and Jumaa S. Chiad
A New Approach for Measuring 3D Mandibular Kinematics in Healthy and TMD Individuals Hadeel Akeel Lafta and Hassanain Ali Lafta85
Simulation of Control Framework and Multisensor based Design for Autonomous Walker Assisted Device Hazem Ali Jasim and Hassanain Ali Lafta90
Biomedical Augmentation
Design and Implementation of a Non-Invasive Blood Flow Measurement Device Aws Zuhair Sameen and Munqith Saleem Dawood97
Design of Miniaturized Implantable Printed Spiral Antenna for Medical Applications Ayat R. Kamel, Jabir S. Aziz and Esraa Zuhair Sameen102
Traffic Simulation Analysis
Review in Network Traffic Classification by using Deep Learning Mohammad Musaddak and Ammar D. Alethawy109

Huda Kh. Hameed, Ekbal H. Ali and Ibtisam A. Hasan115
Environmental Simulation
Predicting the Soil Water Retention Curve using some Soil Water Properties Ammar Daham Ayada123
Investigation of Velocity Profiles and Shear Stress at the lower Reach of Shatt Al Arab Iman Alwan, Ali Fakhri and Riyadh Azzubaidi126
Energy Infrastructure Analysis
Smart Control Building Strategy to Saving Power Bareq Musaab Jalal and Rashid H. Al-Rubayi137
The Adaptation of Artificial Neural Networks to predict the Production Trending of Future Renewable Energy Salam J. Bash Al-Maliki and Marwan A. Ashour144
High Impedance Fault Detection of Distribution Feeder based on Wavelet Transform and Feed-Forward Back Propagation Neural Network W. F. Hani, Aws Zuhair Sameen, A. N. Hussain and Mousa K. Wali148
Telecom Data Simulation
Resource Blocks for Real-Time and Data Elastic Traffic in IMS/LTE Networks Omer Mohammed Khodayer Al-Dulaimi, Mohammed Khodayer Hassan Al-Dulaimi and Aymen Mohammed Khodayer Al-Dulaimi
Performance Comparison between MRT and ZF Precoding Techniques of Massive MIMO Wireless Communications System Karrar H. Abd Al-jabbar and Wael A. Hadi165
Initial Phase Effect on Direction Finding Using Coprime Array Fatimah Abdulnabi Salman and Bayan M. Sabbar170
Comparative Analysis of Greedy Algorithms Based Compressive Spectrum Sensing in Cognitive Radio Hadeel S. Abed and Hikmat N. Abdullah

Industrial Simulation Software A Review of FGM (Functionally Gradient Materials), Classifications and **Production Techniques, from their Cost and Applications Prospective** Al-hadravi Ziadoon M.R. Ahmed Naif Al-Khazraji and Ahmed A Shandookh....183 Using Breeze for Modelling Software Architecture of Component-Based **Systems** Chen Li, Hongji Yang and Marwan Al-Akaidi192 Finite Element Modeling and Analysis of Hydromechanical Deep Drawing **Process** Ali A.A. Mousa, Ali A. Khleif and Muhsin J. Jweeg......196 **Aerospace/Naval Engineering Simulation** Free Vibration Analysis of a Wind Turbine Blade Made of Composite **Materials** Ahmed Ali Farhan Ogaili, Mohsin Noori Hamzah and Alaa Abdulhady Jaber...203 **Effect of Wing Planform on improving the Aerodynamic Properties** Ali J. Al-Khafaji, Gennady S. Panatov and Anton S. Boldyrev210 Improvement of Aerodynamic Characteristics of NACA 0012 Airfoil using a Novel Technique Mokdad Hayawi Rahman, Mohammed wahhab Aljibory and Emad Qasem Hussein216 A 2D Model Using PFEM for a Bridge Superstructure Subjected to Wave Action Alaa W. Hameed, Minjie Zhu and Thomas Schumacher221 Thermal Simulation Modelling of Critical Length of Capillary Tube under Adiabatic Flow of **Zeotropic Blends Refrigerants** Ali D. Salman and Ayad M. AL Jubori......229 Numerical Analysis on Thermal Stratification Characteristics affected by the Baffle in the Thermal Storage Tank during the Discharging Process

Karar A. Sameer and Qusay J. Abdul Ghafoor235

Sufyan Fadhil240
Metals Simulation
Wear Behavior of Aluminum 2024 Alloy reinforced with SIC Particles under Dry and Wet Conditions in Reciprocating Sliding Contact Ahmed Ali Akbar and Otba Hussein Alwan247
Improving of Hardness and Microstructure for Hot Forge Tool Steel by Laser Surface Treatment Jumana H. Kareem, Ibrahim K. Ahmed and Muna K. Abbass253
Composite Materials Simulation
Investigation of the Ability of Sugarcane and Glass Hybrids Enhanced with PVB to Resist Penetration by Low-Velocity Impact Tests Mohammed H. Khalaf and Suhad D. Salman
Mechanics of Composite Plate Structure reinforced with Hybrid Nano Materials using Artificial Neural Network Iman Q. Al Saffar, Mohsin A. Al-Shammari and Moneer H. Tolephih270
Perforation Resistance of Four Different Thicknesses of AlSI-1080 Steel Plates subjected to Ballistic Impact Muhanad H. Mosa and Mohsin Noori Hamzah
Numerical Investigation of Impact Resistance of Honeycomb Composite Armor Waad Adnan Khalaf and Mohsin Noori Hamzah282
Effect of Grating Characteristics on Graphene Layers based Plasmonic Surface in Photodetectors Soror Ali Mahd and Suha Mousa Khorsheed Alawsi
Late Papers
Comparison of Feature Selection Approaches for Breast Cancer Diagnosis using Supervised Machine Learning Algorithms Mustafa Mohammed Jassim, Manar Hassan Al-Maliki, Waleed Khalid Al-Azzawi, Mustafa Musa Jaber and Mohammed Qassim Mohammed295

Molecular Diversity of Salmonella Typhimurium isolated from Patients with Gastroenteritis in Babylon Province, Iraq
Merriam Ghadhanfar Alwan, Tareq Hafdhi Abdtawfeeq, Hadeel Adil Al Rubaye,
Ashraf Abbas Drais, Orooba Meteab Faja and Amjad Fawzi Ahmed304