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1st GCC - Riyadh, Saudi Arabia

November 26-28, 2019

Undergraduate Student Paper Competition Awards Sponsored by SIEMENS

1st Place

ID 125 Identifying Enablers of Supply Chain Alignments

Abrar A. Alsharif and Abdulaziz T. Almaktoom, Department of Operations and Information Management, Effat University, Jeddah, Saudi Arabia

2nd Place

ID 198 A multi-period inventory replenishment policy for ATM network

Abdullah Alsagoor, Abdulrahman Alharbi, and Mohammad A. M. Abdel-Aal, Systems Engineering Department, King Fahd University of Petroleum and Minerals, 5063, Dhahran 31261, Saudi Arabia

3rd Place

Engineering Education Gamification: A Framework and Learners' Satisfaction Measurement on Case Study of Engineering Ethics Topic

Muslih Al Zahrani and Ahmed Al Suwaileh, Department of Industrial and Systems Engineering, University of Jeddah, KSA
Mostafa Fawzy, Department of Industrial and Systems Engineering, University of Jeddah, Jeddah 25121, KSA

Graduate Student Paper Competition Awards sponsored by EATON Corporation

1st Place

ID 104 Multi-Criteria Group Decision-Making for Fire Station Staffing

Abdulaziz S. Alzahrani and Hesham K. Alfares, Systems Engineering Department, King Fahd University of Petroleum & Minerals, Dhahran 31261, Saudi Arabia

Graduate Poster Competition

ID 106 Biometrics based on human traits and characteristics appearing on tongues among individuals to be used as a print

Nora Abood El-Manhali, D-Magbola Mamon, Fatimah El-Manhali and Fatimah El-Zaebi, Nora Al-Rashed, Saudi Arabia

Undergraduate Poster Competition

1st

D 153 Inventory and Quality Management: the Case of Dairy Industries

Lujain T. Jan, Jumana K. Alqurashi, Hanan H. Masood, Joud T. Alnounou, Leen E. Koshak, and Abdulaziz T. Almaktoom, Department of Operations and Information Management, Effat University, PO Box 34689, Jeddah 21478, Kingdom of Saudi Arabia

2nd

ID 338 Design and development of smart door closer mechanism

Khaled Musleh, Walid Aljadaan, Omar Almansour, Saud Sweidan, Emad Sweidan, and Tamer A. Sebaey, Engineering Management Department, College of Engineering, Prince Sultan University, Riyadh, Saudi Arabia

3rd

ID 223 Operations and Quality Management: the Case of Hospitality Industry

Shumokh A. Faqeeh, Raghad M. Bafageeh, Rawan A. Salah, and Abdulaziz T. Almaktoom, Department of Operations and Information Management, Effat University, PO Box 34689, Jeddah 21478, Kingdom of Saudi Arabia

3rd

Engineering Education Gamification: A Framework and Learners' Satisfaction Measurement on Case Study of Engineering Ethics Topic

Competitions Winners and Best Track Papers – 2019 IEOM Riyadh Conference

Muslih Al Zahrani, Ahmed Al Suwaileh, and Mostafa Fawzy, Department of Industrial and Systems Engineering, University of Jeddah, Asfan Road, Jeddah 25121, SA

Undergraduate Research Competition

1st

ID 340 Design and development of a water gallons flipper for the Saudi market

Yazan Faroun, Khaled Al-Hindawi, Mohammed Al-Mulki, Hassan Al-Smadi, Kusai Saad, and Tamer A. Sebaey, Engineering Management Department, College of Engineering, Prince Sultan University, Riyadh, Saudi Arabia

2nd

ID 341 Development of a multifunctional hand watch to store and organize pills for elderly people

Nawaf AlMehemeed, Faisal AlDebaikhi, Jaser AlJaser, Abdulelah AlMoudayer, Fahad AlRobaian, and Tamer A. Sebaey, Engineering Management Department, College of Engineering, Prince Sultan University, Riyadh, Saudi Arabia

3rd

ID 339 Design and development of a novel multifunctional travelling pillow

Mohammed ALGharably, Abdullah Albathi, Mohammed ALhoshan, Mohammed ALajjan, Ammar kachoua and Tamer A. Sebaey, Engineering Management Department, College of Engineering, Prince Sultan University, Riyadh, Saudi Arabia

Simulation Competition Awards

2019 IEOM Gulf Student Simulation Competition Winners – GCC Riyadh Conference		
Name	University	Place
Khaled Altamimi	King Fahd University of Petroleum & Minerals	1st
Abdulrahman Alaboudi	King Fahd University of Petroleum & Minerals	
Ammar Alobaid	Prince Sultan University	2nd
Arwaa Jamal Banabilah	King Abdulaziz University	3rd
Abdullah Al-Bassam	King Abdulaziz University	4th
Abdullah Mushayt	King Abdulaziz University	
Sultan Bafageeh	King Abdulaziz University	
Emad Hasan Bin Suwedan	Prince Sultan University	4th
Firas Abdo	Prince Sultan University	
Osama Bha Aldeen	Prince Sultan University	
Mohammad Ghannam	King Fahd University of Petroleum & Minerals	5th
Abdullah Alothman	King Abdulaziz University	6th
Muaaz Adra	American University of Sharjah	7th
Nuha Aloud	Princess Nourah University	8th
Reem Aseeri	Princess Nourah University	

Best Track Papers Awards

Energy Management

ID 132 Optimization of Gas Pipeline Route Selection with Goal Programming Considering Environmental Aspects

Soufyan Maliki and Farizal, Department of Industrial Engineering, Universitas Indonesia, Depok – West Java, 16424, Indonesia

Renewable Energy

ID 317 Solar Irradiation Prediction Using Machine Learning Techniques: The Case of Saudi Arabia

Tayeb Brahimi, Energy and Technology Lab, College of Engineering, Effat University, Jeddah 22332, KSA
Ahmed Bensenouci, Electrical and Computer Engineering, College of Engineering, Effat University, Jeddah 22332, KSA

Budoor Alwateed, Master Student, Master in Energy Engineering, College of Engineering, Effat University, Jeddah 22332, KSA

Fatima Alhebshi, Bachelor Student, Electrical and Computer Engineering, College of Engineering, Effat University, Jeddah 22332, KSA

Technology Management

ID 22 Categorization of Indicators for Performance of Small and Medium Enterprises

Nor Mahirah Mustapha, Universiti Malaysia Pahang, Gambang Campus, Pahang, Malaysia
Shahryar Sorooshian, School of Business, Economics and Law, University of Gothenburg, Gothenburg, Sweden
Noor Azlinna Azizan, College of Business Administration, Prince Sultan University, Riyadh, Saudi Arabia

Waste Management

ID 265 Carbon Emissions and Energy Balance in the Design of a Sustainable Food Waste Network Model

Adel W. Fadhel, Department of Systems Engineering, King Fahd University of Petroleum and Minerals, Dhahran, 31261, Saudi Arabia
Surendra M. Gupta, Department of Mechanical and Industrial Engineering, Northeastern University, Boston, Massachusetts 02115 U.S.A.

Sustainability and Green Systems

ID 210 Bamboo Bandals for the River Bank Erosion Protection

Md. Lutfur Rahman, Director, Hydraulic Research Directorate, River Research Institute, Faridpur, Bangladesh

Environmentally Conscious Manufacturing

ID 213 Infrastructure Deficiency and Economic Performance in some selected West African Countries

Abdulsalam S. Ademola and Abdullahi Badiru, Department of Economics and Development Studies, Federal University Dutsinma, Nigeria

Automation

ID 156 Deadlock Control Design and PLC Implementation of Automated Manufacturing Systems

Husam Kaid¹, Abdulaziz M. El-Tamimi¹, Abdulrahman Al-Ahmari¹, Zhiwu Li^{3, 4}, Emad Abouel Nasr^{1, 2}, and Mohammed A. Noman¹
¹ Industrial Engineering Department, College of Engineering, King Saud University, Riyadh, 11421, Saudi Arabia
² Mechanical Engineering Department, Helwan University, Cairo, Egypt
³ Institute of Systems Engineering, Macau University of Science and Technology, Taipa, Macau
⁴ School of Electro-Mechanical Engineering, Xidian University, Xi'an 710071, P. R. China

Sustainable Manufacturing

ID 291 Achieving sustainability in manufacturing systems: A quantitative study

Reda Nujoom, Maintenance Department, Transport Ministry, King Abdul Aziz Rd, Riyadh 11178, Saudi Arabia
Ahmed Mohammed, Faculty of Transport & Logistics, Muscat University, Al Ghubra North, Muscat, Oman

Manufacturing

ID 209 Design the support structures for fused deposition modeling 3D printing

Wadea Ameen^{1, 2}, Syed Hammad Mian², Hisham Alkhalefah^{1,2}
¹ Industrial Engineering Department, College of Engineering, King Saud University, Riyadh, 11421, Saudi Arabia
² Advanced Manufacturing Institute, King Saud University, Riyadh, Saudi Arabia

Engineering Management

ID 208 Use of Fractional Factorial Design and AHP to Determining the Best Marketing Strategy for a Lubricant Company

Anas Al-Dawalibi and Ibrahim H. Al-Dali, Systems Engineering Department, King Fahd University of Petroleum and Minerals, Dhahran, Saudi Arabia
Bandar A. Alkhayyal, Department of Engineering Management, College of Engineering, Prince Sultan University, Riyadh, Saudi Arabia

Operations Management

ID 81 The Equilibrium Solution of Word-of-Mouth Marketing Strategy

Hennie Husniah, Department of Industrial Engineering, Langlangbuana University, Bandung 40261, Indonesia
Aprillya R. Lanz, College of Humanities and Social Sciences, Grand Canyon University, Phoenix, AZ 85017, USA
and School for Engineering of Matter, Transport and Energy, Arizona State University, Tempe, AZ 85287, USA
Asep K. Supriatna, Department of Mathematics, Padjadjaran University, Bandung 45363, Indonesia

Reliability and Maintenance

ID 52 Condition Based Monitoring of Gearbox Transmission Using Wear Particle Analysis Technique

Sayed Y. Akl, Hesham A. Abou El Anein and Sherif El-Soudy, The British University in Egypt, Cairo, Egypt

Simulation Modeling

ID 234 Using Agent-Based Modeling for IoT Application A Case Study of Retail Pharmacy in Saudi Arabia

Amr Alghamdi, Bader Bugshan, Khalid Al-Ghafeer, Abdulkareem Alshammari, and Mohammed Basingab, Industrial Engineering Department, King Abdulaziz University, Jeddah, 22252, Saudi Arabia

Green Supply Chain Management

ID 111 The Recycling of Fire Extinguisher; First Step Toward a Circular Economy

Ana Julia Acevedo - Urquiaga, University Foundation of San Mateo, European-Latin American Center for Logistics and Ecological Projects (CELALE), Bogotá, Colombia

José Antonio Acevedo - Suarez, Logistic and Production Management Laboratory (LOGESPRO), Havana Technical University "José Antonio Echevarría" (CUJAE), Havana, Cuba

Neyfe Sablón – Cossío, Postgraduate Institute, Production and Services Group, Technical University of Manabi, Portoviejo, Ecuador

Stefan Köhler, Institute of Agricultural and Urban Ecological Projects (IASP), Humboldt University of Berlin, Germany

Sebastiana del Monserrate Ruíz – Cedeño, University Cooperation Unit, Technical University of Manabi, Portoviejo, Ecuador

Erik Orozco – Crespo, Career Industrial Engineering, North Technical University, Ibarra, Ecuador

Transport and Logistics

ID 218 A Multi-Objective Mathematical Model for Closed Loop Supply Chain Design

Awsan Mohammed*, Salih Duffuaa** and Ahmed M. Ghaithan*

Systems Engineering Department*

Construction Engineering and Management Department*

King Fahd University of Petroleum & Minerals, Dhahran, 31261, Saudi Arabia