



Minia International Conference on Environment and Engineering

July, 14-16, 2022 | Hurghada, Egypt



Sponsored by:



Schedule-at-a-glance

Thursday, July 14

- 1:30 p.m. – **Hotel Check-in**
- 12:30 p.m. – 3:00 p.m. **Lunch**
- 4:30 p.m. – 5:50 p.m. **Registration**
- 6:00 p.m. – 6:30 p.m. **Conference Opening** Main Hall
- Welcome by Prof. Mohamed Ali Mourad
*Conference Executive Chair, Vice-Dean for
Postgraduate Studies and Research Affairs*
Prof. Mostafa Abdelnaby Speech
*Conference Chair, President of Minia
University*
Prof. Gamal El-Din Ali Abouelmagd
Speech
*Previous President of Minia University,
CEO & Dean of MHIET Institute*
Prof. Moustafa Mahmoud Moustafa Speech
*Conference Executive Chair, Dean of the
Faculty of Engineering, Minia University*
- 6:30 p.m. – 7:00 p.m. **Plenary Session (1)** Main Hall
- Prof. Dr. Mohamed A. Shaira
*Chairman, Engineering Studies Sector
Committee*
- 7:00 p.m. – 7:15 p.m. **MICEE 2022 Memorial Photo** Front of
Main Hall
- 7:15 p.m. – 9:30 p.m. **Dinner**
- 9:30 p.m. – 11:00 p.m. **Free Social Gathering** Hotel
Terrace

Friday, July 15

7:00 a.m. – 9:00 a.m. **Breakfast**

Technical Sessions (concurrent sessions) All Halls

9:00 a.m. – 10:30 a.m.	TS01 , Place Theme	TS02 , Place Theme	TS03 , Place Theme
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10:45 a.m. – 11:30 a.m.

Plenary Session (2)

Main Hall

Prof. Nasser A. M. Barakat
*Professor at Chemical Engineering, Faculty
of Engineering, Minia University*

11:50 a.m. – 12:30 p.m.

Aljumuaa Prayer

Main Hall

12:30 p.m. – 3:00 p.m. **Lunch**

Technical Sessions (concurrent sessions) All Halls

5:00 p.m. – 6:30 p.m.	TS04 , Place Theme	TS05 , Place Theme	TS06 , Place Theme
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6:30 p.m. – 8:00 p.m. **Online Technical Sessions** (concurrent sessions with Snacks & Coffee Break) All Halls

Technical Sessions (concurrent sessions) All Halls

8:00 p.m. – 9:30 p.m.	TS07 , Place Theme	TS08 , Place Theme	TS09 , Place Theme
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10:00 p.m. – 11:30 p.m. **Conference Special Dinner** Hotel Restaurant

Saturday, July 16

7:00 a.m. – 9:00 a.m. **Breakfast**

Technical Sessions (concurrent sessions) All Halls

9:00 a.m. – 10:30 a.m.

TS10 , Place Theme	TS11 , Place Theme	TS12 , Place Theme
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10:45 a.m. – 11:15
a.m.

Cement Company Speech

Main Hall

11:15 a.m. – 12:00
p.m.

Plenary Session (3)

Main Hall

Professor Dr.-Ing. Khalid Abdel-Rahman
*Professor, Institute for Geotechnical
Engineering, University of Hannover*

12:00 p.m. – 1:00 p.m.

Conference Closing

Main Hall

1:00 p.m. – 3:00 p.m. **Lunch**

3:00 p.m. – 6:30 p.m. **Free Time**

6:30 p.m. – 9:30 p.m. **Dinner**

Sunday, July 17

7:00 a.m. – 10:00 a.m. **Breakfast**

– 11:00 a.m. **Hotel Checkout**

Safe trip to home!

Plenary Sessions

Plenary Session (1) 6:30 p.m. – 7:00 p.m. Main Hall
Prof. Dr. Mohamed A. Shaira

DRAFT 1

Prof. Nasser A. M. Barakat



Prof. Nasser obtained his PhD in Chemical Engineering from Hunan University, China in 2004. From 2007 and 2009 he was a postdoctoral Research Fellow at the Bionanosytem Engineering Department, Jeonbuk National University, Jeonju, South Korea. From 2010 to 2018, he was hired as a faculty member in Organic Materials and Fiber Engineering Department, Jeonbuk National University, Jeonju, South Korea. Currently, he is working as a professor in Chemical Engineering Department, Minia University, Egypt. From 2013 to 2018, he was hired a visiting professor in King Saud University, Riyadh, Saudi.

His research interest is focusing on applications of nanomaterials in renewable energy and water treatment fields including fuel cells, microbial fuel cells, electrolysis of urea and alcohols, green hydrogen production from water photo splitting, water treatment and water desalination. He published more than 250 papers in international journals, registered 6 patents and attend many international conferences.

In the scientific society, Dr. Barakat has a high rank as his H-index is 50 (in Scopus). He was selected among the "World Ranking of Top 2% Scientists" in 2021 introduced by experts at Stanford University, USA; Rank # 374 (out of 4637) in Energy, and Rank # 683 (out of 6089) in Material Science. According to AD Scientific Index, in the field of chemical Engineering, Prof. Barakat' ranks are 1, 1, 2 and 359 in Minia university, Egypt, Africa and world, respectively.

Session Topic:

Nanofibers; Hot topics applications

Due to the large axial ration, nanofibers have special consideration among the nanomaterials as they possess excellent characteristics. Consequently, this class of nanomaterials shows fantastic activities in different hot applications including medical, automobiles and industries, renewable energy, water technology... etc. This lecture summarizes the history of nanofibers manufacturing and introduces some hot topics applications of the nanofibers in the form of photo session.

Plenary Session (3) 6:30 p.m. – 7:00 p.m.

Main Hall

Professor Dr.-Ing. Khalid Abdel-Rahman

Technical Sessions

Friday, July 15 (09:00 am – 10:15 am), Room (1)

TS01 - Material Science and Technology

Session Chair:

09:00 a.m. – 09:15 a.m.

TS01.1 **Inverted Structure Solar Cell based on Nanofibers of Anthracene Containing PPE-PPV Copolymer: Limits and Challenges**

*Shaimaa A. Mohamed**

09:15 a.m. – 09:30 a.m.

TS01.2 **Comparative study of size-selected gold clusters (Au₃₈) and gold nanoparticles over porous cerium-based metal-organic frameworks with UiO-66 architecture for aerobic oxidation of cinnamyl alcohol**

*Mostafa Farrag**

09:30 a.m. – 09:45 a.m.

TS01.3 **Rapid Impedimetric detection of Cadmium ions based on Nanocellulose/ ligand / nanocomposite (CNT/Co₃O₄)**

*Asmaa M Fahim, Ehab E. Abu-El Magd, Rabeay Y. A. Hassan, and Hend S. Magar**

09:45 a.m. – 10:00 a.m.

TS01.4 **Albumin coated liposome nanoparticles as an efficient oleic acid drug delivery system for combating different cancer cell lines: preparation, characterization and anticancer activity assessment**

Esmail M. El-Fakarany, Marwa M. Abu-Serie, and Hamada M. El-Gendi*

10:00 a.m. – 10:15 a.m.

TS01.5 **Molybdenum carbide/Nickel/Carbon Composite Nanoparticles as Effective electrocatalyst for Urea Oxidation Reaction**

Nasser A. M. Barakat and Marwa A. Ali*

Technical Sessions

Friday, July 15 (09:00 am – 10:30 am), Room (2)

TS02 - Geotechnical, Reinforced Concrete, and Steel Structural Engineering

Session Chair:

09:00 a.m. – 09:15 a.m.

TS02.1 **The Behavior of Polyurethane Impregnated Sand in the Plate Load Test**

Eslam Salama, Mohamed Ghanim, Hassan Shokry Hassan, Marwa F. Elkady, and Mona Ossman*

09:15 a.m. – 09:30 a.m.

TS02.2 **The Effect of Lateral Confinement on the Ultimate Bearing Capacity of Shallow Foundations on Sand**

*Emad A. M. Osman *, Ahmed Abd El-shakour*

09:30 a.m. – 09:45 a.m.

TS02.3 **RC Structures have Transfer Beams Subjected to Vertical and Horizontal Loads**

*L. M. Abdel-Hafez, Yasser R. Tawfic and M. S. Saleh**

09:45 a.m. – 10:00 a.m.

TS02.4 **Estimating the Concrete Behavior Using Artificial Intelligence: Proof of concept**

*Alaa Eldin Y. Abouelezz, and Ashraf Amin**

10:00 a.m. – 10:15 a.m.

TS02.5 **Numerical investigation on the hot spot stress at fatigue-prone details of UHPC reinforced orthotropic steel decks**

Hesham Abdelbaset, and Bin Cheng*

10:15 a.m. – 10:30 a.m.

TS02.6 **Performance of Cold-Formed Steel Channel Beams with Web Openings Under Pure Bending**

*Sedky Abdullah Tohamy, Khalid.FARAH, M.A. Saifeldeem, M. Abdelazeem Hassan**

Technical Sessions

Friday, July 15 (09:00 am – 10:30 am), Room (3)

TS03 - Applications of Biomedical Engineering

Session Chair:

09:00 a.m. – 09:15 a.m.

TS03.1 The association of MIR146A, MIR499/MIR499A, MTMR3, MIR155HG, IRAK1, and PADI4 with Rheumatoid Arthritis in the Egyptian population
Mohamed N. Saad, Alaa M. Ibrahim , Nada M. Hassan, Mai S. Mabrouk, and Olfat G. Shaker*

09:15 a.m. – 09:30 a.m.

TS03.2 Lactoferrin coated 5-fluorouracil loaded chitosan-dextran sulfate nanoparticles: preparation, characterization and its anticancer activity assessment
Hala M. El-Arousy, and Esmail M. El-Fakharany*

09:30 a.m. – 09:45 a.m.

TS03.3 Oxygen Purity Analysis for COVID-19 Isolation Facilities
*Enas Ismail**

09:45 a.m. – 10:00 a.m.

TS03.4 Self-Organizing Fuzzy Logic Controller of Adaptive Artificial Ventilation system for COVID-19 patients in Intensive Care Units
*El-Sayed M. Ahmed **

10:00 a.m. – 10:15 a.m.

TS03.5 Implementation of Surgical Robotic Arm
*Mohamed Ahmed Massoud**

10:15 a.m. – 10:30 a.m.

TS03.6 COVID-19 Detection using Transfer Learning Approach through Chest X-Ray Images
A. A. Donkol, Doaa M. nada, Hesham F. A. Hamed, and Mahmoud A. Abdelghany*

Technical Sessions

Friday, July 15 (05:00 pm – 6:30 pm), Room (1)

TS04 – Electric and Electronic Engineering

Session Chair:

05:00 p.m. – 05:15 p.m.

TS04.1 **Improved Model of a Gallium Nitride HEMT for High Power Application**
Gamal M. Dousoky, Fatma Ali, Mahmoud Abdelghany, Mohamed Abouelatta, Masahito Shoyama*

05:15 p.m. – 05:30 p.m.

TS04.2 **Optimal Sizing and Economic Evaluation of Hybrid Photovoltaic/Wind/Battery/Diesel Generation Systems for Autonomous Utilization**
Ahmed Yamany, Mohamed A. Mohamed, Yehia S. Mohammed*

05:30 p.m. – 05:45 p.m.

TS04.3 **Enhancing the Dynamic Performance of a Standalone DFIG Under Variable Speed Operation Using an Effective Control Technique**
Mahmoud K. Abdelhamid, Mahmoud A. Mossa, and Ahmed A. Hassan*

05:45 p.m. – 06:00 p.m.

TS04.4 **Dynamic Performance Analysis of An Electric Vehicle System Using Different Control Algorithms**
Mohamed R. M. Hassan, Mahmoud A. Mossa and Gamal M. Dousoky*

06:00 p.m. – 06:15 p.m.

TS04.5 **DEEP Learning Classification Algorithms Survey and Review**
Ibrahim Mohamed Imam, Kamel Hussein Rahouma*

06:15 p.m. – 06:30 p.m.

TS04.6 **Design and Implementation of a Trigger Digitizer for Earthquake Monitoring System**
Emad B. Helal, Omar M. Saad, Ali G. Hafez, Gamal M. Dousoky*

Technical Sessions

Friday, July 15 (05:00 pm – 6:30 pm), Room (2)

TS05 –

Session Chair:

05:00 p.m. – 05:15 p.m.

TS05.1 Evaluation of Performance and Emission characteristics for Diesel Engine operated with Used Cooking Oil Biodiesel/Butanol Blends

*M. Mourad **

05:15 p.m. – 05:30 p.m.

TS05.2 Experimental Investigation of the Performance and Exhaust Emissions of a Spark-Ignition Engine Operating with Different Proportional of Methanol- Gasoline- Water Ammonia Solutions Blends

Muhammad Ezzat, Sherif Fathy Abd El Fattah, Mohamed A. Mourad, and Ismail M. Youssef*

05:30 p.m. – 05:45 p.m.

TS05.3 Mathematical modeling and performance evaluation of solar thermal membrane desalination system for efficient freshwater production

S. A. El-Agouz, Mohamed E. Zayed, Ali M. Abo Ghazala, Ayman Refat Abd Elbar, Mohammad Shahin, M. Y. Zakaria, and Khaled Khodary Ismaeil*

05:45 p.m. – 06:00 p.m.

TS05.4 Role of Nanolubricants in Improving Vehicle Engines Performance

*Mohamed Kamal Ahmed Ali**

06:00 p.m. – 06:15 p.m.

TS05.5 A new approach for finding initial basic feasible solution of a transportation problem

*Mohamed H. Abdelati **

Technical Sessions

Friday, July 15 (05:00 pm – 6:30 pm), Room (3)

TS06 - Antenna and Microwave

Session Chair:

05:00 p.m. – 05:15 p.m.

TS06.1 **Linear to Circular Polarization Conversion Using Selective Surfaces for Terahertz Applications**

A.M. Mabrouk, Ahmed A. Ibrahim, and Hesham F.A. Hamed*

05:15 p.m. – 05:30 p.m.

TS06.2 **Development of Koch Snowflake Fractal Type Antenna with DGS For Textile Applications**

A.M.M.A Allam, Gökberk Akarsu, Elif Buse Zengin, Daa E. Fawzy and Hany Taher*

05:30 p.m. – 05:45 p.m.

TS06.3 **Design and Implementation of SIGW Based Array Antenna for WiFi Applications**

Hesham kamal Khalil, M.S.H.SALAH EL-DIN, A.M.M.A.ALLAM, Hussein Hamed Mahmoud Ghouz and Mohamed Fathy Abo Sree*

05:45 p.m. – 06:00 p.m.

TS06.4 **Design and Implementation of Triangular Base Truncated Right Prism Dielectric Resonator Antenna**

*Mohamed Atef Abbas, Mohamed Galal Khalil, Sara Yehia abdel fatah, A.M.M.A. Allam, Hesham A.Mohamed and Mohamed Fathy abo sree**

06:00 p.m. – 06:15 p.m.

TS06.5 **Investigation on 77 GHz Array for Automotive Radar Applications**

*M. I. Ahmed **

06:15 p.m. – 06:30 p.m.

TS06.6 **DANA: Deep Attention Network Architecture for Facial Emotions Classification**

Hany M. Sadak, Ashraf A. M. Khalaf, and Gerges M. Salama*

Technical Sessions

Friday, July 15 (08:00 pm – 9:30 pm), Room (1)

TS07 – Water Resources, Environment, and Public Works Engineering

Session Chair:

08:00 p.m. – 08:15 p.m.

TS07.1 Simulation of Groundwater and Surface Water Interactions under Various Management Scenarios in the Nile Valley, Egypt

Ahmed A. Makhlof, Mustafa El-Rawy, and Mostafa Deep Hashem*

08:15 p.m. – 08:30 p.m.

TS07.2 Evaluate and study the irrigation water quality, quantity and pump stations in Fayoum and Minia

*Mansour A. M. Yacoub**

08:30 p.m. – 08:45 p.m.

TS07.3 Developing a Pavement Condition Monitoring System and Maintenance Decision Selection for Road Networks

Mostafa Deep Hashem, Afaf A. Mahmoud, Mohamed A. Abd El moez, Hamdy B. Faheem*

08:45 p.m. – 09:00 p.m.

TS07.4 Defining a Unified Height System for Egypt using Relativistic Geodetic Approaches

Mostafa Ashry, Wen-Bin Shen, Ziyu Shen, Zhang Pengfei. Abdelrahim Ruby, and Hussein A. Abd-Elmotaal*

09:00 p.m. – 09:10 p.m. (Online)

TS07.5 Electrocoagulation as an Efficient Technique to Remove Dyestuffs from Aqueous Mediums

*O.A. Fadali, M.M. Nassar, T.E. Farrag, and A.A.M. Ibrahim**

09:10 p.m. – 09:20 p.m. (Online)

TS07.6 Investigation the Use of Wasted Plastic in Asphalt concrete Mixtures

Essraa Barhoum Ali Abdo, Hassan Younes Ahmed, Abdel Rahman Megahid Ahmed*

09:20 p.m. – 09:30 p.m. (Online)

TS07.7 I Assessment of the Pozzolanic Activity of Some Available Local Mineral Concrete Admixtures

*Abdel Rahman A. Megahed, Mohamed M. Rashwan, Omer Farghal, Mohamed Sayed. Eissa**

Technical Sessions

Friday, July 15 (08:00 pm – 9:30 pm), Room (2)

TS08 – Wastewater Treatment

Session Chair:

08:00 p.m. – 08:15 p.m.

TS08.1 New Insight in Sewage Wastewater Treatment: Electrical Energy Generation using Microbial Fuel Cells

Nasser A. M. Barakat, Rasha H.Ali, Mamdouh M .Nassar, Olfat A.Fadali and Marwa A.Ali*

08:15 p.m. – 08:30 p.m.

TS08.2 Enhanced Decontamination of Direct Rd 81 Dye from Wastewater using Zn(II) L-Aspartic Acid Metal-Organic Framework

Eslam Salama, Mohamed Ghanim, Hassan Shokry Hassan, and Marwa F. Elkady, and Mona Ossman*

08:30 p.m. – 08:45 p.m.

TS08.3 Nanocomposite Functionalized with Polyaniline Nanoparticles as Nano-Adsorbent of Phenolic Pollutants from Water

M.R. El-Aassar, Omar M. Ibrahim, F.S. Hashem, A. S. M. Ali, and A. A. Elzain*

08:45 p.m. – 09:00 p.m.

TS08.4 Recent Advanced Techniques in Oil/Water Treatment

Dina M. Sorour, Eman A. Ashour, and Marwa Shalaby*

09:00 p.m. – 09:15 p.m.

TS08.5 High Valuable Magnetic Activated Graphene from Polyethylene Terephthalate Plastic Waste as Efficient Adsorbent Materials

Marwa Elkady, Eslam Salama, and Hassan Shokry*

Technical Sessions

Friday, July 15 (05:00 pm – 6:30 pm), Room (3)

TS09 – Renewable Energy

Session Chair:

08:00 p.m. – 08:15 p.m.

TS06.1 Enhancement of gas turbine performance by using fogging system

*M. M. Ammara , M. S. Hassan, Mohamed R. O. Ali**

08:15 p.m. – 08:30 p.m.

TS06.2 Experimental Study of Gaseous Fuel Inverse Diffusion Flame

I.A. Ibrahim, I. K. Kashef, and H.M. Gad*

08:30 p.m. – 08:45 p.m.

TS06.3 Numerical Investigation of Hydro-turbine in Tidal Power Applications

*Omnia Nawar**

08:45 p.m. – 09:00 p.m.

TS06.4 The Role of Carbonization/Torrefaction on Valorization of Biomass

*Ahmed Elwardany**

09:00 p.m. – 09:15 p.m.

TS06.5 Modeling of the Performance Hybrid of Solar Dish Concentrator with Multi Effect Desalination Process and Energy Analysis

Moustafa Mahmoud Aboelmaaref, Jun Zhao, Alaa A mahmoud, Mahmoud salem Ahmed, and Elsaid, Ashraf Elsaid,*

09:15 p.m. – 09:30 p.m.

TS06.6 Technical and Economical Evaluation of The Enhancement of El Korymat Gas Turbine Power Station Using Air Cooling Fogging System

*Hamada saad mohamed ali **

Technical Sessions

Saturday, July 16 (09:00 am – 10:30 am), Room (1)

TS10 – Environmental Engineering and Waste-Recycling

Session Chair:

09:00 a.m. – 09:15 a.m.

TS10.1 Production of Different Carbon Contents Materials from High-Density Polyethylene Waste

Hassan Shokry, Eslam Salama, and Marwa Elkad*

09:15 a.m. – 09:30 a.m.

TS10.2 Minimization Moles of Carbon in Silicon Production by Carbothermal Reduction of Silica

A. M. Abdelhafiz, A. A. Abouelsoud, Reda AboBeah, and Ibrahim Ashour*

09:30 a.m. – 09:45 a.m.

TS10.3 Designing and Engineering of Electrochemical Biosensors for Environmental Pollutants Analysis

*Rabeay Y. A. Hassan**

09:45 a.m. – 10:00 a.m.

TS10.4 Combustion Characteristics of Assisted Air Pressure Swirl Atomizer

H. M. Gad, E. A. Baraya, T. M. Farag, and I. A. Ibrahim*

10:00 a.m. – 10:15 a.m.

TS10.5 Green Synthesis of Isopropyl Myristate Using Immobilized Candida Antarctica Lipase: Process Optimization Using Response Surface Methodology

M. Shaaban Sadek, N.A. Mostafa, and Ahmad Mustafa*

Technical Sessions

Saturday, July 16 (09:00 am – 10:30 am), Room (2)

TS11 – Building Energy Efficiency & Environment-Friendly Construction and Development

Session Chair:

09:00 a.m. – 09:15 a.m.

TS11.1 Analysing the Impact of Building Envelope on Energy Efficiency in Hot Climates

*Gehad Ahmed Hanafy Mohamed**

09:15 a.m. – 09:30 a.m.

TS11.2 تقييم مواد البناء ودورها في تحقيق الاستدامة وأثر ذلك على تصميم واجهات المباني
محمد حسين عبدالعزيز*، غادة محمد عبدالعزيز، مهند محمد العجمي

09:30 a.m. – 09:45 a.m.

TS11.3 Reducing carbon emissions by re-planning roads, (the eastern road, the Helwan Gate area, as an example)

Mostafa M. Radwan, Aiman A. Rsheed, Moatafa Deep. Hashem*

09:45 a.m. – 10:00 a.m.

TS11.4 Emphasizing on prefabrication as a key to sustain and enhance the technical heritage of utilizing date palm midribs in Egypt

E. A. Darwish, and Ayman Moustafa*

10:00 a.m. – 10:10 a.m. (Online)

TS11.5 استراتيجية تحقيق التصميم البيئي المستدام باستخدام مواد إنشائية بديلة
ريهام حمدي*

10:10 a.m. – 10:20 a.m. (Online)

TS11.6 تطوير الفراغات العمرانية المركزية (الميادين) بين العالمية والمحلية – دراسة تحليلية
منة الله على عباس*، شيما محمد حمدي، مهند محمد العجمي

10:20 a.m. – 10:30 a.m. (Online)

TS11.6 Black Liquor Waste Produced from Bagasse Kraft Pulping as an Admixture in Concrete

Mammdouh M. Nassar, Taha E. Farrage and Hamdy A. Mohamed*

Technical Sessions

Saturday, July 16 (09:00 am – 10:30 am), Room(3)

TS12 –

Session Chair:

09:00 a.m. – 09:15 a.m.

TS12.1 Parametric analysis on the performance of a hybrid absorption desalination-cooling system

El-Sadek H. NourEl-deen, and K. Harby*

09:15 a.m. – 09:30 a.m.

TS12.2 Effect of Infill Pattern and Raster Angle of the 3D Printer on the Mechanical Properties of PLA+

Ahmed Moustafa Abd-El Naby, Ahmed Mohamed Mahmoud Ibrahim, Moustafa M. Mahmoud, and Wagih W. Marzouk*

09:30 a.m. – 09:45 a.m.

TS12.3 Effects of Alloying Elements and Strain Rate on The Mechanical Characteristics of Various Alloy Steels

Hesham A. Omran, Moustafa M. Mahmoud, Samy. Z. Al-Abdeen, and Asaad A. Mazen*

09:45 a.m. – 10:00 a.m.

TS12.4 Novel eco-friendly cooling/lubrication approach during the grinding of Ti alloys

Ahmed Mohamed Mahmoud Ibrahim, and Wei Li*

10:00 a.m. – 10:15 a.m.

TS12.5 Simulation and experimental studies of an x-y pneumatic position control system using a smart control algorithm

Amr Abdelmohsen Noureldien, Shehab R. Tawfeic, Magdy A. Bassily*
