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Research Articles

1.

Advanced Techniques in Nonlinear Differential Equations for Multiscale Complex Systems

Dr. Isabel Martínez, Dr. Ruichen Zhang, Dr. Omar Al-Farouqi

University of Salamanca, Salamanca, Spain; Palacký University, Olomouc, Czech Republic; Al-Baath University, Homs, Syria

Keywords: nonlinear differential equations, multiscale systems, functional analysis, computational mathematics, algorithm development, ecological modeling

2.

Enhanced Clustering Techniques for Large-Scale Data Mining in Diverse Computational Environments

Klaus Müller, Li Wei, Amina El Nashar, Fernando Rodríguez

University of Rostock, Rostock, Germany; University of Vermont, Burlington, USA; University of Khartoum, Khartoum, Sudan

Keywords: data mining, clustering, hybrid algorithm, large-scale data, computational efficiency, cluster purity

3.

Innovative Waste Management Strategies to Enhance Urban Environmental Sustainability

Hans Müller, Aisha Al-Mansoori, Rahul Sharma

Department of Environmental Science, University of Rostock, Rostock, Germany; Department of Environmental Engineering, Cheikh Anta Diop University, Dakar, Senegal; Department of Environmental

Studies, University of Puerto Rico, San Juan, Puerto Rico

Keywords: waste management, urban sustainability, smart waste bins, automated sorting, recycling initiatives, environmental impact

4.

Innovative Approaches in Asymmetric Organocatalysis for Stereoselective Synthesis of Alcohols

Batbayar Erdenebaatar, Zainab Al-Maashri, Lucia Fernandez

Department of Chemistry, National University of Mongolia, Ulaanbaatar, Mongolia; Department of Chemistry, Jordan University of Science and Technology, Irbid, Jordan; School of Biological and Chemical Sciences, University of the South Pacific, Suva, Fiji

Keywords: asymmetric organocatalysis, stereoselective synthesis, chiral alcohols, enantioselectivity, chiral amines, thiourea derivatives

5.

Investigating the Mechanisms of Antimicrobial Resistance in Multi-Drug Resistant Bacteria

Ananda Kittisak, Leila Ahmed, Juan Carlos Mendoza

Chiang Mai University, Chiang Mai, Thailand; Addis Ababa University, Addis Ababa, Ethiopia; University of Guadalajara, Guadalajara, Mexico

Keywords: antimicrobial resistance, multi-drug resistant, beta-lactamase, efflux pumps, whole-genome sequencing, proteomic profiling

6.

Evaluating Novel Treatment Protocols for Chronic Diseases: A Multinational Approach to Optimizing Patient Outcomes

Miguel Oliveira, Satoko Tanaka, Jamal Al-Mansour

University of Coimbra, Coimbra, Portugal; University of Salamanca, Salamanca, Spain; Pontifical Catholic University of Peru, Lima, Peru

Keywords: chronic diseases, treatment protocols, multinational study, patient outcomes, randomized controlled trial, healthcare systems

7.

Exploring the Interplay Between Cognitive Behavioral Therapy and Anxiety Disorders in Diverse Populations

Anjali Kapoor, Hassan Al-Mansoori, Carlos Mendes

Anjali Kapoor - Banaras Hindu University, Varanasi, India; Hassan Al-Mansoori - Al-Nahrain University, Baghdad, Iraq; Carlos Mendes - University of Wollongong, Wollongong, Australia

Keywords: Cognitive Behavioral Therapy, Anxiety Disorders, Cultural Contexts, Clinical Trials, Psychological Assessment, Treatment Efficacy

8.

Evaluating the Impact of Culturally Adaptive E-Learning Environments on Student Engagement and Success

Anka Müller, Farai Chisango, Mei-Ling Tan, João Henrique Souza

Anka Müller (University of Graz, Graz, Austria), Farai Chisango (University of Zimbabwe, Harare, Zimbabwe), Mei-Ling Tan (University of Graz, Graz, Austria), João Henrique Souza (Federal University of Pernambuco, Recife, Brazil)

Keywords: e-learning, student engagement, cultural adaptation, digital education, learning outcomes, personalized learning

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