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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

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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

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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

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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

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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

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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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