



5<sup>th</sup> HCT INTERNATIONAL MULTI-CONFERENCES



# ASET

ADVANCES IN SCIENCE &  
ENGINEERING TECHNOLOGY

2023  
February 20-23

HCT - Dubai Men's Campus

The Higher Colleges of Technology's Advances in Science & Engineering Technology (ASET) multi-conferences are a unique, innovative series of informative and interactive international events, spanning nine vital, concentrated Engineering fields, with each discipline hosting its own conference. The nine conference concentrations are:



**Advanced Materials, Design, and Manufacturing**



**Mechatronics, Industry 4.0, IoT and their Applications**



**Aviation, Space Technology, and Marine Transport**



**Logistics and Industrial Systems Engineering**



**Biomedical Engineering**



**Renewable and Sustainable Energy**



**Innovations in Engineering Education**



**Sustainable Environment and Urban Infrastructure**



**Nanostructured Materials & Nanotechnology**



**The International Student Scientific Poster Competition**

The conferences aim is to connect academicians, researchers, engineers, graduate and undergraduate students with government and non-government organizations to share and discuss both theoretical and practical knowledge, best practices and innovations pertaining to the nine engineering disciplines.

Accepted and presented papers will be submitted for publication to the **IEEE Xplore Digital library**.

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February 20 - 23

## CONFERENCE AGENDA

### DAY 1 Monday 20 FEB 2023

08:00 - 09:30 **Registration and Reception**

09:30 - 10:00

**Opening Speech**

**Professor Saud Aldajah**

Executive Dean – Faculty of Engineering Technology & Science  
Higher Colleges of Technology

Auditorium

10:00 - 11:00

**Keynote Speaker**



**Harnessing Energy: Algae, Seawater and Ambient**

**Professor Yousef Haik**

Vice Chancellor for Academic Affairs, University of Sharjah

Auditorium

11:00 - 12:00

**Keynote Speaker**



**Visionary Skills - An Advanced Approach**

**Sir Julian Young**

Former – President of the Institution of Engineering and Technology (IET) – UK

Auditorium

12:00 - 12:30

**IEEE-UAE section representative speaker**

**Join IEEE today and Bringing a World of Opportunity**



**Dr. Hussam Al-Hamadi**

IEEE – UAE Section Secretary

Auditorium

12:30 - 14:00

**Lunch Break**

14:00 - 18:00

**Technical Session**

Advanced Materials, Design, and Manufacturing  
Mechatronics, Industry 4.0, IoT and their Applications  
Renewable and Sustainable Energy

**ROOM**  
**Z240**  
**Z245**  
**Z239**

10:00 - 13:00

**International Student Scientific Poster Competition ASET 2023**

**Z231**



## DAY 2 Tuesday 21 FEB 2023

### Technical Session

08:00 - 18:00	Advanced Materials, Design, and Manufacturing	Z240
10:45 - 16:00	Aviation, Space Technology and Marine Transportation	Z245
10:45 - 18:00	Biomedical Engineering	Z241
08:00 - 10:30	Mechatronics, Industry 4.0, IoT and their Applications.	Z245
16:15 - 18:00		
08:00 - 10:30	Renewable and Sustainable Energy	Z239
08:00 - 18:00	Sustainable Environment and Urban Infrastructure	Z243

## DAY 3 Wednesday 22 FEB 2023

### Technical Session

08:00 - 10:30	Advanced Materials, Design, and Manufacturing	Z240
14:00 - 18:00		
08:00 - 18:00	Biomedical Engineering	Z241
10:45 - 16:00	Mechatronics, Industry 4.0, IoT and their Applications.	Z245
10:45 - 13:00	Nanostructured Materials and Nanotechnology	Z245
16:15 - 18:00		
08:45 - 10:30	Renewable and Sustainable Energy	Z239 & Z245
16:15 - 18:00		
10:45 - 13:00	Sustainable Environment and Urban Infrastructure	Z243

## DAY 4 Thursday 23 FEB 2023

### Technical Session

08:00 - 18:00	Advanced Materials, Design, and Manufacturing	Z240
14:00 - 16:00		
08:00 - 13:00	Innovations in Engineering Education	Z241
08:00 - 10:30	Logistics and Industrial Systems Engineering	Z243
14:00 - 18:00		
10:45 - 13:00	Mechatronics, Industry 4.0, IoT and their Applications.	Z245
16:15 - 18:00		

## Day 1 – Monday 20<sup>th</sup> February 2023

	Sub-Conference	Chairs	# of Papers
IoTMA	Mechatronics, Industry 4.0, IoT and their Applications.	Dr. Mohanad Alata <a href="mailto:malata@hct.ac.ae">malata@hct.ac.ae</a> , Dr. Saleh Ahmad <a href="mailto:sahmad@hct.ac.ae">sahmad@hct.ac.ae</a>	15

### Monday, 20<sup>th</sup> February, 2023

Technical Session: Mechatronics, Industry 4.0, IoT and their Applications  
14:00–18:00, Room: Z245 | Session Chair: Dr. Mohammad A. Jaradat/ Dr. Mohammad AlShabi

Time	Paper ID	Paper Title and Author(s)
14:00–14:15	1570842711	<b><i>Friction Model Parameter Identification of a Servomotor with Genetic Algorithms</i></b> Saleh Ahmad <sup>1</sup> ; Najeeb Khan <sup>1</sup> ; Ahmad Saleem Alhashmi <sup>1</sup> <sup>1</sup> Higher Colleges of Technology, United Arab Emirates
14:15–14:30	1570866152	<b><i>Reinforcement Learning-based Control for an Upper Limb Rehabilitation Robot</i></b> Tanjulee Siddique <sup>1</sup> ; Raouf Fareh <sup>2</sup> ; Zaid Al- Jumaili <sup>1</sup> ; Mahafuzur Rahaman Khan <sup>3</sup> ; Mohammad habibur Rahman <sup>3</sup> ; Maamar Bettayeb <sup>4</sup> ; Mahmoud Abdallah <sup>5</sup> <sup>1</sup> University of Sharjah, United Arab Emirates; <sup>2</sup> University of Sharjah Electrical Engineering, United Arab Emirates; <sup>3</sup> University of Wisconsin-Milwaukee <sup>4</sup> USA; University of Sharjah, United Arab Emirates; <sup>5</sup> Ecole de Technologie Superieure, Canada
14:30-14:45	1570875635	<b><i>Crime Detection and Suspect Identification System</i></b> Osama Hosam <sup>1</sup> ; Abdelaziz Saud Bin Darwish <sup>1</sup> <sup>1</sup> Higher Colleges of Techno1logy, United Arab Emirates
14:45–15:00	1570866845	<b><i>Will the Student Get an A Grade? Machine Learning-based Student Performance Prediction in Smart Campus</i></b> Ali Alnoman <sup>1</sup> <sup>1</sup> American University of Ras Al Khaimah, United Arab Emirates
15:00–15:15	1570872363	<b><i>Phish-identifier: Machine Learning based classification of Phishing attacks</i></b> Sidra Aslam <sup>1</sup> ; Ali Bou Nassif <sup>1</sup> <sup>1</sup> University of Sharjah, United Arab Emirates
15:15-15:30	1570873044	<b><i>Heading Angle Estimation using Intelligent Fusion for Autonomous Vehicles</i></b> Ali A. Barakat <sup>1</sup> ; Mohammad A. Jaradat <sup>1</sup> ; Ahmed M. Elsergany <sup>1</sup> ; Nidal A. Sherif <sup>1</sup> <sup>1</sup> American University of Sharjah, United Arab Emirates
15:30–15:45	1570873542	<b><i>Improving Fake News Detection Based on Deep Learning</i></b> Asmaa Rajab Seyam <sup>1</sup> ; Ali Bou Nassif <sup>2</sup> ; Qassim MH Nasir <sup>2</sup> <sup>1</sup> University of Sharjah & UOS, United Arab Emirates <sup>2</sup> University of Sharjah, United Arab Emirates

15:45–16:00	1570874234	<p><b><i>Biometric Authentication Based on Multi-Modal Facial Recognition Using Machine Learning</i></b></p> <p>Alin Majed Alkadi<sup>1</sup>; Shamma Mohammad Anwahi<sup>1</sup>; Ruqaya Ali AlMahdawi<sup>1</sup>; Bassel Soudan<sup>1</sup></p> <p><sup>1</sup>University of Sharjah, United Arab Emirates</p>
16:00–16:15	<b>Break</b>	
16:15–16:30	1570874266	<p><b><i>Deep CNN approach for Unbalanced Credit Card Fraud Detection Data</i></b></p> <p>Mohammad Ziad Mizher<sup>1</sup>; Ali Bou Nassif<sup>2</sup></p> <p><sup>1</sup>University of Sharjah &amp; UOS, United Arab Emirates <sup>2</sup>University of Sharjah, United Arab Emirates</p>
16:30–16:45	1570874367	<p><b><i>Deep learning based CIFAR-10 classification</i></b></p> <p>Sidra Aslam<sup>1</sup>; Ali Bou Nassif<sup>1</sup></p> <p><sup>1</sup>University of Sharjah, United Arab Emirates</p>
16:45–17:00	1570874375	<p><b><i>Electricity Consumption Forecasting based on Machine Learning Techniques</i></b></p> <p>Zakwan Skaf<sup>1</sup>; Hassan Abdulmouti<sup>1</sup>; Abdulla Alshareif<sup>1</sup>; Mansoor Hassan Albanna<sup>1</sup></p> <p><sup>1</sup>Higher Colleges of Technology, United Arab Emirates</p>
17:00–17:15	1570874426	<p><b><i>Principal Component Analysis in Image Classification: A review</i></b></p> <p>Sidra Aslam<sup>1</sup>; Tamer Rabie<sup>1</sup></p> <p><sup>1</sup>University of Sharjah, United Arab Emirates</p>
17:15–17:30	1570875765	<p>An Ensemble Learning Method based on Deep Neural and PCA-Based SVM Network for Baggage Threat and Smoke Recognition</p> <p>Abdelfatah Hassan Ahmed<sup>1</sup>; Muaz Al Radi<sup>1</sup>; Naoufel Werghi<sup>1</sup></p> <p><sup>1</sup>Khalifa University, Abu Dhabi, United Arab Emirates</p>
17:30–17:45	1570866310	<p><b><i>Optimizing Energy Efficiency of MIMO Using Quantum Genetic Algorithm</i></b></p> <p>Mohammed Almasaoodi<sup>1</sup>; Abdulbasit M. A. Sabaawi<sup>1</sup>; Sara El gaily<sup>2</sup>; Sándor Imre<sup>3</sup></p> <p><sup>1</sup>Budapest University of Technology and Economics (BME), Hungary <sup>2</sup>Budapest University of Technology and Economics, Hungary <sup>3</sup>Technical University of Budapest, Hungary</p>
17:45–18:00	1570874636	<p><b><i>Customer Segmentation Analysis Using Clustering Algorithms</i></b></p> <p>Dagumati Vishnuvardhan<sup>1</sup>; Sri Vardhan Reddy Biyyapu<sup>2</sup>; Ashwani Prasad<sup>2</sup>; Bhavya Singh<sup>2</sup></p> <p><sup>1</sup>Amrita Vishwa Vidyapeetham &amp; Amrita School of Engineering, Chennai, India <sup>2</sup>Vellore Institute of Technology, India</p>

## Day 1 – Monday 20<sup>th</sup> February 2023

	Sub-Conference	Chairs	# of Papers
RSE	Renewable and Sustainable Energy	Dr. Azzeddine Ferrah <a href="mailto:aferrah@hct.ac.ae">aferrah@hct.ac.ae</a>	15

<b>Monday, 20<sup>th</sup> February, 2023</b> Technical Session: Renewable and Sustainable Energy 14:00–18:00, Room: Z239   Session Chair: Dr. Amer Aljarrah.		
Time	Paper ID	Paper Title and Author(s)
14:00–14:15	1570847388	<p style="text-align: center;"><b><i>Experimental and simulation studies of transient photocurrent in organic solar cells</i></b></p> Di Zhang, Faisal Alsoyan, Marwan Alsuwaidi and Saud Ayoon ( <i>University of Sharjah, UAE</i> )
14:15–14:30	1570852061	<p style="text-align: center;"><b><i>Comparison between Silicon and Gallium Solar Cells for Mini PV Systems based on Life Cycle Analysis</i></b></p> Maryam Nooman AlMallahi, Tareq Salameh and Khaled Obaideen ( <i>University of Sharjah, UAE</i> ); Mahmoud M Elgendi ( <i>UAE Uni. &amp; Minia University, UAE</i> ); Haya Rami Al Jaghoub and Abdul Hai Alami ( <i>University of Sharjah, UAE</i> )
14:30–14:45	1570852698	<p style="text-align: center;"><b><i>The technology of ocean thermal energy conversion and its applications with a case study</i></b></p> Tareq Salameh, Sara M. Asaad, Mohammad Ali Abdelkareem and Abdul Ghani Olabi ( <i>University of Sharjah, UAE</i> ); Malek Alkasrawi ( <i>Jordan</i> ); Mounia Boukhenoufa, Dilara Alkhalzali and Salma Hussein ( <i>University of Sharjah, UAE</i> )
14:45–15:00	1570856277	<p style="text-align: center;"><b><i>Wastewater treatment in UAE using geothermal energy</i></b></p> Mamdouh El Haj Assad ( <i>SREE, University of Sharjah, UAE</i> ); Maryam Nooman AlMallahi ( <i>University of Sharjah, UAE</i> ); Mahmoud M Elgendi ( <i>UAE University &amp; Minia University, UAE</i> ); Yashar Aryanfar ( <i>Universidad Autónoma de Ciudad Juárez, Mexico</i> ); Oussama Rejeb ( <i>University of Sharjah, UAE</i> )
15:00–15:15	1570856279	<p style="text-align: center;"><b><i>Direct and Indirect uses of Geothermal Energy</i></b></p> Maryam Nooman AlMallahi ( <i>University of Sharjah, UAE</i> ); Mamdouh El Haj Assad ( <i>SREE, University of Sharjah, UAE</i> ); Mahmoud M Elgendi ( <i>UAE University &amp; Minia University, UAE</i> ); Laveet Kumar ( <i>Mehran University of Engineering and Technology, Jamshoro Sindh Pakistan, Pakistan</i> ); Oussama Rejeb ( <i>University of Sharjah, UAE</i> )
15:15–15:30	1570858182	<p style="text-align: center;"><b><i>Experimental Analysis of Enhanced Pool Boiling Heat Transfer on Modified Surface</i></b></p> Mariam Khaled Galal; Fadi Alnaimat and Bobby Mathew ( <i>UAE University, UAE</i> ); Zafar Said, Z. Said ( <i>University of Sharjah, UAE &amp; National University of Sciences and Technology (NUST), Pakistan</i> )
15:30–15:45	1570860384	<p style="text-align: center;"><b><i>Solar Chimney Power Plant Integrated with Water Desalination Plant for Gray Hydrogen Production</i></b></p> Ahmad Ra'ed Azzam ( <i>The University of Jordan &amp; Htu, Jordan</i> ); Emad AbdelSalam ( <i>Al Hussein Technical University, Jordan</i> ); Fares Almomani ( <i>Qatar University, Qatar</i> ); Hamza Alnawafah ( <i>University of Wisconsin Milwaukee, Jordan</i> ); Malek Alkasrawi ( <i>Jordan</i> ); Tareq Salameh ( <i>University of Sharjah, UAE</i> )
15:45–16:00	1570860549	<p style="text-align: center;"><b><i>An Energy Audit-based Case Study on varied Organizations</i></b></p> Sheron Shibu Puthukkattu ( <i>University of Engineering &amp; Three Phase Technical Services LLC, UAE</i> ); Ramaprasad Poojary ( <i>Manipal Academy of Higher Education, Dubai Campus, UAE</i> ); Sanchita S. Kamath ( <i>SOEIT, Dubai, Manipal Academy of Higher Education - Dubai Campus, UAE</i> )
16:00–16:15		<b>Break</b>

16:15–16:30	1570874099	<b>Estimating the Optimum Tilt Angle of Solar Panels in Fujairah</b> Raghed Melhem; Yomna Omran Shaker ( <i>University of Science and Technology of Fujairah, UAE</i> )
16:30–16:45	1570866176	<b>Energetic Study of Operating Andasol-1 CSP in Multiple Locations in the MENA Region</b> Ayman Housni Mdallal, Ali Radwan, Abdul Hai Alami, Mohammad Ali Abdelkareem, Mohamad A Ayoub and Abdul Ghani Olabi ( <i>University of Sharjah, UAE</i> )
16:45–17:00	1570866854	<b>Green Hydrogen: A Novel Hybrid Solar Chimney Power Plant Integrated with Electrolysis Station</b> Dareen Habash and Emad AbdelSalam ( <i>Al Hussein Technical University, Jordan</i> ); Hamza Alnawafah ( <i>University of Wisconsin Milwaukee, Jordan</i> ); Fares Almomani ( <i>Qatar University, Qatar</i> ); Tareq Salameh ( <i>University of Sharjah, UAE</i> )
17:00–17:15	1570866931	<b>Research and Development trend of Utilizing Solar Energy in GCC countries</b> Abdul Subhan; Abdel-Hamid Ismail Mourad; Mohammad Mozumder ( <i>United Arab Emirates University, UAE</i> )
17:15–17:30	1570867618	<b>Qualitative Analysis of Vegetable Oil-based Bio diesels</b> Veena Theodora Sahayaraj Louis, Neha Lyka Muttumthala, Amrutha Viswanathan Nambiar, Apurv Yadav and Hardeep Kumar ( <i>Amity University Dubai, UAE</i> )
17:30–17:45	1570869201	<b>Cellulose from date palm waste: Method of isolation and characterization</b> Mohsin Raza and Basim Abu-Jdayil ( <i>United Arab Emirates University, UAE</i> )
17:45–18:00	1570869343	<b>Advances in Striling Engine Engineering: I. Finned Cylinder Walls for Improved Cooling</b> Khaled M. Al-Arife ( <i>Abu Dhabi University, UAE</i> ); Dana I. Almansoori ( <i>Abu Dhabi University, UAE &amp; College of Engineering, UAE</i> )

## Day 1 – Monday 20<sup>th</sup> February 2023

	Sub-Conference	Chairs	# of Papers
AMDM	Advanced Materials, Design, and Manufacturing.	Dr. Najeeb Khan <a href="mailto:nkhan1@hct.ac.ae">nkhan1@hct.ac.ae</a> , Dr. Mansoor Janjua <a href="mailto:mjanjua@hct.ac.ae">mjanjua@hct.ac.ae</a> .	15

### Monday, 20<sup>th</sup> February, 2023

Technical Session: Advanced Materials, Design, and Manufacturing

14:00–18:00, Room: Z240 | Session Chair: Dr. Laith Al-Juboori (14:00 – 16:00)/Dr. Mansoor Janjua (16:00 – 18:00)

Time	Paper ID	Paper Title and Author(s)
14:00–14:15	1570869752	<b>Synthesis and characterization of zinc ferrite nanoparticles: Effect of temperature on size of nanoparticles</b> Renuka Seenivasan <sup>1</sup> ; Tholkappiyan Ramachandran III <sup>2</sup> ; Subramanian R <sup>3</sup> ; Hussaina B <sup>4</sup> ; Baskaran P <sup>5</sup> ; Elmi Elias <sup>6</sup> <sup>1</sup> Abu Dhabi Men's College HCT, Abu Dubai, United Arab Emirates <sup>2</sup> United Arab Emirates University, United Arab Emirates <sup>3</sup> Sun Arts and Science College, India <sup>4</sup> Abu Dhabi University, United Arab Emirates <sup>5</sup> Government of Arts and Science College, India <sup>6</sup> Higher Colleges of Technology, United Arab Emirates

14:15–14:30	1570869920	<p><b><i>Ballistic performance of polycarbonate plate subjected to truncated cone projectile</i></b></p> <p>Afsar Husain<sup>1</sup>; Sanan Husain Khan<sup>1</sup>; Abdel-Hamid Ismail Mourad<sup>1</sup>; Raisuddin Ansari<sup>2</sup>  <sup>1</sup> United Arab Emirates University, United Arab Emirates  <sup>2</sup> Aligarh Muslim University, India</p>
14:30–14:45	1570873964	<p><b><i>Mechanical and Wear Studies of Al2024-B4C Composite Using Microwave Sintering Process for Automotive Applications</i></b></p> <p>Chithirai Pon Selvan M<sup>1</sup>; Vishal Gadher<sup>1</sup>; Mahesh Nagaraj<sup>1</sup>  <sup>1</sup> Curtin University Dubai, United Arab Emirates</p>
14:45–15:00	1570873987	<p><b><i>Effects of Process Parameters on Density and Hardness of AlSi7Mg Alloy Fabricated by Direct Metal Laser Sintering (DMLS) Technique</i></b></p> <p>Chetan Ranganath<sup>1</sup>; Chithirai Pon Selvan M<sup>2</sup>; Deekshith V<sup>1</sup>; Chiranth K<sup>1</sup>; Likhith Raj D<sup>1</sup>; Vijay Kumar S<sup>1</sup>; Bincy Rose Vergis<sup>3</sup>; Pradeep V Badiger<sup>1</sup>  <sup>1</sup> Nitte Meenakshi Institute of Technology, India  <sup>2</sup> Curtin University Dubai, United Arab Emirates  <sup>3</sup> BMS Institute of Technology and Management</p>
15:00–15:15	1570852828	<p><b><i>Influence of integrating phase change material board into the construction of a lightweight building wall and roof</i></b></p> <p>Ali Radwan<sup>1</sup>; Montaser Mahmoud<sup>1</sup>; Mohammad Ali Abdelkareem<sup>2</sup>; Abdul Hai Alami<sup>1</sup>; Abdul Ghani Olabi<sup>1</sup>  <sup>1</sup> University of Sharjah, United Arab Emirates  <sup>2</sup> Sustainable Energy &amp; Power Systems Research Centre, RISE, University of Sharjah, United Arab Emirates</p>
15:15–15:30	1570853345	<p><b><i>Smart Fibers for Energy Transformation and Storing</i></b></p> <p>Haya Rami Al Jaghoub<sup>1</sup>; Khaled Obaideen<sup>1</sup>; Asmaa Moustafa<sup>2</sup>; Yara Mohammad<sup>3</sup>; Wafaa Al Nassan<sup>1</sup>; Maryam Nooman AlMallahi<sup>1</sup>; Omar Ramadan<sup>1</sup>; Talal Bonny<sup>1</sup>  <sup>1</sup> University of Sharjah, United Arab Emirates  <sup>2</sup> Ahram Canadian University, United Arab Emirates  <sup>3</sup> Ajman University, United Arab Emirates</p>
15:30–15:45	1570856280	<p><b><i>Rapid Prototyping of Sculpture Surfaces Based on Discrete Algorithm Using 3D Printer Technique</i></b></p> <p>Laith Al-Juboori<sup>1</sup>  <sup>1</sup> Higher Colleges of Technology &amp; Fujairah Men's College, United Arab Emirates</p>
15:45–16:00	1570874008	<p><b><i>Development of WS2 Nanomaterial for Photodiode Application</i></b></p> <p>Maryam Alqaydi<sup>1</sup>; Abdellatif Bouchalkha<sup>2</sup>; Steevy Joyce Cordette<sup>2</sup>; Chaouki Kasmi<sup>2</sup>; Mimoun El Marssi<sup>1</sup>; Mustapha Jouiad<sup>1</sup>  <sup>1</sup> University of Picardie Jules Verne, France  <sup>2</sup> Technology Innovation Institute, United Arab Emirates</p>
16:00–16:15	<b>Break</b>	
16:15–16:30	1570857373	<p><b><i>Mechanical Investigation of Recycled Fused Filament Fabrication Leftovers</i></b></p> <p>Noura Jauaan AlMazrouei<sup>1</sup>; Ali Al-Marzouqi<sup>1</sup>; Waleed Ahmed<sup>2</sup>  <sup>1</sup> UAEU, United Arab Emirates  <sup>2</sup> United Arab Emirates University &amp; Al Ain, United Arab Emirates</p>
16:30–16:45	1570860639	<p><b><i>Mechanical Performance of Defective 3D Printed Multi-Layer Material Panels</i></b></p> <p>Amged El Hassan<sup>1</sup>; Essam Zaneldin<sup>1</sup>; Waleed Ahmed<sup>2</sup>  <sup>1</sup> UAE University, United Arab Emirates  <sup>2</sup> United Arab Emirates University &amp; Al Ain, United Arab Emirates</p>

16:45–17:00	1570860921	<p><b><i>An Outlook on the Utilization of Perovskite Films in Photocatalytic and Optoelectronic Devices</i></b></p> <p>Adnan Alashkar<sup>1</sup>; Mohamad A Ayoub<sup>2</sup>; Abdul Hai Alami<sup>2</sup>; Mohammad Ali Abdelkareem<sup>2</sup>; Abdul Ghani Olabi<sup>2</sup>; Ayman Housni Mdallal<sup>2</sup></p> <p><sup>1</sup>American University of Sharjah, United Arab Emirates <sup>2</sup>University of Sharjah, United Arab Emirates</p>
17:00–17:15	1570863452	<p><b><i>Investigation on Dynamic Performance of Aluminium-Steel Composite Foam Based Redundant SCARA Robot</i></b></p> <p>Saravana Mohan M<sup>1</sup>; Samuel Ratna Kumar P S<sup>1</sup>; Chithirai Pon Selvan M<sup>2</sup>; Madindwa Mashinini Peter<sup>3</sup>; Sikkandhar Thanish G<sup>1</sup></p> <p><sup>1</sup>Kumaraguru College of Technology, India <sup>2</sup>Curtin University Dubai, United Arab Emirates <sup>3</sup>University of Johannesburg, South Africa</p>
17:15–17:30	1570874467	<p><b><i>Silver decorated polyaniline incorporated with tellurium oxide nanocomposites: Synthesis and characterization</i></b></p> <p>Raghavendra Shanubhog Chidambarao<sup>1</sup></p> <p><sup>1</sup>Higher Colleges of Technology, United Arab Emirates</p>
17:30–17:45	1570866439	<p><b><i>Development and validation of a novel test-rig for repaired composite panel subjected to Biaxial loading</i></b></p> <p>Mahmoud Abusrea<sup>1</sup></p> <p><sup>1</sup>Higher Colleges of Technology, Abu Dhabi Men Campus, United Arab Emirates</p>
17:45–18:00	1570875817	<p><b><i>Effect of Solvent on Polyurethane Coatings Made from Fluorosilane Modified Diatomaceous Earth</i></b></p> <p>Helanka Perera<sup>1</sup>; Frank Blum<sup>2</sup></p> <p><sup>1</sup>Abu Dhabi Women's, Abu Dhabi, UAE, United Arab Emirates <sup>2</sup>Oklahoma State University, Stillwater, OK, United Arab Emirates</p>

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## Day 1 – Monday 20<sup>th</sup> February 2023

<b>Room: Z231</b>	<b>International Student Scientific Poster Competition ASET 2023</b>
<b>10:00 – 11:00</b>	<b>Registration</b>
<b>11:00 – 13:00</b>	<b>Competition</b>
<b>15:30 – 16:00</b>	<b>Winner Announcement</b>
<b>Session chair: Ms. Ehsan Jarrar</b>	

## Day 2 – Tuesday 21<sup>st</sup> February 2023

	Sub-Conference	Chairs	# of Papers
RSE	Renewable and Sustainable Energy	Dr. Azzeddine Ferrah <a href="mailto:aferrah@hct.ac.ae">aferrah@hct.ac.ae</a>	10
BME	Biomedical Engineering.	Dr. Abdullah Desmal <a href="mailto:adesmal@hct.ac.ae">adesmal@hct.ac.ae</a> Dr. Walid Zgallai <a href="mailto:wzgallai@hct.ac.ae">wzgallai@hct.ac.ae</a> .	24

<b>Tuesday, 21<sup>st</sup> February, 2023</b> Technical Session: Renewable and Sustainable Energy 08:00–10:30, Room: Z239   Session Chair: Dr. Moin Hanif		
Time	Paper ID	Paper Title and Author(s)
08:00–08:15	1570874269	<b><i>Development of Popcorn Thermal Insulation Panels</i></b> Yonis Hussein Mohamud (UAE University, UAE); Basim Abu-Jdayil (UAEU, UAE)
08:15–08:30	1570869499	<b><i>Impact of Organic Composition on Anaerobic Digestion: A Mini Review</i></b> Rawan Mohammad Zannerni, Mohamed Abdallah, Abrar Inayat and Abdallah Shanableh (University of Sharjah, UAE)
08:30–08:45	1570874246	<b><i>Thermal management of concentrated photovoltaic cells using zigzag microchannel MEMS heatsink embedded with square pin fins</i></b> Dinumol Varghese; Afra Al Darmaki; Fadi Alnaimat and Bobby Mathew (UAE University, Al-Ain, UAE)
08:45–09:00	1570875106	<b><i>Digital Twinning and LSTM-based Forecasting Model of Solar PV Power Output</i></b> Omar Adil Al Isawi (Khalifa University of Science and Technology, UAE); Lutfi Hatem Amirah (University of Sharjah, UAE); Omar Ahmed Al-Mufti (Khalifa University of Science and Technology, UAE); Chaouki Ghenai (University of Sharjah, UAE)
09:00–09:15	1570872246	<b><i>Three-dimensional numerical investigation on flow and heat transfer characteristics in a counter flow vortex tube on the effect of the number of intake nozzles</i></b> Shek Rahman, Ahmed Amine Hachicha, Tareq Salameh and Salah Issa (University of Sharjah, UAE); Malathe Khalil (Khalifa University, UAE)
09:15–09:30	1570872250	<b><i>An experimental investigation on a novel hybrid greenhouse for plantation in UAE climate</i></b> Shek Rahman and Salah Issa (University of Sharjah, UAE)
09:30–09:45	1570872865	<b><i>A CFD based approach for the study of the mesh effect of a solar tower (Chimney)</i></b> Mamdouh El Haj Assad (SREE, University of Sharjah, UAE)
09:45–10:00	1570872868	<b><i>CFD simulation of a solar collector for radiation effect</i></b> <b>Authors:</b> Mamdouh El Haj Assad (SREE, University of Sharjah, UAE)
10:00–10:15	1570874372	<b><i>An insight into the effect of sharp and round edges on the flow field- A CFD simulation</i></b> Abid Hussain and Gao Puzhen (Harbin Engineering University, China); M. Mustafa Azeem (Missouri University of Science and Technology, USA); Muhammad Zubair (University of Sharjah, UAE); Muhammad Aamir (King Faisal University, Saudi Arabia); Muhammad Irfan Khalid (Harbin Engineering University, China)
10:15–10:30	1570873567	<b><i>Comprehensive Design of Sliding Mode Controller for an Enhanced Buck Converter Response</i></b> Hussain Attia (American University of Ras Al Khaimah, UAE)
10:30–10:45	<b>Break</b>	

**Tuesday, 21<sup>st</sup> February, 2023**

Technical Session: Biomedical Engineering.

10:45–18:00, Room: Z241 | Session Chairs: Dr. Entesar Zawam Dalah (10:45-13:00),  
Dr. Dilber Uzun Ozsahin (14:00-16:00), Dr. Mohammed Hassouna (16:15-18:00)

10:45–11:00	1570852870	<b><i>Pneumonia Detection in Chest X-ray Images using ResNet50 Model</i></b> Feras Barneih, Nida Nasir, Omar Alshaltone, Mohammad AlShabi, Talal Bonny, and Ahmed Al Shamma'a University of Sharjah, UAE
11:00–11:15	1570853074	<b><i>Comparative evaluation of blood conservation techniques in cardiovascular surgery using multicriteria decision-making methods</i></b> Ozlem Balcioglu, Declan Ikechukwu Emegano, Berna Uzun, Türker Şahin, Ilker Ozsahin, Dilber Uzun Ozsahin - Operational Research Centre in Healthcare, Turkey, Near East University, Turkey, - University of Sharjah, UAE.
11:15–11:30	1570854563	<b><i>Patient Dose Survey and Local DRLs of Computed Tomography for Adult and Pediatric in Dubai Health Authority in 2020</i></b> Entesar Zawam Dalah, Jamila Salem Alsuwaidi Rashid Hospital Building & Dubai Health Authority, Dubai Health Authority, United Arab Emirates
11:30–11:45	1570855990	<b><i>Patient Dose Survey and Local DRLs of Mammography and Dental Systems in Dubai Health Authority in 2020</i></b> Entesar Zawam Dalah, Jamila Salem Alsuwaidi - Rashid Hospital Building & Dubai Health Authority, - Dubai Health Authority, United Arab Emirates
11:45–12:00	1570856311	<b><i>Patient Dose Survey and Local DRLs of General X-ray and Interventional Radiology for Adult and Pediatric in Dubai Health Authority in 2020</i></b> Entesar Zawam Dalah, Jamila Salem Alsuwaidi - Rashid Hospital Building & Dubai Health Authority, - Dubai Health Authority, United Arab Emirates
12:00–12:15	1570856867	<b><i>Patient Dose Survey and Initial Typical DRLs of Nuclear Medicine in Dubai Health Authority between 2020-2022</i></b> Entesar Zawam Dalah, Shabna Miyath, Anila Anna John, Bhavna Ray, Maryam Mohd Abdulla Obaidalla. - Rashid Hospital Building & Dubai Health Authority, - Dubai Health Authority, United Arab Emirates
12:15–12:30	1570863467	<b><i>Antimicrobial material for 3D printing</i></b> Aaruci Agarwalla, Waleed Ahmed, Ali Al-Marzouqi - SCOPE, India, - UAEU, United Arab Emirates, Al Ain
12:30-12:45	1570866734	<b><i>A Review: Chitosan nanoparticles and its biological implication</i></b> Reshmi Nair, Shwetha Sajeev, Meby Susan Johnson Amity University Dubai, United Arab Emirates
12:45-13:00	1570866362	<b><i>Cardiac Disease Prediction using Artificial Intelligence</i></b> Ruqya Abdelrahim Alhammedi, Hamda Mahmoud Al-Ali, Marwa Ali Alhosani, Bassel Soudan University of Sharjah, United Arab Emirates
13:00-14:00	<b>Lunch Break</b>	
14:00–14:15 (Invited Talk)	1570867098	<b><i>Comparative Evaluation of 3D Filaments, Used in Additive Manufacturing of Biomedical Tools; Using Fuzzy PROMETHEE</i></b> Dilber Uzun Ozsahin, Basil Bartholomew Duwa, Efe Precious Onakpojeruo, Berna Uzun, Ilker Ozsahin - University of Sharjah, Sharjah, UAE, - Near East University, Turkey, - Operational Research Center in Healthcare, Turkey
14:15–14:30	1570868148	<b><i>Keep it simple: random oversampling for imbalanced data</i></b> Firuz Kamalov, Ho Hon Leung, Aswani Kumar Cherukuri - Canadian University Dubai, United Arab Emirates,

		<ul style="list-style-type: none"> <li>- United Arab Emirates University, United Arab Emirates,</li> <li>- Vellore Institute of Technology, Vellore, India.</li> </ul>
14:30-14:45	1570868928	<p><b><i>Classification of Photoplethysmography Signals using Ensemble Machine Learning</i></b></p> <p>Nida Nasir, Mustafa Sameer, Omar Alshaltone, Feras Barneih, Mohammad AlShabi, Ahmed Al Shamma'a.</p> <ul style="list-style-type: none"> <li>- University of Sharjah, United Arab Emirates,</li> <li>- National Institute of Technology Patna, India,</li> </ul>
14:45-15:00	1570869214	<p><b><i>The Efficacy and Safety of Direct Oral Anticoagulants for The Treatment of Venous Thrombosis in Cancer Using Fuzzy PROMETHEE</i></b></p> <p>Dilber Uzun Ozsahin, Natacha Usanase, Ozlem Balcioglu, Ilker Ozsahin, Berna Uzun</p> <ul style="list-style-type: none"> <li>- Medical Diagnostic Imaging Department University of Sharjah Sharjah United Arab Emirates,</li> <li>- Operation Research Center in healthcare Near East University Nicosia, North Cyprus, Department of Cardiovascular Surgery Near East University Nicosia, North Cyprus Operation Research Center in healthcare,</li> <li>- Department of Statistics Carlos III de Madrid University Madrid, Spain, Operation Research Center in healthcare, Neu</li> </ul>
15:00-15:15	1570869243	<p><b><i>Classification Comparison of Machine Learning Algorithms Using Spectroscopic Breast Tissues Dataset</i></b></p> <p>Meliz Yuvalım, Mohamed Abuzaid, Dilber Uzun Ozsahin</p> <ul style="list-style-type: none"> <li>- Near East University, Turkey</li> <li>- University of Sharjah, United Arab Emirates</li> <li>- Near East University, Nicosia, North Cyprus</li> </ul>
15:15-15:30	1570869387	<p><b><i>Effect Of Face Features On Airflow In A Neonatal Nasal Cavity</i></b></p> <p>John Valerian Corda, Mohammad Zuber, Satish Shenoy, Leslie actionLewis Manipal &amp; MAHE, India</p>
15:30-15:45	1570869628	<p><b><i>Evaluation of Deep Convolutional Neural Networks for Detecting Nonpalpable Breast Abnormalities in Mammography</i></b></p> <p>Imad Zyout Higher Colleges of Technology &amp; Tafila Technical University, United Arab Emirates</p>
15:45-16:00	1570870803	<p><b><i>Multilayered Metamaterial Antenna for Brain Stroke Imaging System</i></b></p> <p>Fatima-ezzahra Zerrad, E'qab Almajali, Anwar Hasan Jarndal, Mohamed Taouzari, Jamal El Aoufi</p> <ul style="list-style-type: none"> <li>- Hassan First University of Settati, Morocco,</li> <li>- University of Sharjah, United Arab Emirates</li> <li>- United Arab Emirates, United Arab Emirates</li> <li>- International Academy of Civil Aviation, Morocco</li> </ul>
16:00-16:15	<b>Break</b>	
16:15-16:30	1570874384	<p><b><i>Applications of Deep Learning in Medical Imaging- A Brief Review</i></b></p> <p>Mohammed Hassouna, M Saleh, Nedaa Al Barghuthi Higher Colleges of Technology, United Arab Emirates</p>
16:30-16:45	1570872401	<p><b><i>Prediction Of Early-Stage Diabetes using machine learning</i></b></p> <p>Abdulaziz Y.I. Abu Shawish, Ali Bou Nassif University of Sharjah, United Arab Emirates</p>
16:45-17:00	1570872413	<p><b><i>Alzheimer detection using different Deep Learning methods with MRI images</i></b></p> <p>Omar Elgendy, Ali Bou Nassif University of Sharjah, United Arab Emirates</p>
17:00-17:15	1570872418	<p><b><i>Lung Cancer Prediction using Machine Learning based Feature Selection: A comparative Study</i></b></p> <p>Aya Abdul Rahman AlChikh Omar, Ali Bou Nassif University of Sharjah, United Arab Emirates</p>
17:15-17:30	1570872419	<p><b><i>Enhanced Heart Failure Prediction Using Feature Selection-based Machine Learning Models</i></b></p> <p>Nour A M Abujabal, Ali Bou Nassif University of Sharjah, United Arab Emirates</p>

17:30–17:45	1570872939	<p><b><i>Nano-clay-Based Flexible Bio-electrode for Neural Sensing Applications</i></b></p> <p>Fatima Hamed, Mohammad Al-Sayah, Amani Al-Othman, Hasan Al-Nashash, Zaid Alani. American University of Sharjah, United Arab Emirate</p>
17:45–18:00	1570873063	<p><b><i>Follicle Detection of Polycystic Ovarian Syndrome (Pcos) Using Yolo</i></b></p> <p>Pallavi S Mane, Kirti Mahajan Bharati Vidyapeeth Deemed University, India</p>

## Day 2 – Tuesday 21<sup>st</sup> February 2023

	Sub-Conference	Chairs	# of Papers
IoTMA	Mechatronics, Industry 4.0, IoT and their Applications.	Dr. Mohanad Alata <a href="mailto:malata@hct.ac.ae">malata@hct.ac.ae</a> , Dr. Saleh Ahmad <a href="mailto:sahmad@hct.ac.ae">sahmad@hct.ac.ae</a>	17
ASTMT	Aviation, Space Technology and Marine Transportation	Dr. Serdar Dalkilic <a href="mailto:sdalkilic@hct.ac.ae">sdalkilic@hct.ac.ae</a> , Dr. Evangelos Papageorgiou <a href="mailto:epapageorgiou@hct.ac.ae">epapageorgiou@hct.ac.ae</a>	17

<b>Tuesday, 21<sup>st</sup> February, 2023</b> Technical Session: Mechatronics, Industry 4.0, IoT and their Applications. 08:00–10:30, Room: Z245   Session Chair: Dr. Nizar Harab			
Time	Paper ID	Paper Title and Author(s)	
08:00–08:15	1570876606	<b><i>ccfDetector: Utilizing GAN and Deep Learning for Credit Card Fraud Detection</i></b> Zaher Al Aghbari <sup>1</sup> ; Mohammed M. Khaled <sup>1</sup> <sup>1</sup> University of Sharjah, United Arab Emirates	
08:15–08:30	1570877613	<b><i>Design of a Machine learning-based Face and Fingerprint Recognition for Automated Teller Machines</i></b> Irfan Ahmed <sup>1</sup> ; Tarig Faisal <sup>1</sup> <sup>1</sup> Higher Colleges of Technology, United Arab Emirates	
08:30–08:45	1570877702	<b><i>Multiple Classification of Date Fruit using Transfer Learning</i></b> Nourah Alhadhrami <sup>1</sup> ; Aisha Abobakr <sup>1</sup> ; Alanoud Alhammadi <sup>1</sup> ; Maad Shatnawi <sup>1</sup> <sup>1</sup> Higher Collages of Technology, United Arab Emirates	
08:45–09:00	1570877757	<b><i>Exploiting Redundancy in English Language for Hiding Secret Data in Innocent News Articles</i></b> Ayesha S. Sarfaraz <sup>1</sup> ; Karam A. Alshouraa <sup>1</sup> ; Mustafa B. M. Alaraj <sup>1</sup> ; Ala Altaweel <sup>1</sup> ; Ibrahim Kamel <sup>2</sup> <sup>1</sup> University of Sharjah, United Arab Emirates <sup>2</sup> University of Sharjah & Concordia University, United Arab Emirates	
09:00–09:15	1570877847	<b><i>A Machine Learning Approach for Detecting Unauthorized Drone Operators</i></b> Abdulrahman Hamdy Ahmad <sup>1</sup> ; Sultan AlAmeri <sup>2</sup> ; Youssef Ibrahim <sup>2</sup> ; Hasan AlMarzouqi <sup>2</sup> <sup>1</sup> Khalifa University of Science and Technology, United Arab Emirates & Minia University, Egypt <sup>2</sup> Khalifa University, United Arab Emirates	
09:15–09:30	1570860393	<b><i>Customers Dependent Demand Response in Energy Hubs with IoT Perforation</i></b> Mohammad Jamal Jamjoum <sup>1</sup> ; Raneem Negry <sup>2</sup> ; Emad AbdelSalam <sup>1</sup> ; Fares Almomani <sup>3</sup> ; Tareq Salameh <sup>4</sup> <sup>1</sup> Al Hussein Technical University, Jordan; <sup>2</sup> Al-Ahliyya Amman University, Jordan; <sup>3</sup> Qatar University, Qatar; <sup>4</sup> University of Sharjah, United Arab Emirates	
09:30–09:45	1570872110	<b><i>Design and Implementation of a Solar Tracker with Live Data Feed Utilizing IoT</i></b> Yacouba Moumouni <sup>1</sup> ; Aesha Alyaqoobi <sup>1</sup> ; Alya Abulaila <sup>1</sup> ; Maitha Esmaeel <sup>1</sup> ; Salama Alblooshi <sup>1</sup> ; Shahd Alzaabi <sup>1</sup> <sup>1</sup> Higher Colleges of Technology, UAE, United Arab Emirates	
09:45–10:00	1570872295	<b><i>IoT Security Concerns: A New Technique for Hiding Secret Data in Regular Arabic Text</i></b> Lubana O Al Rayes <sup>1</sup> ; Omama Maaz <sup>1</sup> ; Noora Hassan <sup>1</sup> ; Ibrahim Kamel <sup>2</sup> <sup>1</sup> University of Sharjah, United Arab Emirates <sup>2</sup> University of Sharjah & Concordia University, United Arab Emirates	
10:00–10:15	1570874103	<b><i>Open-Source Security Testing Tools for IoT Protocols - MQTT and Zigbee</i></b> Ali Raza <sup>1</sup> ; Meghna Praveen <sup>1</sup> ; Maheen Hasib <sup>2</sup>	

		<sup>1</sup> Rochester Institute of Technology Dubai, United Arab Emirates <sup>2</sup> Herriot Watt University Dubai, United Arab Emirates
10:15-10:30	1570874313	<b><i>An Electrically Tunable Antenna for IoT Applications</i></b> Razan A Alhamad <sup>1</sup> ; E'qab Almajali <sup>1</sup> ; Soliman Mahmoud <sup>1</sup> <sup>1</sup> University of Sharjah, United Arab Emirates
10:30-10:45		<b>Break</b>
<b>Tuesday, 21<sup>st</sup> February, 2023</b> Technical Session: Aviation, Space Technology and Marine Transportation. 10:45-16:00, Room: Z245   Session Chair: Dr. Serdar Dalkilic (10:45-13:00), Dr. Evangelos Papageorgiou (14:00-16:00)		
10:45-11:00	1570873935	<b><i>Modeling and testing drag for an aerodynamic truck design,</i></b> Abuharaz, Mazin, HCT, UAE
11:00-11:15	1570877179	<b><i>Enhancing Performance in Aircraft Maintenance Training Organizations/CAR 147,</i></b> Al-Mahadin, Aziz, HCT, UAE
11:15-11:30	1570870742	<b><i>Studying the Superhydrophobic and Superhydrophilic Nanofiber Layers into Astronaut Spacesuit Gloves for Better Sweat Absorption Properties,</i></b> Alyammahi, Saleimah, HCT, UAE
11:30-11:45	1570877116	<b><i>Transfer, Active and Federated Learning for Supporting Air Traffic Control and Remote Towers,</i></b> Binkhatim, Shaikha, American University of Sharjah, UAE
11:45-12:00	1570877760	<b><i>Thermal control: Case study of 3U CubeSat,</i></b> Blanchete, Narimane, University of Mohamed 5, Morocco
12:00-12:15	1570862618	<b><i>Aircraft Maintenance Compliance Documentations: Significance and Challenges within MRO and Airlines Industry,</i></b> Chandola, Deepak Chandra, AMITY University, UAE
12:15-12:30	1570875237	<b><i>Challenges Experienced by Production Planning Team During Aircraft Maintenance Work Package Preparation within MRO and Airlines Industry,</i></b> Chandola, Deepak Chandra, AMITY University, UAE
12:30-12:45	1570876522	<b><i>Evaluation of Dubai Canal Design for Safe Navigation,</i></b> Elhakeem, Mohamed, Abu Dhabi University, UAE
12:45-13:00	1570875287	<b><i>Flight Software Design and Implementation for a CubeSat,</i></b> Eshaq, Mohammed, University of Dubai & Mohammed Bin Rashid Space Center, UAE
13:00-14:00		<b>Lunch Break</b>
14:00-14:15	1570876361	<b><i>Studying the Aerodynamic Performance of Different Airfoil Wings as a Sophomore Design Project,</i></b> Papageorgiou, Evangelos, HCT, UAE
14:15-14:30	1570875818	<b><i>An analysis of smoke flow for estimating flow characteristics over a cricket ball,</i></b> Faazil, Aafrein Begam, AMITY University, UAE
14:30-14:45	1570877807	<b><i>Dynamic Stability of a Blended Wing Body Unmanned Aerial Vehicle,</i></b> Kumar, Swarna, Birla Institute of Technology and Science, UAE
14:45-15:00	1570874649	<b><i>The Effect of Idealization and Mesh Type on the Computational Time and Accuracy of AIainSat-1's Thermal Analysis,</i></b> Seyedzadeh, Ameerah, United Arab Emirates University, UAE
15:00-15:15	1570877820	<b><i>Design and Fabrication of a Solar Powered Unmanned Aerial Vehicle (UAV)</i></b> Shashati, Mahmoud, United Arab Emirates University, UAE
15:15-15:30	1570872189	<b><i>Fault Detection for Aircraft Fuel System with Machine Learning Techniques</i></b> Skaf, Zakwan, HCT, UAE
15:30-15:45	1570852329	<b><i>Static and Dynamic Stress Analysis of an Aircraft Wing Rear Spar Bracket under Step-Loading Conditions,</i></b> Subhan, Abdul, United Arab Emirates University, UAE

15:45–16:00	1570877282	<b><i>Simulated Annealing-Deep Deterministic Policy Gradient Algorithm For Quadrotor Attitude Control</i></b> , Trad, Taha Yacine, Aeronautical Sciences Laboratory, Algeria
16:00–16:15	<b>Break</b>	
<b>Tuesday, 21<sup>st</sup> February, 2023</b> Technical Session: Mechatronics, Industry 4.0, IoT and their Applications. 16:15–18:00, Room: Z245   Session Chair: Mr. Nasir Aktar		
16:15–16:30	1570876492	<b><i>Binary and multi-class classification on the IoT-23 dataset</i></b> Kevser Ovaz Akpınar <sup>1</sup> ; Mustafa Akpınar <sup>2</sup> <sup>1</sup> Rochester Institute of Technology, United Arab Emirates <sup>2</sup> Higher Colleges of Technology, United Arab Emirates & Sakarya University, United Arab Emirates
16:30–16:45	1570877708	<b><i>IoT enabled Vehicles Auto Kids Recognition System</i></b> Anees Fathima Bashir <sup>1</sup> ; Mariam Alhammadi <sup>2</sup> ; Tarig Faisal <sup>2</sup> <sup>1</sup> Higher Colleges of Technology & Noorul Islam Centre for Higher Education, United Arab Emirates <sup>2</sup> Higher Colleges of Technology, United Arab Emirates
16:45–17:00	1570869172	<b><i>Slotted Antipodal Vivaldi Antenna for Multiple Ultra-Wide Band Applications Including IoT</i></b> Fatima-ezzahra Zerrad <sup>1</sup> ; Mohamed Taouzari <sup>1</sup> ; Jamal El Aoufi <sup>2</sup> ; Yadgar Ibrahim Abdulkarim <sup>3</sup> ; Anwar Hasan Jarndal <sup>4</sup> ; E'qab Almajali <sup>5</sup> <sup>1</sup> Hassan First University of Settati, Morocco <sup>2</sup> International Academy of Civil Aviation, Morocco <sup>3</sup> Central South University & Suleimani University, China <sup>4</sup> United Arab Emirates & University of Sharjah, United Arab Emirates <sup>5</sup> University of Sharjah, United Arab Emirates
17:00–17:15	1570869205	<b><i>Modified Diode Clamped Inverter-Based Single Phase Induction Motor Closed-Loop V/f Control</i></b> Majd Saloumi <sup>1</sup> ; Ali Ismail <sup>1</sup> ; Mohammad S Suleiman <sup>2</sup> <sup>1</sup> University of Sharjah, United Arab Emirates <sup>2</sup> American University of Sharjah, United Arab Emirates
17:15–17:30	1570869767	<b><i>Ultra Wideband Highly Efficient Cross Polarization Conversion Metasurface for Multi-Band Applications</i></b> Malaz Osman <sup>1</sup> ; Jawad Yousef <sup>1</sup> ; E'qab Almajali <sup>2</sup> ; Mousa Hussein <sup>3</sup> ; Manzoor Elahi <sup>4</sup> ; Amir Altaf <sup>5</sup> ; Saqer S Alja'afreh <sup>6</sup> <sup>1</sup> Abu Dhabi University, United Arab Emirates <sup>2</sup> University of Sharjah, United Arab Emirates <sup>3</sup> UAE University, United Arab Emirates <sup>4</sup> COMSATS Institute of Information Technology Abbottabad, Pakistan <sup>5</sup> SKKU, Korea (South) <sup>6</sup> Mutah University, Jordan
17:30–17:45	1570871367	<b><i>Cyber Threats to the Digital Transformation of Supply Chain Management</i></b> Salman Pervaiz <sup>1</sup> <sup>1</sup> Rochester Institute of Technology - Dubai, United Arab Emirates
17:45–18:00	1570875360	<b><i>On Detecting GPS Spoofing Attack in Flying Ad-hoc Networks: A Comparative Study</i></b> Hena Mukkath <sup>1</sup> ; Ala Altaweel <sup>1</sup> ; Ibrahim Kamel <sup>2</sup> ; Zaher Al Aghbari <sup>1</sup> <sup>1</sup> University of Sharjah, United Arab Emirates <sup>2</sup> University of Sharjah & Concordia University, United Arab Emirates

## Day 2 – Tuesday 21<sup>st</sup> February 2023

	Sub-Conference	Chairs	# of Papers
SEUI	Sustainable Environment and Urban Infrastructure	Dr. Anf Ziadat <a href="mailto:aziadat@hct.ac.ae">aziadat@hct.ac.ae</a> Dr. Ahmed Al-qarawi <a href="mailto:aalqarawi@hct.ac.ae">aalqarawi@hct.ac.ae</a>	34

<b>Tuesday, 21<sup>st</sup> February, 2023</b> Technical Session: Sustainable Environment and Urban Infrastructure 08:00–18:00, Room: Z243   Session Chair: Dr. Imad Chobaki, Dr. Hamza Yakub, Dr. I Putu Mandiartha			
Time	Paper ID	Paper Title and Author(s)	
08:00–08:15	1570873129	<b>Key durability characteristics of GGBS-cement kiln dust based concretes</b> <b>Authors:</b> Sokrates Ioannou <sup>1</sup> , Morsaleen Chowdhury <sup>2</sup> , Ahmed Al-Qarawi <sup>1</sup> , Patcy Paul <sup>1</sup> , Amal Alghazo <sup>1</sup> <sup>1</sup> Civil Engineering Department, Higher Colleges of Technology, Abu Dhabi, UAE <sup>2</sup> Department of civil engineering and quantity surveying, Military Technological College, Muscat, Oman	
08:15–08:30	1570858355	<b>Development of Fatigue Cracking Performance Prediction Models Using Machine Learning Techniques</b> <b>Authors:</b> Ali Juma Alnaqbi <sup>1</sup> , Walced Zeiada <sup>1</sup> , Ghazi Al-Khateeb <sup>1</sup> <sup>1</sup> Department of Civil and Environmental Engineering, University of Sharjah, Sharjah, UAE	
08:30–08:45	1570876365	<b>Utilization Of Face Masks In Concrete For Improved Strength Performance: Strategy Towards Green Construction</b> <b>Authors:</b> Jhanvi Sunil Sabhnani <sup>1</sup> , Syed Ibrahim Ali <sup>1</sup> , Kristoffer Jan <sup>1</sup> , Vidya Mohanan <sup>1</sup> <sup>1</sup> Department of Civil Engineering University, Amity University Dubai, United Arab Emirates	
08:45–09:00	1570873231	<b>Developing greener concretes from spent bleaching earth and sugarcane bagasse ash</b> <b>Authors:</b> Morsaleen S. Chowdhury <sup>1</sup> , Sokrates Ioannou <sup>2</sup> , AlWaleed R. M. AlHimali <sup>1</sup> , Hilal S. K. Al-Alawi <sup>1</sup> <sup>1</sup> Department of civil engineering and quantity surveying, Military Technological College, Muscat, Oman <sup>2</sup> Civil Engineering Department, Higher Colleges of Technology, Abu Dhabi, UAE	
09:00–09:15	1570878016	<b>Experimental Investigation on Compressive Strength of Foldable Concrete Canvas</b> <b>Authors:</b> Dr. Manish Kewalramani <sup>1</sup> , Dr. Dharamveer Singh <sup>2</sup> , Dr. Omer Mughieda <sup>1</sup> <sup>1</sup> Abu Dhabi University, Abu Dhabi, UAE <sup>2</sup> Indian Institute of Technology Bombay, Powai, Mumbai, India	
09:15–09:30	1570876164	<b>A Study of Environmental Impact of Construction Industry from Sustainability Point of View</b> <b>Authors:</b> Adiki. N. Jothi <sup>1</sup> , Ravishankar Dudhe <sup>1</sup> , Sahaya Saajan <sup>1</sup> <sup>1</sup> Manipal Academy of Higher Education Dubai, UAE	
09:30–09:45	1570877515	<b>Use of waste materials in the production of eco-friendly bricks: towards a clean and sustainable environment</b> <b>Authors:</b> Hussein M. Hamada <sup>1</sup> , Farid Abed <sup>1</sup> , Mohammed S. Al Jawahery <sup>2</sup> , Ali Majdi <sup>3</sup> , Salim T. Yousif <sup>4</sup> <sup>1</sup> Department of Civil Engineering, American University of Sharjah, Sharjah, UAE <sup>2</sup> Highways and Bridges Engineering Department, Duhok Polytechnic University, Duhok, Iraq <sup>3</sup> Al Mustaqbal University College, Babylon, Iraq <sup>4</sup> Department of Civil Engineering, Nawroz University, Kurdistan, Iraq	
09:45–10:00	1570867495	<b>Sustainable Approach in Design: A Focus on Hot and Dry Regions</b> <b>Authors:</b> Dr. Sonakshi Ruhela <sup>1</sup> , Roshal Coelho <sup>2</sup> , Banafsha Rajput <sup>3</sup> , Khan Shahebaz Rajput <sup>4</sup> <sup>1</sup> Curtin University Dubai, UAE <sup>2</sup> Amity University, Dubai, UAE <sup>3</sup> Architect, UAE <sup>4</sup> Sustainability Consultant, UAE	
10:00–10:15	1570874256	<b>Influence of Mechanically Treated Recycled Concrete Aggregates and Curing Method in Recycled Aggregate Concrete</b> <b>Authors:</b> Konstantina Oikonomopoulou <sup>1</sup> , Pericles Savva <sup>2</sup> , Thomaida Polydorou <sup>1</sup> , Demetris Demetriou <sup>1</sup> , Sokrates Ioannou <sup>3</sup> , Demetris Nicolaides <sup>4</sup> , Michael F. Petrou <sup>1</sup>	

		<p><sup>1</sup>Department of Civil and Environmental Engineering, University of Cyprus, Nicosia, Cyprus  <sup>2</sup> Latomia Pharmakas, Nicosia, Cyprus  <sup>3</sup> Civil Engineering Department, Higher Colleges of Technology, Abu Dhabi, UAE  <sup>4</sup>Department of Civil Engineering, Frederick Research Center, Nicosia, Cyprus</p>
10:15–10:30	1570874119	<p><b>Statistical analysis of Operational Carbon for different building types in the UAE</b>  <b>Authors:</b> Fatma Hosny<sup>1</sup>, Samer Barakat<sup>1</sup>, Saleh Abu Dabous<sup>1</sup>  <sup>1</sup>Department of Civil and Environmental Engineering, University of Sharjah, Sharjah, UAE</p>
10:30–10:45		<b>Break</b>
10:45–11:00	1570869442	<p><b>Experimental Testing of Camel Manure as a Potential Feedstock for Aerobic Composting</b>  <b>Authors:</b> Sara Alsmadi<sup>1</sup>, Mohamed Abdallah<sup>1</sup>, Abdallah Shanableh<sup>1</sup>, Sourjya Bhattacharjee<sup>1</sup>, Khalifa Alteneiji<sup>2</sup>, Razan Alhammadi<sup>2</sup>, Mohammad Aloun<sup>2</sup>, Walid Abo Baker<sup>2</sup>, Jawahir Alabdooli<sup>2</sup>  <sup>1</sup> Department of Civil and Environmental Engineering, University of Sharjah, Sharjah, UAE  <sup>2</sup> Department of Agriculture and Livestock, Government of Sharjah, Sharjah, UAE</p>
11:00–11:15	1570877638	<p><b>Repeated Measures Analysis for the Assessment of Air Pollutants in the UAE</b>  <b>Authors:</b> Karam Al-Assaf<sup>1</sup>, Israa Al Khaffaf<sup>1</sup>, Ryan Al Tayeb<sup>1</sup>, Ayman Alzaatreh<sup>1</sup>  <sup>1</sup>American Univeristy of Sharjah, Sharjah, UAE</p>
11:15–11:30	1570876714	<p><b>Anaerobic Digestion For Dairy Manure Treatment</b>  <b>Authors:</b> Khaled Elkersh<sup>1</sup>, Bushra Tatan<sup>1</sup>, Zahraa Al-Dawood<sup>1</sup>, Kazi Fattah<sup>1</sup>, Kamrul Hasan<sup>2</sup>  <sup>1</sup>American University of Sharjah, Sharjah, UAE  <sup>2</sup>University of Sharjah, Sharjah, UAE</p>
11:30–11:45	1570874397	<p><b>Recycling Methods for Crystalline Silicon Solar Panels</b>  <b>Authors:</b> Padmini Sawant<sup>1</sup>, Jaydeep Patil<sup>1</sup>, Yayati Shinde<sup>1</sup>, Sandhya Jadhav<sup>1</sup>, Amit Kadam<sup>1</sup>, Firdos Khan<sup>1</sup>, Shubhangi Gurav<sup>1</sup>, Surekha Khetree<sup>1</sup>, Prathmesh Patil<sup>1</sup>  <sup>1</sup>Bharati Vidyapeeth College of Engineering, Navi Mumbai, India</p>
11:45–12:00	1570873950	<p><b>Exploring the Applicability of Agrivoltaic System in UAE and Its Merits</b>  <b>Authors:</b> Hassan Abdulmouti<sup>1</sup>, Abdrabbi Bourezg<sup>2</sup>, Ranjeet Ranjan<sup>3</sup>  <sup>1</sup>Department of Mechanical Engineering, Higher Colleges of Technology, Sharjah, UAE  <sup>2</sup>Department of Electrical Engineering, Higher Colleges of Technology, Dubai, UAE  <sup>3</sup>Department of Mechanical Engineering, Higher Colleges of Technology, AlRuweis, UAE</p>
12:00–12:15	1570876162	<p><b>A sustainable hydroponic development using an IOT-based deep water culture system</b>  <b>Authors:</b> Rachana Bhaskaran Venugopal<sup>1</sup>, Deepak Raj Koteeswaran<sup>2</sup>, D. Ravishankar Dudhe<sup>1</sup>  <sup>1</sup>Manipal Academy of Higher Education Dubai, UAE  <sup>2</sup>Concordia University, Montreal, Canada</p>
12:15–12:30	1570877425	<p><b>Waste-to-energy strategies for the management of hospitality kitchen wastes</b>  <b>Authors:</b> Sara Al Darras<sup>1</sup>, Lucy Semerjian<sup>1</sup>, Mohamed Abdallah<sup>1</sup>  <sup>1</sup>University of Sharjah, Sharjah, UAE</p>
12:30–12:45	1570873184	<p><b>Internet of Things (IoT)- Enabled Environmental and Water Sensors Towards Sustainable Development Goals (SDGs)</b>  <b>Authors:</b> Saleimah Alyammahi<sup>1</sup>, Waseem S. Khan<sup>1</sup>, Fesmi Majeed<sup>1</sup>  <sup>1</sup>Department of Mechanical Engineering, Higher Colleges of Technology, Fujairah, UAE</p>
12:45–13:00	1570875835	<p><b>A study of potentials and utilities of proper construction management and control for sustainable development</b>  <b>Authors:</b> Sahaya Saajan<sup>1</sup>, Ravishankar Dudhe<sup>1</sup>, Harshith Lavanya Kumar<sup>1</sup>, Adiki. N. Jothi<sup>1</sup>, Annu Saji Mathew<sup>1</sup>  <sup>1</sup>Manipal Academy of Higher Education Dubai, UAE</p>
13:00–14:00		<b>Lunch Break</b>
14:00–14:15	1570877749	<p><b>Water Efficiency in United Arab Emirates (UAE) Mosques</b>  <b>Authors:</b> Mariam AlAli<sup>1</sup>, Yara Mattar<sup>1</sup>, Mhd Amer Alzaim<sup>1</sup>, Salwa Beheiry<sup>1</sup>  <sup>1</sup>American University of Sharjah, Sharjah, United Arab Emirates</p>
14:15–14:30	1570877776	<p><b>Potable Water Piping and Pumping System: A Design Approach</b>  <b>Authors:</b> Mohammed Kamil<sup>1</sup>, Ahmad Jassem Alobaid<sup>1</sup>, Salah Kayed<sup>1</sup>, Omar Saleh Hassan<sup>1</sup>, Amir Hakim<sup>1</sup>, Mahmoud Attia Abouelazm<sup>1</sup></p>

		<sup>1</sup> Department of Mechanical and Nuclear Engineering, University of Sharjah, Sharjah, UAE
14:30-14:45	1570877798	<b>Treatment of Textile Industry Wastewater by Electrocoagulation</b> <b>Authors:</b> Shumayal Nassar <sup>1</sup> , Muhammad Sufyan <sup>2</sup> , Mohammad Almasaeid <sup>1</sup> , Kazi Parvez Fattah <sup>1</sup> <sup>1</sup> American University of Sharjah, Sharjah, United Arab Emirates <sup>2</sup> University of Nottingham, Semenyih, Malaysia
14:45-15:00	1570877855	<b>Assessment of water saving influences at Abu Dhabi Emirate Residential Sector</b> <b>Authors:</b> Saeed Al Nuaimi <sup>1</sup> , Issah M. Alhamad <sup>1</sup> , Hamad Albahlooli <sup>1</sup> , Hazza Al Seraihi <sup>1</sup> , Osamah Al Hemyari <sup>1</sup> , Ahmad Shashati <sup>1</sup> <sup>1</sup> United Arab Emirates University, Al Ain, UAE
15:00-15:15	1570877619	<b>Smart water-saving system in residential buildings</b> <b>Authors:</b> Elgaali Elgaali <sup>1</sup> , Jamil Al Titi <sup>1</sup> , Abdulrahman Hassan <sup>1</sup> , Majid Yousuf <sup>1</sup> <sup>1</sup> Higher Colleges of Technology, Dubai, UAE
15:15-15:30	1570874215	<b>Mapping Possible Groundwater Zones based on Analytical Hierarchical Process (AHP): Fujairah Emirate, UAE</b> <b>Authors:</b> Mariam A. Alraeesi <sup>1</sup> , Rami I Al-Ruzouq <sup>1</sup> , Nezar A. Hammouri <sup>1</sup> , Fouad Lamghari <sup>2</sup> <sup>1</sup> University of Sharjah, Sharjah, UAE <sup>2</sup> Fujairah Research Centre, Fujairah, UAE
15:30-15:45	1570877861	<b>Air Quality Management Zonation using Spatial-Temporal Statistical Analysis, Dubai-UAE</b> <b>Authors:</b> Diena Walid Al Dogom <sup>1</sup> , Basma M. M. Samour <sup>2</sup> , Meera Rashid Al Shamsi <sup>3</sup> <sup>1</sup> University of Dubai, UAE <sup>2</sup> Research Assistant, UAE <sup>3</sup> MBRSC-H Remote Sensing Applications Unit, UAE
15:45-16:00	1570874113	<b>Smart Irrigation System Using Arduino</b> <b>Authors:</b> Elgaali Elgaali <sup>1</sup> , Jamil Al Titi <sup>2</sup> , Ahmed Ismail <sup>1</sup> , Omer Alhajri <sup>1</sup> <sup>1</sup> Department of Civil Engineering, Higher Colleges of Technology, Dubai, UAE <sup>2</sup> Department of Electrical Engineering, Higher Colleges of Technology, Dubai, UAE
16:00-16:15		<b>Break</b>
16:15-16:30	1570863383	<b>The effects of lighting quality on human productivity and illuminance comfort in a workplace: A sustainable Approach</b> <b>Authors:</b> Malak Majed <sup>1</sup> , Ragd Alharbat <sup>1</sup> , Alya Almualla <sup>1</sup> , Emad Mushtaha <sup>1</sup> <sup>1</sup> Department of Architectural Engineering, University of Sharjah, Sharjah, UAE
16:30-16:45	1570864411	<b>Current developments in nanomaterials to enhance CO2 desorption for energy-efficient solvents regeneration</b> <b>Authors:</b> Muhammad Waseem <sup>1</sup> , Mohamed Hassan Al-Marzouqi <sup>1</sup> , Nayef Ghasem <sup>1</sup> <sup>1</sup> Department of Chemical and Petroleum Engineering, United Arab Emirates University, Al Ain, UAE
16:45-17:00	1570869558	<b>Copper-mediated Signal Amplification at Novel Clay-based Sensors for the Electrochemical Detection of Nucleic Acids in Water Samples</b> <b>Authors:</b> Ayat Tawfiq Al Nimer <sup>1</sup> , Abdel-Nasser Kawde <sup>1</sup> , Abdelaziz Elgamouz <sup>1</sup> , Ihsan Shehadi <sup>1</sup> <sup>1</sup> Pure and Applied Chemistry Group, University of Sharjah, Sharjah, UAE
17:00-17:15	1570871585	<b>The Effect of Lighting Design on Female Customer Behavior in Supermarkets</b> <b>Authors:</b> Menatallah Ayman <sup>1</sup> , Sumaia Alshamsi <sup>1</sup> , Ibtihal Mkoubi <sup>1</sup> , Emad Mushtaha <sup>1</sup> <sup>1</sup> Department of Architectural Engineering, University of Sharjah, Sharjah, UAE
17:15-17:30	1570877884	<b>IOT and AI based Energy Monitoring and Control System for NZEB</b> <b>Authors:</b> Zaher Ahmed Altaf Ahmed <sup>1</sup> , Mir Sihab Bin Islam <sup>1</sup> , Ravishankar Dudhe <sup>1</sup> , Bhakti More <sup>1</sup> , Mirza Azmat Baig <sup>2</sup> <sup>1</sup> Manipal Academy of Higher Education, Dubai, UAE <sup>2</sup> Three Phase Technical Services LLC, Dubai, UAE
17:30-17:45	1570877682	<b>Building Extraction from RGB Images Using Mask R-CNN and Swin Transformer</b> <b>Authors:</b> Mohamed Barakat A. Gibril <sup>1</sup> , Rami Al-Ruzouq <sup>1</sup> , Abdallah Shanableh <sup>1</sup> , Ratiranjana Jena <sup>1</sup> , Mohammad Ali Khalil <sup>1</sup> , Helmi Zulhaidi Mohd Shafri <sup>2</sup> <sup>1</sup> University of Sharjah, Sharjah, UAE

		<sup>2</sup> <i>Universiti Putra Malaysia, Selangor, Malaysia</i>
17:45-18:00	1570873340	<p><b><i>Investigating the key components of walking behavior in Baghdad City</i></b></p> <p><b>Authors:</b> Farah Ahmed Subhi<sup>1</sup>, Dr. Abeer Khudhur Jameel<sup>1</sup></p> <p><sup>1</sup><i>Highway and Transportation Department, Mustansiriyah University, Baghdad, Iraq</i></p>

## Day 2 – Tuesday 21<sup>st</sup> February 2023

	Sub-Conference	Chairs	# of Papers
AMDM	Advanced Materials, Design, and Manufacturing.	Dr. Najeeb Khan <a href="mailto:nkhan1@hct.ac.ae">nkhan1@hct.ac.ae</a> , Dr. Mansoor Janjua <a href="mailto:mjanjua@hct.ac.ae">mjanjua@hct.ac.ae</a> .	34

<b>Tuesday, 21<sup>st</sup> February, 2023</b> Technical Session: Advanced Materials, Design, and Manufacturing 08:00–18:00, Room: Z240   Session Chair: Dr. Pradeep Hegde (8:00 – 10:30)/Dr. Yasser El Okda(10:30 – 13:00)/Dr. Hussein Alwedyan (14:00 – 16:00)/Dr. Abraham Mansouri (16:00 – 18:00)			
Time	Paper ID	Paper Title and Author(s)	
08:00–08:15	1570868627	<b><i>Slip Resistance Assessment of Ceramic Tiles: Significance for Averting Pedestrian Fall Incidence</i></b> In-Ju Kim <sup>1</sup> <sup>1</sup> University of Sharjah, United Arab Emirates	
08:15–08:30	1570869228	<b><i>Design and optimization of a fully compliant flexure hinge based soft prosthetic hand.</i></b> Mohamad A Raja <sup>1</sup> ; Ahmed Tarek Hamada <sup>1</sup> ; Mohammad Nazzal <sup>1</sup> ; Fadi Fawzi <sup>1</sup> ; Bassem Omar <sup>1</sup> <sup>1</sup> American University of Sharjah, United Arab Emirates	
08:30–08:45	1570869286	<b><i>Effect of vehicles exhaust pipe position on its aerodynamics</i></b> Moath Zaareer <sup>1</sup> ; Abdel-Hamid Ismail Mourad <sup>2</sup> ; Tariq Darabseh <sup>3</sup> ; Sanan Husain Khan <sup>2</sup> ; Mahmoud M Elgendi <sup>4</sup> <sup>1</sup> Khalifa University, United Arab Emirates <sup>2</sup> United Arab Emirates University, United Arab Emirates <sup>3</sup> Jordan University of Science and Technology, Jordan <sup>4</sup> UAE University & Minia University, United Arab Emirates	
08:45–09:00	1570869298	<b><i>Utilizing Green Concrete in Public Housing in the United Arab Emirates: Opportunities and Challenges</i></b> Abdalla Mahmoud Salim <sup>1</sup> University of Sharjah, United Arab Emirates <sup>1</sup>	
09:00–09:15	1570869450	<b><i>Modelling the Shear Strength of Trapezoidal Corrugated Web Steel Beams (TCWSB) Using Machine Learning</i></b> Mazen Adel Elbendary <sup>1</sup> ; Samer Barakat; Zaid Al Sadoon <sup>1</sup> <sup>1</sup> University of Sharjah, United Arab Emirates	
09:15–09:30	1570869502	<b><i>Finite element analysis of engineered cementitious composite beam-column connection under reverse cyclic loading</i></b> Mohamad Tarabin <sup>1</sup> ; Mohamed Maalej <sup>1</sup> ; Salah Al-Toubat <sup>1</sup> <sup>1</sup> University of Sharjah, United Arab Emirates	
09:30–09:45	1570869553	<b><i>On Structure Design Optimization of GaN Based Semiconductor Device for Reduced Trapping</i></b> Anwar Hasan Jarndal <sup>1</sup> ; Arivazhagan Lakshmanaperumal <sup>2</sup> <sup>1</sup> United Arab Emirates & University of Sharjah, United Arab Emirates <sup>2</sup> University of Sharjah, United Arab Emirates	
09:45–10:00	1570869569	<b><i>Crack Propagation Analysis using XFEM for Rock-Like Material under Compression Load</i></b> Abdullah Alsit <sup>1</sup> ; Mohammad Alkhedher <sup>1</sup> ; Omer Mughieda <sup>1</sup> ; Hasan Tariq Hamdan <sup>1</sup> ; Aghyad B Al Tahhan <sup>1</sup> ; Abdelkareem Alzo'ubi <sup>1</sup> <sup>1</sup> Abu Dhabi University, United Arab Emirates	
10:00–10:15	1570869584	<b><i>Impact of Field-Plate Structure on Parasitic Effects in GaN Based Transistor</i></b> Arivazhagan Lakshmanaperumal <sup>1</sup> ; Anwar Hasan Jarndal <sup>2</sup> <sup>1</sup> University of Sharjah, United Arab Emirates <sup>2</sup> United Arab Emirates & University of Sharjah, United Arab Emirates	
10:15–10:30	1570869605	<b><i>Tuned Liquid Dampers for Multi-Level Structures</i></b> Khaled M. Al-Arife <sup>1</sup> ; Osama Ahmed Mohamed <sup>1</sup> ; Ahmed E. Mohamed <sup>1</sup> ; Ahmed Shahid <sup>1</sup> <sup>1</sup> Abu Dhabi University, United Arab Emirates	

10:30–10:45	<b>Break</b>	
10:45–11:00	1570847715	<p style="text-align: center;"><b><i>Design of Wheelchair Using Rocker Bogie Mechanism</i></b></p> <p>Shivagond Nagappa Teli<sup>1</sup>; Umesh Bhushi<sup>2</sup>; Yayati Bhimrao Shinde<sup>3</sup>; Sandhya Jadhav<sup>4</sup>; Govind Jagtap<sup>4</sup></p> <p><sup>1</sup> University of Mumbai, India  <sup>2</sup> HCT, Abu Dhabi Women's Campus, United Arab Emirates  <sup>3</sup> University of Mumbai &amp; Bharati Vidyapeeth College of Engineering Navi Mumbai, India  <sup>4</sup> Bharati Vidyapeeth College of Engineering, India</p>
11:00–11:15	1570849804	<p style="text-align: center;"><b><i>Design and Analysis of Meat Grinding Machine</i></b></p> <p>Jaydeep Patil<sup>1</sup>; Yayati Bhimrao Shinde<sup>2</sup>; Umesh Bhushi<sup>3</sup>; Shivagond Nagappa Teli<sup>2</sup>; Sandhya Jadhav and Sandip Kanase<sup>1</sup>; Akash Wagh<sup>4</sup></p> <p><sup>1</sup> Bharati Vidyapeeth College of Engineering, India  <sup>2</sup> University of Mumbai &amp; Bharati Vidyapeeth College of Engineering Navi Mumbai, India  <sup>3</sup> HCT, Abu Dhabi Women's Campus, United Arab Emirates  <sup>4</sup> University of Mumbai, India</p>
11:15–11:30	1570869978	<p style="text-align: center;"><b><i>Study of resistance of crack propagation in Helical and Spur gears</i></b></p> <p>Moath Zaareer<sup>1</sup>; Ahmed I Alhatti<sup>1</sup>; Kin Liao<sup>2</sup></p> <p><sup>1</sup> Department of Mechanical Engineering, College of Engineering, Khalifa University,  <sup>2</sup> Department of Aerospace Engineering, Khalifa University of Science and Technology</p>
11:30–11:45	1570869991	<p style="text-align: center;"><b><i>Studying about changing in microstructure and properties of Copper alloy after the heat treatment process</i></b></p> <p>Vu Anh Tuan<sup>1</sup>; Nguyen Thi Hong Nhung<sup>2</sup>; Doan Xuan Xuan Truong<sup>3</sup>; Zafar Said, Z. Said<sup>4</sup>; Dinh Nguyen<sup>5</sup>; Khoa Nguyen Dang Pham<sup>6</sup></p> <p><sup>1</sup> Vietnam Maritime University, Vietnam  <sup>2</sup> Sao Do University, Vietnam  <sup>3</sup> Vietnam Maritime University, Vietnam  <sup>4</sup> University of Sharjah, United Arab Emirates &amp; National University of Sciences and Technology (NUST), Pakistan  <sup>5</sup> Ho Chi Minh University of Transport Ho Chi Minh City, Vietnam  <sup>6</sup> Ho Chi Minh University of Transport, Vietnam</p>
11:45–12:00	1570872316	<p style="text-align: center;"><b><i>Smart and Optimum Manufacturing of Fiber Reinforced Polymer (FRP) Composites - A review</i></b></p> <p>Sabin Kumar Mishra<sup>1</sup>; Yacouba Moumouni<sup>1</sup>; Mohammad Al Wedian<sup>1</sup></p> <p><sup>1</sup>HCT, United Arab Emirates</p>
12:00–12:15	1570872496	<p style="text-align: center;"><b><i>Study of Heat Transfer Augmentation Using Winglet Type Vortex Generators</i></b></p> <p>Pradeep Hegde<sup>1</sup>; Vinod Kotebavi<sup>2</sup>; Dheeraj Domala<sup>2</sup>; Ravi Kiran<sup>2</sup>; M. Vinay Kumar<sup>2</sup>; D. Bhargav Naidu<sup>2</sup></p> <p><sup>1</sup> Higher Colleges of Technology, United Arab Emirates  <sup>2</sup> Amrita University Bengaluru, India</p>
12:15–12:30	1570873013	<p style="text-align: center;"><b><i>A Numerical Simulation of The Inner Boundary Layer of a Circular Water Jet Impingement Over A Heated Plate</i></b></p> <p>Fahad Aslam Aslam<sup>1</sup>; Mohamed Gadala<sup>2</sup>; Mohammad S Khan<sup>3</sup>; Abdelrahman Hosny Gomaa<sup>4</sup></p> <p><sup>1</sup> Abu Dhabi University, United Arab Emirates  <sup>2</sup> UBC-University of British Columbia, Vancouver, Canada  <sup>3</sup> Abu Dhabi University, Canada  <sup>4</sup> Abu Dhabi University, United Arab Emirates</p>
12:30–12:45	1570873014	<p style="text-align: center;"><b><i>Two-Phase Cooling Phenomena of Heated Steel Surfaces Using Water Jet Impingement</i></b></p> <p>Fahad Aslam Aslam<sup>1</sup>; Mohamed Gadala<sup>2</sup>; Mohammad S Khan<sup>3</sup>; Abdelrahman Hosny Gomaa<sup>4</sup></p> <p><sup>1</sup> Abu Dhabi University, United Arab Emirates  <sup>2</sup> UBC-University of British Columbia, Vancouver, Canada  <sup>3</sup> Abu Dhabi University, Canada  <sup>4</sup> Abu Dhabi University, United Arab Emirates</p>
12:45–13:00	1570873226	<p style="text-align: center;"><b><i>Comparing mixing of wet and dry soda ash powder in horizontal rotating cylinder</i></b></p> <p>Amjad Shaikh<sup>1</sup></p> <p><sup>1</sup> Higher College of Technology, United Arab Emirates</p>

13:00-14:00	<b>Lunch Break</b>	
14:00-14:15	1570873232	<b><i>Load Response of a CI Engine Fueled with Biodiesel, and n-Butanol Blends</i></b> Pradeep Hegde <sup>1</sup> ; Sumesh Mohan <sup>2</sup> ; Debjyoti Sahu <sup>3</sup> <sup>1</sup> Higher Colleges of Technology, United Arab Emirates <sup>2</sup> Amrita Vishwa Vidyapeetham, Bangalore, India <sup>3</sup> Kalinga Institute of Industrial Technology, India
14:15-14:30	1570851955	<b><i>Classification of Human Images Applying Deep Learning Technique in Artificial Intelligence</i></b> Sathish Kumar <sup>1</sup> ; Srinivas Chakravarthy Koya <sup>2</sup> ; Shannon Stough <sup>1</sup> <sup>1</sup> Kennesaw State University, USA <sup>2</sup> Technogen Inc. USA, USA
14:30-14:45	1570873972	<b><i>Studies on Mechanical and Tribological Properties of Al6062 MMC's using Liquid Metallurgy Route for Commercial Engineering Applications</i></b> Chithirai Pon Selvan M <sup>1</sup> ; Mohammed Khan <sup>1</sup> ; Daniel Thangadurai <sup>2</sup> <sup>1</sup> Curtin University Dubai, United Arab Emirates <sup>2</sup> KPR Institute of Engineering and Technology Coimbatore, India
14:45-15:00	1570873974	<b><i>Studies of Al2219-SiC Composite Using Liquid Metallurgy: Effect of Mechanical and Wear Properties</i></b> Chukkala Dheeraj <sup>1</sup> ; S Naga Vamsi Ganesh <sup>1</sup> ; Karthikeyan C <sup>1</sup> ; Aryan Arudra <sup>1</sup> ; Chithirai Pon Selvan M <sup>2</sup> <sup>1</sup> Nitte Meenakshi Institute of Technology, India <sup>2</sup> Curtin University Dubai, United Arab Emirates
15:00-15:15	1570852637	<b><i>Review on Semi-Transparent Solar Cells: Applications, Recent Advances and Recent Transparent Conductive Electrode Materials</i></b> Ayman Housni Mdallal <sup>1</sup> ; Abdul Hai Alami <sup>1</sup> ; Mohammad Ali Abdelkareem <sup>1</sup> ; Abdul Ghani Olabi <sup>1</sup> ; Mohamad A Ayoub <sup>1</sup> ; Adnan Alashkar <sup>2</sup> ; Ahmad Yasin <sup>2</sup> ; Haya Rami Al Jaghoub <sup>1</sup> ; Rashid Al Rashid <sup>2</sup> ; Shamma Alasad <sup>2</sup> <sup>1</sup> University of Sharjah, United Arab Emirates <sup>2</sup> American University of Sharjah, United Arab Emirates
15:15-15:30	1570873991	<b><i>Energy Pile Performance and Design: A State-of-the-Art Review</i></b> Ahmed Mohsen Khalil <sup>1</sup> ; Mousa Attom <sup>1</sup> ; Zahid Khan <sup>1</sup> ; Oussama El-Kadri <sup>1</sup> <sup>1</sup> American University of Sharjah, United Arab Emirates
15:30-15:45	1570874002	<b><i>An Overview of 3D Printed Concrete: Material Properties, Sustainability, Future Opportunities and Challenges</i></b> Osama Ahmed Mohamed <sup>1</sup> ; Anamika Mishra <sup>1</sup> ; Feda A Elhafiz <sup>1</sup> ; Eman Ahmed <sup>1</sup> <sup>1</sup> Abu Dhabi University, United Arab Emirates
15:45-16:00	1570856932	<b><i>Use of Functional Yarns to Design Advanced Materials with Improved Transfer Properties</i></b> Ivana Salopek Čubrić <sup>1</sup> ; Goran Čubrić <sup>1</sup> ; Antonija Petrov <sup>1</sup> <sup>1</sup> University of Zagreb, Croatia
16:00-16:15	<b>Break</b>	
16:15-16:30	1570874057	<b><i>Fabrication and Characterization of Al6061 Multi Walled Carbon Nanotube Metal Matrix Composite processed by Multi Directional Forging</i></b> Manjunath L H <sup>1</sup> ; Chithirai Pon Selvan M <sup>2</sup> ; Rahul Raju S <sup>1</sup> ; Raghavendra N Doddamani <sup>1</sup> ; Rahul M S; Preetham T N <sup>1</sup> <sup>1</sup> REVA University, India <sup>2</sup> Curtin University Dubai, United Arab Emirates
16:30-16:45	1570874265	<b><i>Sustainable Materials for Energy Improvement and Fire Protection of Buildings</i></b> Marios Valanides <sup>1</sup> ; Robert Ponsian M. <sup>2</sup> ; Ioanna Giannopoulou <sup>2</sup> ; Pericles Savva <sup>3</sup> ; Demetris Nicolaides <sup>1</sup> <sup>1</sup> RECS Civil Engineers & Partners LLC, Cyprus <sup>2</sup> Frederick Research Center, Cyprus <sup>3</sup> RECS Civil Engineers and Partners LLC, Cyprus
16:45-17:00	1570874421	<b><i>Investigating The impact of Sampling Techniques on an Imbalanced Classification Problem</i></b>

		Dina Shehada <sup>1</sup> ; Sudad Muammar <sup>1</sup> ; Maryam Ali Amour <sup>1</sup> ; Ahmed Bouridane <sup>2</sup> <sup>1</sup> University of Dubai, United Arab Emirates <sup>2</sup> University of Sharjah, United Arab Emirates
17:00–17:15	1570863942	<b><i>Utilization of Volcanic Red Cinder as an Aggregate In Lightweight Concrete and Rice Husk Ash as a Partial Replacement for Cement</i></b> Trisha Joyce J Zacate <sup>1</sup> ; Clariza Mae D. Pernia <sup>2</sup> ; Alec Karlos S Testa <sup>2</sup> ; Jose Arnel P Juan <sup>2</sup> <sup>1</sup> Mapua University, Philippines <sup>2</sup> Civil Engineering, Philippines
17:15–17:30	1570874505	<b><i>Enhancement of Water Absorption Properties of Date Palm fibers-based Composites via Alkaline Treatment</i></b> Hyder Al Abdallah <sup>1</sup> ; Basim Abu-Jdayil <sup>1</sup> <sup>1</sup> United Arab Emirates University, United Arab Emirates
17:30–17:45	1570874600	<b><i>Modeling of Service Life of Sustainable High-Strength Concrete in Harsh Environmental Conditions in the UAE</i></b> Nour Ghazal Aswad <sup>1</sup> ; Adil Al-Tamimi <sup>1</sup> <sup>1</sup> American University of Sharjah, United Arab Emirates
17:45–18:00	1570874654	<b><i>Designing Indoor and Outdoor Air Quality Monitoring and Purifying System</i></b> Amnah M. Alramsi <sup>1</sup> ; Hoor J. J. Al Ali <sup>1</sup> ; Sara A. Alblooshi <sup>1</sup> ; Soliman Mahmoud <sup>1</sup> <sup>1</sup> University of Sharjah, United Arab Emirates

## Day 3 – Wednesday 22<sup>nd</sup> February 2023

	Sub-Conference	Chairs	# of Papers
BME	Biomedical Engineering.	Dr. Walid Zgallai <a href="mailto:wzgallai@hct.ac.ae">wzgallai@hct.ac.ae</a> , Dr. Abdullah Desmal <a href="mailto:adesmal@hct.ac.ae">adesmal@hct.ac.ae</a>	34

**Wednesday, 22<sup>nd</sup> February, 2023**  
 Technical Session: Biomedical Engineering.  
 08:00–18:00, Room: Z241 | Session Chair: Prof Tamer Sanildag and Yacouba Moumouni (8:00-10:30), Dr. Walid Zgallai (10:45-13:00), Dr. Walid Zgallai (14:00-16:00), Dr. Yacouba Moumouni and Abdulla Desmal (16:15-17:15).

Time	Paper ID	Paper Title and Author(s)
08:00–08:15	1570873140	<b><i>Application of dielectric based microfluidic devices in cancer cell</i></b> Suhada Poovathy, Afsar Husain, Abdul Hanan United Arab Emirates University, United Arab Emirates
08:15–08:30	1570873537	<b><i>Drug-Delivery Nanoparticles with Conventional Treatment Approaches for Cancer Tumors; A Comparative Study Using MCDM Tool</i></b> Efe Precious Onakpojeruo, Dilber Uzun Ozsahin, Berna Uzun University of Sharjah, Sharjah, UAE Near East University, Nicosia, North Cyprus
08:30–08:45	1570874104	<b><i>Wireless Microwave Biosensors: The Effect of Sample Size and Sample Location on Sensitivity</i></b> Kamran Arif, Anwar Hasan Jarndal, E'qab Almajali Jamia Millia Islamia New Delhi, India University of Sharjah, United Arab Emirates University of Sharjah, United Arab Emirates
08:45–09:00	1570874139	<b><i>Mxene/Polydimethylsiloxane (PDMS) Based Implantable and Flexible Bioelectrodes for Neural Sensing</i></b> Kashif Khan, Amani Al-Othman, Hasan Al-Nashash, Mohammad Al-Sayah American University of Sharjah, United Arab Emirates
09:00–09:15	1570874209	<b><i>Foot hemodynamics using optical tomography: A potential biomarker of peripheral arterial disease</i></b> Rabah Al Abdi, Amer Zakaria, Hasan Al-Nashash, Tasnim Zalak, Nandu Goswami, Vishwa Jeet Jordan University of Science and Technology, Jordan American University of Sharjah, United Arab Emirates Mohammed Bin Rashed University of Medicine and Health Sciences, United Arab Emirates
09:15–09:30	1570874235	<b><i>Selection Methods for the Treatment of Spinal Cord Tumors Using Analytical Evaluation Models</i></b> Dilber Uzun Ozsahin, Efe Precious Onakpojeruo, Berna Uzun, Ilker Ozsahin University of Sharjah, Sharjah, UAE Near East University, Turkey Operational Research Center in Healthcare, NEU, Turkey
09:30–09:45	1570870883	<b><i>Telehealth transformation: An evidence based on US job posting data during COVID-19</i></b> Himanshu Upadhyay, Mecit Can Emre Simsekler, Maher Maalouf, Mohammad Omar, Siddiq Anwar. Khalifa University, United Arab Emirates SEHA, United Arab Emirates
09:45–10:00	1570874458	<b><i>Reinforcement Learning Human Inverse Kinematics of an Upper Limb Exoskeleton Robot</i></b> Mahmoud Abdallah, Raouf Fareh, Maarouf Saad, Yassine Kali, Mamar Bettayeb Ecole de Technologie Superieure, Canada University of Sharjah Electrical Engineering, United Arab Emirates University of Quebec, Canada École de Technologie Supérieure, Canada
10:00–10:15	1570874464	<b><i>Medical Reports Summarization Using Text-To-Text Transformer</i></b> Abdulkader Helwan, Danielle Azar, Dilber Uzun Ozsahin

		Lebanese American University, Lebanon University of Sharjah, Sharjah, UAE Near East University, Nicosia, North Cyprus
10:15–10:30	1570874522	<b><i>Design and Simulation of High Performing Hemodialyzer Membranes to Determine their Efficiency</i></b> Ahana Fatima Alex, Ravishankar Dudhe, R Vinoth Nair MANIPAL ACADEMY OF HIGHER EDUCATION, DUBAI CAMPUS, United Arab Emirates MIT, MAHE Manipal Karnataka India, India
10:30–10:45	<b>Break</b>	
10:45–11:00	1570874727	<b><i>Finite Element Analysis of Femur Bone Implant</i></b> Jaydeep S. Patil, Yayati Bhimrao Shinde, Shivagond Nagappa Teli, Sandhya Jadhav, Umesh Bhushi, Archana Shinde University of Mumbai, India Bharati Vidyapeeth College of Engineering, India HCT, Abu Dhabi Women's Campus, United Arab Emirates
11:00–11:15	1570874833	<b><i>Evaluation of Radiation Projection Awareness Among Nurses: A Cross-Sectional Study</i></b> Leena R David, Meliz Yuvalı, Dilber Uzun Ozsahin University of Sharjah, United Arab Emirates Near East University, Turkey
11:15–11:30	1570874876	<b><i>Design and Development of a Matrix-based Heating and Cooling Therapy Pad to Relieve Muscle Injury-Induced Body Pain</i></b> Siddhant Shrivastava, Janakarajan Ramkumar Indian Institute of Technology Kanpur, India
11:30–11:45	1570875225	<b><i>A Design Thinking Framework to Enhance Patient Waiting Experience in Healthcare</i></b> Hadia Hannan, Mohammad AlShurbaji, Abdulrahim Shamayleh American University of Sharjah, United Arab Emirates
11:45–12:00	1570875430	<b><i>Role of Initial Chest Imaging In Managing Symptomatic Patients of COVID-19 in Correlation with PCR Tests at Screening Centres of Primary Health Care in Dubai</i></b> Deepthy Mathew, Meliz Yuvalı, Leena R David Dubai Health Authority, United Arab Emirates Near East University, Turkey University of Sharjah, United Arab Emirates
12:00–12:15	1570875583	<b><i>Evaluating Different Types of Treatment for Osteoporosis Using Fuzzy PROMETHEE</i></b> Berna Uzun, Leena R David, Dilber Uzun Ozsahin, Meliz Yuvalı Near East University, Turkey University of Sharjah, United Arab Emirates
12:15–12:30	1570875740	<b><i>Photoplethysmography Based Blood Glucose Estimation Using Convolutional Neural Network</i></b> Saifeddin Alghlayini, Asmaa Hosni, Mohamed Atef United Arab Emirates University Al Ain, United Arab Emirates
12:30–12:45	1570875808	<b><i>Detecting Vitamin A Deficiency in Schoolchildren Using an Enhanced Explainable Machine Learning Model</i></b> Hana Sulieman, Diaa Addeen Abuhani, Jowaria Khan American University of Sharjah, United Arab Emirates
12:45–13:00	1570875980	<b><i>Classification of Mental Stress using Dry EEG Electrodes and Machine Learning</i></b> Yara Badr, Fares Al-Shargie, Usman Tariq, Fabio Babiloni, Fadwa Al Mughairbi, Hasan Al-Nashash American University of Sharjah, United Arab Emirates University of Rome Sapienza, Italy United Arab Emirates University, United Arab Emirates
13:00–14:00	<b>Lunch Break</b>	
14:00–14:15	1570876502	<b><i>Modeling of electro-osmotic mixing with heterogeneous surface charges</i></b> Ahmed Tarek Hamada, Mohamed Yasser American University of Sharjah, United Arab Emirates

14:15-14:30	1570876563	<b><i>A Survey on the Emerging Trend of Human Microchip Implants And Their Potential</i></b> Ltifa Al Mansoori, Fady Alnajjar United Arab Emirates University, United Arab Emirates
14:30-14:45	1570876654	<b><i>DUDetector: Detecting Depressed Users in Twitter Using Deep Learning</i></b> Zaher Al Aghbari, Aghyad AL Sayadi University of Sharjah, United Arab Emirates University of Sharjah, United Arab Emirates
14:45-15:00	1570876878	<b><i>Portable Instrument for Precise Ethanol Content Measurement in Sanitizers</i></b> Abdellatif Bouchalkha, Safa Alhosani, Abdalla Hableel, Evgeny Lonshakov, Juan Coronel, Steevy Joyce Cordette, Chaouki Kasmi Technology Innovation Institute, United Arab Emirates
15:00-15:15	1570877038	<b><i>Carbon dot-doped PDMS composites for flexible electrode applications</i></b> Amaal A Ali, Mohammad Al-Sayah, Amani Al-Othman, Hasan Al-Nashash American University of Sharjah, United Arab Emirates
15:15-15:30	1570877129	<b><i>Personalized Alarming System for Asthma Management Based on Lung Functionality: Observational Study</i></b> Fatima Alblooshi, Reem Albadi, Khawla Alblooshi, Emma Ishimirwe, Yvette Uwisoneye, Duaa Mehiar, Fady Alnajjar United Arab Emirates University, United Arab Emirates
15:30-15:45	1570877518	<b><i>Mental Stress Assessment Using Low in Cost Single Channel EEG System</i></b> Lamis Abdul Kader, Fares Al-Shargie, Usman Tariq, Hasan Al-Nashash American University of Sharjah, United Arab Emirates
15:45-16:00	1570877805	<b><i>Temperature Sensor Analog Front-End Based on CFOA</i></b> Shahrazad Mohammad Ghasemi, Soliman Mahmoud University of Sharjah, United Arab Emirates
16:00-16:15	<b>Break</b>	
16:15-16:30	1570877848	<b><i>A review: Nanoparticles as drug delivery systems across the blood-brain barrier</i></b> Zahra Faiyaz Shekason, Reshmi Nair Amity University Dubai, United Arab Emirates
16:30-16:45	1570877851	<b><i>Smart COVID-19 Spread Control for Indoor Environments</i></b> Mariam Alalili, Salama Al-Ali, Shaikah Alketbi, E'qab Almajali University of Sharjah, United Arab Emirates
16:45-17:00	1570877852	<b><i>Whole Body Vibration Effects on Balance Control and Functional Mobility: A Randomized Controlled Trial</i></b> Noor Alzaben, In-Ju Kim University of Sharjah, United Arab Emirates
17:00-17:15	1570866734	<b><i>Trained Electromagnetic Imaging Approach based on Born Iterative Method</i></b> Abdulla Desmal Higher Colleges of Technology, RAK, UAE.
17:15-17:30		
17:30-17:45		
17:45-18:00		

## Day 3 – Wednesday 22<sup>nd</sup> February 2023

	Sub-Conference	Chairs	# of Papers
RSE	Renewable and Sustainable Energy	Dr. Azzeddine Ferrah <a href="mailto:aferrah@hct.ac.ae">aferrah@hct.ac.ae</a>	10
SEUI	Sustainable Environment and Urban Infrastructure	Dr. Anf Ziadat <a href="mailto:aziadat@hct.ac.ae">aziadat@hct.ac.ae</a> Dr. Ahmed Al-qarawi <a href="mailto:aalqarawi@hct.ac.ae">aalqarawi@hct.ac.ae</a>	21
AMDM	Advanced Materials, Design, and Manufacturing.	Dr. Najeeb Khan <a href="mailto:nkhan1@hct.ac.ae">nkhan1@hct.ac.ae</a> , Dr. Mansoor Janjua <a href="mailto:mjanjua@hct.ac.ae">mjanjua@hct.ac.ae</a> .	3

### Wednesday, 22<sup>nd</sup> February, 2023

Technical Session: Renewable and Sustainable Energy  
08:00–10:30, Room: Z243 | Session Chair: Dr. Farid Flitti

Time	Paper ID	Paper Title and Author(s)
08:00–08:15	1570877763	<b><i>Sustainability Analysis of Biogas Systems for Decentralized Waste Management</i></b> Zakiya Rahmat-Ullah, Mohamed Abdallah, Abdallah Shanableh and Sourjya Bhattacharjee ( <i>University of Sharjah, UAE</i> ); Majid Sartaj ( <i>University of Ottawa, UAE</i> )
08:15–08:30	1570874070	<b><i>Purifying of Biogas Produced from Anaerobic Digestions Processes: An Economical Assessment</i></b> Noor Yusuf and Fares Almomani ( <i>Qatar University, Qatar</i> ); Muhammad Tawalbeh ( <i>SREE, University of Sharjah, UAE</i> ); Amani Al-Othman ( <i>American University of Sharjah, UAE</i> )
08:30–08:45	1570874220	<b><i>Prospective of Nanocatalysts in Transesterification Process for the Biodiesel Production</i></b> Sara M. Asaad ( <i>Biomass and Bioenergy Research Group, Research Institute of Sciences and Engineering</i> ); Abrar Inayat ( <i>University of Sharjah, UAE</i> ); Farrukh Jamil ( <i>COMSATS University Islamabad, Pakistan</i> ); Chaouki Ghenai and Abdallah Shanableh ( <i>University of Sharjah, UAE</i> )
08:45–09:00	1570869381	<b><i>Production of Fertilizer and Bio-Gas from Farm Waste</i></b> Mahmoud Sheikh Sobeh; Abdel-Hamid Ismail Mourad ( <i>UAE University, UAE</i> ); Mohammad Alkhedher ( <i>Abu Dhabi University, UAE</i> )
09:00–09:15	1570874063	<b><i>Novel Chitosan-Based Composite Membranes for Fuel Cells Applications</i></b> Muhammad Tawalbeh ( <i>SREE, University of Sharjah, UAE</i> ); Amani Al-Othman, Muhammad F. Hassan and Ahmad Ka'ki ( <i>American University of Sharjah, UAE</i> ); Shima Shafie ( <i>University of Sharjah, UAE</i> ); Fares Almomani ( <i>Qatar University, Qatar</i> )
09:15–09:30	1570874081	<b><i>Strach/Chitosan Membranes for PEM Fuel Cells Applications</i></b> Amani Al-Othman ( <i>American University of Sharjah, UAE</i> ); Muhammad Tawalbeh ( <i>SREE, University of Sharjah, UAE</i> ); Ahmad Ka'ki ( <i>American University of Sharjah, UAE</i> ); Shima Shafie ( <i>University of Sharjah, UAE</i> ); Muhammad F. Hassan ( <i>American University of Sharjah, UAE</i> ); Fares Almomani ( <i>Qatar University, Qatar</i> )
09:30–09:45	1570874086	<b><i>Proton conductivity studies on Covalent Organic Frameworks (COFs) For the application of high-temperature fuel cells</i></b> Amani Al-Othman ( <i>American University of Sharjah, UAE</i> ); Muhammad Tawalbeh ( <i>SREE, University of Sharjah, UAE</i> ); Oussama El-Kadri ( <i>American University of Sharjah, UAE</i> ); Shima Shafie ( <i>University of Sharjah, UAE</i> ); Ahmad Ka'ki ( <i>American University of Sharjah, UAE</i> ); Fares Almomani ( <i>Qatar University, Qatar</i> )
09:45–10:00	1570864328	<b><i>Fuzzy Logic approach based predicting power output of PV panel in desert environment</i></b> Hussain Attia; Muataz Hazza F. Al Hazza ( <i>American University of Ras Al Khaimah, UAE</i> ); Khaled Hossin ( <i>American University of Ras Al Khaimah &amp; University of Benghazi, UAE</i> )
10:00–10:15	1570873262	<b><i>A Fast and Efficient MPPT Technique for PV Systems Using Divide and Conquer</i></b> Nabil Karami ( <i>Higher Colleges of Technology, UAE</i> ); Elias Saleh ( <i>Saint-Joseph University, Lebanon</i> )

10:15–10:30	1570875105	<b>Digital Twinning and ANN-based Forecasting Model for Building Energy Consumption</b> Omar Ahmed Al-Mufti and Omar Adil Al Isawi ( <i>Khalifa University of Science and Technology, UAE</i> ); Lutfi Hatem Amirah and Chaouki Ghenai ( <i>University of Sharjah, UAE</i> )
10:30–10:45	<b>Break</b>	
<b>Wednesday, 22<sup>nd</sup> February, 2023</b> Technical Session: Sustainable Environment and Urban Infrastructure 10:45–17:15, Room: Z243   Session Chair: .....		
10:45–11:00	1570841991	<b>Distinct Numerical Modeling Of Jointed Synthetic Rock Under Axial Loading</b> <b>Authors:</b> Abdel Kareem Alzo'ubi <sup>1</sup> , Omer Mughieda <sup>1</sup> <sup>1</sup> <i>Department of Civil Engineering, Abu Dhabi University, Al Ain, UAE</i>
11:00–11:15	1570877695	<b>Evaluation Of The Effectiveness of EPS Geofom Inclusion In The Approaches Of Integral Abutment Bridges</b> <b>Authors:</b> Ahmed Al-qarawi <sup>1</sup> , Chin Leo <sup>2</sup> , Samantha Liyanapathirana <sup>2</sup> , Anf Ziadat <sup>1</sup> , Sokrates Ionnou <sup>1</sup> , Lila Sigdel <sup>2</sup> <sup>1</sup> <i>Civil Engineering Department, Higher Colleges of Technology, Abu Dhabi, UAE</i> <sup>2</sup> <i>Western Sydney University, Australia</i>
11:15–11:30	1570877856	<b>Impact of Nano Silica on Mitigating the Aging of Asphalt Binder</b> <b>Authors:</b> Kussai Alraini <sup>1</sup> , Helal Ezzat <sup>1</sup> , Abdulmalek Abttan <sup>1</sup> , Waleed Zeiada <sup>1</sup> , Ghazi Al-Khateeb <sup>1</sup> <sup>1</sup> <i>University of Sharjah, Sharjah, UAE</i>
11:30–11:45	1570877873	<b>Impact of High-Density Polyethylene Recycled from Waste Milk Bottles on Asphalt Binder's Performance Under UAE's Climate Conditions</b> <b>Authors:</b> Osama F.S. Abushaban <sup>1</sup> , Kussai Alraini <sup>1</sup> , Helal Ezzat <sup>1</sup> , Waleed Zeiada <sup>1</sup> , Ghazi Al-Khateeb <sup>1</sup> <sup>1</sup> <i>University of Sharjah, Sharjah, UAE</i> <sup>2</sup> <i>Dhofar University, Salalah, Oman</i>
11:45–12:00	1570877865	<b>International Roughness Index Modeling utilizing Adaptive Neuro-Fuzzy Inference System (ANFIS)</b> <b>Authors:</b> Ala Sati <sup>1</sup> , Khalid Hamad <sup>1</sup> , Saleh Abu Dabous <sup>1</sup> <sup>1</sup> <i>University of Sharjah, Sharjah, UAE</i>
12:00–12:15	1570861294	<b>An Empirical Roundabout Capacity Prediction Model Based on Actual Gap Acceptance</b> <b>Authors:</b> Putu Mandiartha <sup>1</sup> , Majid Al Jahdhami <sup>2</sup> , Hilal Al-Alawi <sup>2</sup> , Intan Suhana Mohd Razelan <sup>3</sup> <sup>1</sup> <i>Civil Engineering Department, Higher Colleges of Technology, Dubai, UAE</i> <sup>2</sup> <i>Department of civil engineering and quantity surveying, Military Technological College, Muscat, Oman</i> <sup>3</sup> <i>Faculty of civil engineering technology, Universiti Malaysia Pahang, Kuantan, Malaysia</i>
12:15–12:30	1570877739	<b>Visibility Prediction through Machine Learning: Exploring the Role of Meteorological Factors</b> <b>Authors:</b> Sham Marwan Mirou <sup>1</sup> , Ahmed Talat Elawady <sup>1</sup> , Ayat Gamal Ashour <sup>1</sup> , Waleed Zeiada <sup>1</sup> , Muamer Abuzwidah <sup>1</sup> <sup>1</sup> <i>University of Sharjah, Sharjah, UAE</i>
12:30–12:45	1570861411	<b>Embedding Application Security Requirements within Software Development Lifecycle (SDLC) for in-house software development in the Roads and Transport Authority in Dubai</b> <b>Authors:</b> Saida Harguem <sup>1</sup> , Ahmed Sufyan <sup>2</sup> , Raed Saeed <sup>1</sup> , Said Baadel <sup>3</sup> <sup>1</sup> <i>Faculty of Management, Canadian University Dubai, Dubai, UAE</i> <sup>2</sup> <i>Operations and Applications Support, Roads and Transport Authority, Dubai, UAE</i> <sup>3</sup> <i>Dept. of Mathematics and Computing, Mount Royal University, Calgary, Canada</i>
12:45–13:00	1570877656	<b>Spatiotemporal Analysis of Property Damage Only Accidents Hotspots using GIS in Sharjah, UAE</b> <b>Authors:</b> Hussain Alechleh <sup>1</sup> , Lubna Obaid <sup>1</sup> , Rami Al-Ruzouq <sup>1</sup> , Khaled Hamad <sup>1</sup> <sup>1</sup> <i>University of Sharjah, Sharjah, UAE</i>
13:00–14:00	<b>Lunch Break</b>	

14:00–14:15	1570869167	<b>Collision Rate of Hybrid Autonomous/Non-Autonomous Driving in Smart City: Case Study of Deira-Dubai</b> <b>Authors:</b> Paweł Kołodziejcki <sup>1</sup> , Anwar Jarndal <sup>1</sup> , Eqab Almajali <sup>1</sup> <sup>1</sup> Department of Electrical Engineering, University of Sharjah, Sharjah, UAE
14:15–14:30	1570875180	<b>Traffic Accident Severity Prediction Model using AI</b> <b>Authors:</b> Saeed Mohammed Sadeque Hamdan <sup>1</sup> , Samer A. Barakat <sup>1</sup> , Khaled Hossam Mahfouz <sup>1</sup> <sup>1</sup> Ajman University, Ajman, United Arab Emirates
14:30–14:45	1570877844	<b>Investigating the Flexible Airfield Pavement Response Using Two Different Analysis Approaches</b> <b>Authors:</b> Ayat Gamal Ashour <sup>1</sup> , Hussain Osama Hussain Salah <sup>1</sup> , Sham Marwan Mirou <sup>1</sup> , Waleed Zeiada <sup>1</sup> <sup>1</sup> University of Sharjah, Sharjah, UAE
14:45–15:00	1570875011	<b>Assessing Urban Design Appropriateness for Shared e-Scooters Micromobility in Existing Neighbourhoods: A Case Study in Al Ain, UAE</b> <b>Authors:</b> Khaled Galal Ahmed <sup>1</sup> , Baraah Hamdoun <sup>1</sup> , Noor Abdelwahed <sup>1</sup> , Sohila Elsayed Abdelrehim <sup>1</sup> , Raghad Younes <sup>1</sup> <sup>1</sup> Architecture Engineering Dept., United Arab Emirates University, Al Ain, UAE
15:00–15:15	1570877850	<b>Mapping the Interaction of Weather and Accident Risk: A Hotspot Analysis</b> <b>Authors:</b> Ahmed Talat Elawady <sup>1</sup> , Muamer Abuzwidah <sup>1</sup> , Waleed Zeiada <sup>1</sup> , Khalid Ahmed AlKaaf <sup>2</sup> <sup>1</sup> University of Sharjah, Sharjah, UAE <sup>2</sup> Dhofar University, Salalah, Oman
15:15–15:30	1570877461	<b>A review of Renewable Energy &amp; Smart Grid system applications in railways</b> <b>Authors:</b> Prashant Gore <sup>1</sup> , Dr. Ravishankar Dudhe <sup>1</sup> , Dr. Roma Raina <sup>1</sup> <sup>1</sup> Manipal Academy of Higher Education Dubai, UAE
15:30–15:45	1570877885	<b>Young Drivers Safety Evaluation In the UAE</b> <b>Authors:</b> Moza Alsuwaidi <sup>1</sup> , Roa'a Masadeh <sup>1</sup> , Afra Alteneiji <sup>1</sup> , Muamer Abuzwidah <sup>1</sup> <sup>1</sup> University of Sharjah, Sharjah, UAE
15:45–16:00	1570877878	<b>Pedestrian Safety Evaluation in the UAE</b> <b>Authors:</b> Sheikha Alsuwaidy <sup>1</sup> , Fatma Ahmad Hokal <sup>1</sup> , Marwa Khalid Alameeri <sup>1</sup> , Muamer Abuzwidah <sup>1</sup> <sup>1</sup> University of Sharjah, Sharjah, UAE
16:00–16:15		<b>Break</b>
16:15–16:30	1570876133	<b>Spatiotemporal Analysis for COVID-19 Dynamic Spread, Dubai – UAE</b> <b>Authors:</b> Diena Aldogom <sup>1</sup> , Marwa Chendeb Elrai <sup>1</sup> , Mina Al-Saad <sup>1</sup> , Nour Aburaed <sup>1</sup> , Basma Samour <sup>1</sup> , Saeed Al Mansoori <sup>2</sup> , Hussain Al Ahmad <sup>1</sup> <sup>1</sup> College of Engineering and IT, University of Dubai, Dubai, UAE <sup>2</sup> Mohammed Bin Rashid Space Centre, Dubai, UAE
16:30–16:45	1570865650	<b>Exploring the Flow of Solar Sphere Using PIV</b> <b>Authors:</b> Hassan Abdulmouti <sup>1</sup> , Shaikha Alblooshi <sup>1</sup> , Zakwan Skaf <sup>1</sup> , Saeed Abdunaser Saeed Almheiri <sup>1</sup> <sup>1</sup> Department of Mechanical Engineering, Higher Colleges of Technology, Sharjah, UAE
16:45–17:00	1570877712	<b>Earthquake Risk Assessment Using Xtreme Learning Machine and Remote Sensing</b> <b>Authors:</b> Ratiranjan Jena <sup>1</sup> , Abdallah Shanableh <sup>1</sup> , Rami Al-Ruzouq <sup>1</sup> , Mohammed Barakat A. Gibril <sup>1</sup> <sup>1</sup> University of Sharjah, Sharjah, UAE
17:00–17:15	1570877839	<b>Overview of Circular Economy Strategies in the Construction Industry</b> <b>Authors:</b> Maryam Al Ahimer <sup>1</sup> , Salwa Beheiry <sup>1</sup> <sup>1</sup> American University of Sharjah, Sharjah, United Arab Emirates
17:15–17:30		
17:30–17:45		
17:45–18:00		

## Day 3 – Wednesday 22<sup>nd</sup> February 2023

	Sub-Conference	Chairs	# of Papers
AMDM	Advanced Materials, Design, and Manufacturing.	Dr. Najeeb Khan <a href="mailto:nkhan1@hct.ac.ae">nkhan1@hct.ac.ae</a> , Dr. Mansoor Janjua <a href="mailto:mjanjua@hct.ac.ae">mjanjua@hct.ac.ae</a> .	10
IoTMA	Mechatronics, Industry 4.0, IoT and their Applications.	Dr. Mohanad Alata <a href="mailto:malata@hct.ac.ae">malata@hct.ac.ae</a> , Dr. Saleh Ahmad <a href="mailto:sahmad@hct.ac.ae">sahmad@hct.ac.ae</a>	17
RSE	Renewable and Sustainable Energy	Dr. Azzeddine Ferrah <a href="mailto:aferrah@hct.ac.ae">aferrah@hct.ac.ae</a>	7

### Wednesday, 22<sup>nd</sup> February, 2023

Technical Session: Advanced Materials, Design, and Manufacturing  
08:00–10:30, Room: Z240 | Session Chair: Dr. Renuka Seenivasan

Time	Paper ID	Paper Title and Author(s)
08:00–08:15	1570875670	<b><i>Selective Laser Melting Parametric Optimization for Microhardness of 17-4 PH Stainless Steel Parts</i></b> Priya Sahadevan <sup>1</sup> ; Chithirai Pon Selvan M <sup>2</sup> ; Amiya Bhaumik <sup>1</sup> ; Avinash Lakshmikanthan <sup>3</sup> <sup>1</sup> Lincoln University College, Malaysia <sup>2</sup> Curtin University Dubai, United Arab Emirates <sup>3</sup> Nitte Meenakshi Institute of Technology, India
08:15–08:30	1570875675	<b><i>Surface Roughness Optimization of Selective Laser Melting printed 17-4 PH Stainless Steel Parts</i></b> Priya Sahadevan <sup>1</sup> ; Chithirai Pon Selvan M <sup>2</sup> ; Amiya Bhaumik <sup>1</sup> ; Avinash Lakshmikanthan <sup>3</sup> <sup>1</sup> Lincoln University College, Malaysia <sup>2</sup> Curtin University Dubai, United Arab Emirates <sup>3</sup> Nitte Meenakshi Institute of Technology, India
08:30–08:45	1570866685	<b><i>Design and Development of a Subsonic Wind Tunnel for Aerodynamics Studies</i></b> Mohamad Abdallah <sup>1</sup> ; Mohammed Alavi <sup>1</sup> ; Sharul Sham Dol <sup>1</sup> <sup>1</sup> Abu Dhabi University, United Arab Emirates
08:45–09:00	1570876132	<b><i>Recent advances in the role of auxetics in Biomedical Engineering</i></b> Latifa Al-Yabhouni <sup>1</sup> ; Maitha Al Shamsi <sup>1</sup> ; Abdel-Hamid Ismail Mourad <sup>1</sup> <sup>1</sup> UAEU, United Arab Emirates
09:00–09:15	1570876186	<b><i>Atmospheric Propagation Channel Emulation for Free Space Optics Applications</i></b> Karim Elayoubi <sup>1</sup> ; Juan Coronel <sup>1</sup> ; Asma Al Ahmadi <sup>1</sup> ; Guillaume Matras <sup>1</sup> ; Chaouki Kasmi <sup>1</sup> ; Jawaher Alameri <sup>1</sup> ; Ali Alblooshi <sup>1</sup> ; Safa Alhosani <sup>1</sup> ; Abdellatif Bouchalkha <sup>1</sup> <sup>1</sup> Technology Innovation Institute, United Arab Emirates
09:15–09:30	1570876288	<b><i>Performance of Bio-Oil Modified Asphalt Binders Containing Warm-mix Additives</i></b> Mohammed Wajeed Younus <sup>1</sup> ; Khalid A. Ghuzlan <sup>2</sup> ; Helal Ezzat <sup>3</sup> ; Waleed Zeiada <sup>4</sup> ; Ghazi Al-Khateeb <sup>5</sup> <sup>1</sup> University of Sharjah & Al-Huda University Collage, Iraq <sup>2</sup> Ajman University, United Arab Emirates <sup>3</sup> University of Sharjah, United Arab Emirates & Mansoura University, Egypt <sup>4</sup> Civil Engineering, United Arab Emirates <sup>5</sup> University of Sharjah, United Arab Emirates
09:30–09:45	1570876448	<b><i>Constitutive Modeling of Dynamic Strain Aging in Martensitic Microcomposite Formable (MMFX) Steel</i></b> Arhum Hassan; Farid Abed <sup>1</sup> <sup>1</sup> American University of Sharjah, United Arab Emirates
09:45–10:00	1570876483	<b><i>Ion-Imprinted Chitosan Adsorbent for the Removal of Iodide Ions from Nuclear Waste Water</i></b> Yassmin Abdi Ismael <sup>1</sup> ; Kean Wang <sup>1</sup> ; Maryam Rashed AlShehhi <sup>1</sup> ; Ali Al Hammadi <sup>1</sup> <sup>1</sup> Khalifa University, United Arab Emirates

10:00–10:15	1570876498	<b><i>Design and topological optimization of a wheel upright using finite element analysis</i></b> Ahmed Shaaban Eltanany <sup>1</sup> ; Ahmed Tarek Hamada <sup>1</sup> ; Khaled Kadri <sup>1</sup> ; Osama Al Hussaini <sup>1</sup> ; Maen Alkhader <sup>1</sup> <sup>1</sup> American University of Sharjah, United Arab Emirates
10:15–10:30	1570876603	<b><i>Nonlinear buckling analyses of double corrugated steel plate shear walls</i></b> Reda Radwan Kriker <sup>1</sup> ; Moussa Leblouba <sup>2</sup> <sup>1</sup> University of Sharjah, United Arab Emirates <sup>2</sup> Civil Engineering, United Arab Emirates
10:30–10:45	<b>Break</b>	
<b>Wednesday, 22<sup>nd</sup> February, 2023</b> Technical Session: Mechatronics, Industry 4.0, IoT and their Applications. 10:45–16:00, Room: Z245   Session Chair: Dr. Mohammad Kilani / Dr. Akram Jawda		
10:45–11:00	1570877831	<b><i>Fog assisted Visitor Identification Framework with improved Latency and Network Usage</i></b> Manash Kumar Mondal <sup>1</sup> ; Rimam Mandal <sup>2</sup> ; Sourav Banerjee <sup>3</sup> ; Pushpita Chatterjee <sup>4</sup> ; Wathiq Mansoor <sup>5</sup> ; Biswas Utpal <sup>1</sup> <sup>1</sup> M. Tech, India & University of Kalyani, India <sup>2</sup> Kalyani University, India <sup>3</sup> Kalyani Government Engineering College, India <sup>4</sup> Tennessee State University, USA <sup>5</sup> University OF Dubai, United Arab Emirates
11:00–11:15	1570869805	<b><i>Efficiency of Technical Assistance on Psychological Well-being and Work-life Balance</i></b> Aarushi Rajput <sup>1</sup> ; Neelam Pandey <sup>1</sup> ; Sonakshi Ruhela <sup>2</sup> <sup>1</sup> Amity University, Noida, Uttar Pradesh, India <sup>2</sup> United Arab Emirates
11:15–11:30	1570876736	<b><i>Research Challenges in Fire Safety Evacuation Systems - A Review</i></b> Samar Naser Hattab <sup>1</sup> ; In-Ju Kim <sup>2</sup> <sup>1</sup> University of Sharjah & UOS, United Arab Emirates <sup>2</sup> University of Sharjah, United Arab Emirates
11:30–11:45	1570866848	<b><i>Electric Motor Tuning Using Field Oriented Control to Improve Torque Control System</i></b> Abdulrahman Shaheen <sup>1</sup> ; Mohammad Jamal Jamjoum <sup>2</sup> ; Emad AbdelSalam <sup>2</sup> ; Fares Almomani <sup>3</sup> ; Tareq Salameh <sup>4</sup> <sup>1</sup> Carleton University, Canada <sup>2</sup> Al Hussein Technical University, Jordan <sup>3</sup> Al Hussein Technical University, Jordan <sup>4</sup> Qatar University, Qatar <sup>5</sup> University of Sharjah, United Arab Emirates
11:45–12:00	1570866852	<b><i>A Smart Ambulance Escort Drone</i></b> Tareq Salameh <sup>1</sup> ; Saif Siouf <sup>2</sup> ; Mohammad Jamal Jamjoum <sup>2</sup> ; Emad AbdelSalam <sup>2</sup> <sup>1</sup> University of Sharjah, United Arab Emirates <sup>2</sup> Al Hussein Technical University, Jordan
12:00–12:15	1570869576	<b><i>Design and Implementation of a Smart Driver Assistance System</i></b> Ahmad Alrais <sup>1</sup> ; Mohamad Alhammedi <sup>1</sup> ; Khalid Alhajeri <sup>1</sup> ; Omar Abbas <sup>1</sup> ; Anwar Hasan Jarndal <sup>2</sup> <sup>1</sup> University of Sharjah, United Arab Emirates <sup>2</sup> United Arab Emirates & University of Sharjah, United Arab Emirates
12:15–12:30	1570869615	<b><i>Idealistic Approach of a Comprehensive Physiotherapeutic System Adopting Reconfigurable Robotics and Smart HIS</i></b> Ammar Arif Ansari <sup>1</sup> ; Mohammed Rafaz Mustafa <sup>1</sup> ; Prashant Kumar Soori <sup>1</sup> <sup>1</sup> Heriot-Watt University, United Arab Emirates
12:30–12:45	1570870148	<b><i>Design and Simulation of an Intermittent Gearing Mechanism for a Positive Drive Double-Piston Synchronous Pump</i></b> Khalifa H Alali <sup>1</sup> ; Salim A Binshabib <sup>1</sup> ; Mohammad Kilani <sup>2</sup>

		<sup>1</sup> Higher Colleges of Technology, United Arab Emirates <sup>2</sup> Higher Colleges of Technology, Sharjah Men's Campus, United Arab Emirates
12:45-13:00	1570874135	<b><i>Gait Design and Numerical Simulation for a Quadruped Robotic System</i></b> Vyshak Sureshkumar <sup>1</sup> ; Khalifa Harib <sup>2</sup> ; Adewale Oseni <sup>1</sup> <sup>1</sup> United Arab Emirates University, United Arab Emirates <sup>2</sup> UAE University, United Arab Emirates
13:00-14:00	<b>Lunch Break</b>	
14:00-14:15	1570874206	<b><i>Low-Cost Three-Dimensional Surface Recovery Scanner for Fine-Detailed Objects</i></b> Abdulla Desmal <sup>1</sup> ; Khulood Alshehhi <sup>1</sup> ; Maha Abdullah Bin Remmah <sup>1</sup> ; Anas Abdul Kadar <sup>1</sup> ; Nicolae Galupa <sup>1</sup> ; Azad Parackal <sup>1</sup> ; Ahmed Khodary <sup>1</sup> <sup>1</sup> Higher Colleges of Technology, United Arab Emirates
14:15-14:30	1570874282	<b><i>Tracking Control of a Rotary Flexible Joint Robot using Adaptive fuzzy IMC</i></b> Omar Mohamed Mohamed Gad Sayed Ahmed <sup>1</sup> ; Stihi Sana <sup>1</sup> ; Raouf Fareh <sup>1</sup> ; Sofiane Khadraoui <sup>1</sup> ; Maamar Bettayeb <sup>1</sup> <sup>1</sup> University of Sharjah, United Arab Emirates
14:30-14:45	1570874607	<b><i>Tracking funnel Control Applied on a 4-DOF Robot Manipulator: a comparative study</i></b> Stihi Sana <sup>1</sup> ; Mohammed Baziyad <sup>1</sup> ; Omar Mohamed Mohamed Gad Sayed Ahmed <sup>1</sup> ; Raouf Fareh <sup>2</sup> ; Sofiane Khadraoui <sup>1</sup> ; Maamar Bettayeb <sup>1</sup> <sup>1</sup> University of Sharjah, United Arab Emirates <sup>2</sup> University of Sharjah Electrical Engineering, United Arab Emirates
14:45-15:00	1570875116	<b><i>Reduction of Quadrant Glitch: An Experimental Validation on XY Positioning Table</i></b> Elif Cicek <sup>1</sup> ; Turker Turker <sup>2</sup> ; Onur Akbati <sup>3</sup> ; Kamil Vedat Sancak <sup>1</sup> <sup>1</sup> ALTINAY Robot Technologies Inc., Turkey <sup>2</sup> Abu Dhabi Polytechnic, United Arab Emirates <sup>3</sup> Yildiz Technical University, Turkey
15:00-15:15	1570875228	<b><i>A Comparative Analysis of Control Methods Applied to Horizontal 2 DOF Robotic Arms</i></b> Alessandro Giuliano <sup>1</sup> ; Gary Bone; Andrew Gadsden <sup>1</sup> ; Mohammad AlShabi <sup>2</sup> <sup>1</sup> McMaster University, Canada <sup>2</sup> University of Sharjah, United Arab Emirates
15:15-15:30	1570875230	<b><i>Motion Control of a Differential Drive Mobile Robot Considering Voltage and Current Limits</i></b> Waleed Hilal <sup>1</sup> ; Gary Bone <sup>1</sup> ; Stephen Andrew Gadsden <sup>1</sup> ; Mohammad AlShabi <sup>2</sup> <sup>1</sup> McMaster University, Canada <sup>2</sup> University of Sharjah, United Arab Emirates
15:30-15:45	1570875661	<b><i>Control of Mobile Robots for Collision Avoidance</i></b> Naseem Alsadi <sup>1</sup> ; Gary Bone <sup>1</sup> ; Stephen Andrew Gadsden <sup>1</sup> ; Mohammad AlShabi <sup>2</sup> <sup>1</sup> McMaster University, Canada <sup>2</sup> University of Sharjah, United Arab Emirates
15:45-16:00	1570875952	<b><i>Intelligent Adaptive RRT* Path Planning Algorithm for Mobile Robots</i></b> Omar Khattab <sup>1</sup> ; Ahmed Yasser <sup>1</sup> ; Mohammad A. Jaradat <sup>1</sup> ; Lotfi Romdhane <sup>2</sup> <sup>1</sup> American University of Sharjah, United Arab Emirates <sup>2</sup> American University of Sharjah & AUS, United Arab Emirates
16:00-16:15	<b>Break</b>	
<b>Wednesday, 22<sup>nd</sup> February, 2023</b> Technical Session: Renewable and Sustainable Energy. 16:15-18:00, Room: Z239   Session Chair: <b>Dr. Ishaq Alahmad/Dr. Yasser Alamoudi</b>		

16:15–16:30	1570866619	<b>Experimental Investigation on the Annual Performance of an Actively Monitored 2.88 kW Grid-Connected PV System in Sharjah, UAE</b> Mena Maurice Farag and Abdul-Kadir Hamid ( <i>University of Sharjah, UAE</i> )
16:30–16:45	1570874074	<b>Economic Analysis of Upfront Nitrogen Removal from LNG Plant</b> Hajer Mkacher and Fares Almomani ( <i>Qatar University, Qatar</i> ); Muhammad Tawalbeh ( <i>SREE, University of Sharjah, UAE</i> ); Amani Al-Othman ( <i>American University of Sharjah, UAE</i> )
16:45–17:00	1570875564	<b>Effect of Lipid Recovery on UAE Algae (<i>Enteromorpha Flexuosa</i>) Through Cell Disruption Techniques</b> Emad Elnajjar, Sanad Thurakkal Puthan Purayil, Fatima Salem Obaid Alnuaimi, Huda Usama Al Khawaja, Lobna Salah Shaikhoun, Nour Arnaoud and Sara Khalfan Mohamed Almutawa ( <i>UAE University, UAE</i> )
17:00–17:15	1570876177	<b>Experimental Analysis on Conventional Solar Still Equipped with Ultrasonic Waves</b> Anas Mohammad Ghannam ( <i>Khalifa University, UAE</i> ); Omar Ali Ghannam ( <i>American University of Sharjah, UAE</i> ); Baha Marwan Alshwaiki and Mohammed Kamil Mohammed ( <i>University of Sharjah, UAE</i> )
17:15–17:30	1570876534	<b>Selection of environmental criteria for multi-criteria evaluation of energy supply alternatives in Non-Interconnected Zones of Colombia</b> Juan M Montalvo Navarrete ( <i>Autonomous University of the West &amp; Universidad Autónoma de Occidente, Colombia</i> ); Ana Lasso ( <i>Autonomous University of the West, Colombia</i> )
17:30–17:45	1570870116	<b>Aquaponics System Display at Sharjah Campuses- The Campus of Tomorrow</b> Hassan Abdilmouti, Wasif Minhas, Saeed Almheiri and Zakwan Skaf ( <i>Higher Colleges of Technology, UAE</i> )
17:45–18:00	1570877109	<b>Analysis of Small Solar Photovoltaic Modules in the UAE Market</b> Lanka Udawatta; Ahmed Alali; Adam Arra ( <i>Higher Colleges of Technology, UAE</i> )

## Day 3 – Wednesday 22<sup>nd</sup> February 2023

	Sub-Conference	Chairs	# of Papers
RSE	Renewable and Sustainable Energy	Dr. Azzeddine Ferrah <a href="mailto:aferrah@hct.ac.ae">aferrah@hct.ac.ae</a>	10
NSNMT	Nanostructured Materials and Nanotechnology	Dr. Mohammad Alhaik <a href="mailto:malhaik@hct.ac.ae">malhaik@hct.ac.ae</a> Dr. Mohammad Kabir <a href="mailto:mkabir@hct.ac.ae">mkabir@hct.ac.ae</a>	16
AMDM	Advanced Materials, Design, and Manufacturing.	Dr. Najeeb Khan <a href="mailto:nkhan1@hct.ac.ae">nkhan1@hct.ac.ae</a> , Dr. Mansoor Janjua <a href="mailto:mjanjua@hct.ac.ae">mjanjua@hct.ac.ae</a> .	8

### Wednesday, 22<sup>nd</sup> February, 2023

Technical Session: Renewable and Sustainable Energy  
08:00–10:30, Room: Z239 | Session Chair: Dr. Mohammed Saleh

Time	Paper ID	Paper Title and Author(s)
08:00–08:15	1570877498	<b>Active Disturbance Rejection Control Operating Islanded AC Microgrid Based Master-Slave Control</b> Mohannad Nasir ( <i>Graduate Research Assistant, UAE</i> ); Ramesh Bansal ( <i>University of Sharjah, UAE</i> ); Mohammad S Suleiman ( <i>American University of Sharjah, UAE</i> )
08:15–08:30	1570877530	<b>PV Penetration Impact Study for Future Micro-Grid in Jordan</b> Mohammad Jamal Jamjoum, Ban Baniatta and Emad AbdelSalam ( <i>Al Hussein Technical University, Jordan</i> ); Hamza Alnawafah ( <i>University of Wisconsin Milwaukee, Jordan</i> ); Tareq Salameh ( <i>University of Sharjah, UAE</i> )
08:30–08:45	1570877709	<b>The Enhancement of Power System Stability Using Virtual Synchronous Generator</b> Basel Taha Alkhamis and Abdullah Al-Odienat ( <i>Mutah University, Jordan</i> ); Omar Radaideh ( <i>Higher Colleges of Technology, UAE</i> )
08:45–09:00	1570869639	<b>The Impact of artificial lights on local plants growth</b> Rawan Essam Darwish and Nouf Salem Alyileili ( <i>University of Sharjah, UAE</i> )
09:00–09:15	1570877797	<b>Design and Performance Analysis of a Phase Change Material Thermal Battery</b> Muhammad Tawalbeh ( <i>SREE, University of Sharjah, UAE</i> ); Sultan Tariq Abunaous, Ahmad Chehade and Ahmad Firas Chahade ( <i>University of Sharjah, UAE</i> )
09:15–09:30	1570877809	<b>A Review of Green Hydrogen for Economical and Feasible Alternate Aligning with net-zero</b> Ayush Kumar; Fatima Khan; Ravishankar Dudhe ( <i>Manipal Academy of Higher Education, Dubai, UAE</i> )
09:30–09:45	1570877987	<b>Neoteric Innovations Concerning Battery Technology and Lubricants For Electric Vehicles</b> Karan Mathews Shaji; Ravishankar Dudhe; Ahana Fatima Alex ( <i>Manipal Academy of Higher Education, Dubai, UAE</i> )
09:45–10:00		
10:00–10:15		
10:15–10:30		
10:30–10:45	<b>Break</b>	

### Wednesday, 22<sup>nd</sup> February, 2023

Technical Session: Nanostructured Materials and Nanotechnology  
10:45–13:00, Room: Z233 | Session Chair: Dr. Hussien Alwedyan

10:45–11:00	1570856483	<b>Microwave Assisted Synthesis of Mn3O4 Nanoparticle for Thermal Energy Storage</b> Asha Madhavan; Swathi Sreekuttan; Tejasvi Singh; Sujith Kalluri
11:00–11:15	1570862777	<b>Prediction by Artificial Neural Network Techniques to Determine Energy gap of Carbon Reinforced with Nano (Copper oxide and Nickel oxide)</b>

		Laith Al-Juboori
11:15-11:30	1570865676	<b><i>A Review: Role of Nanoparticle in Plant Protection</i></b> Reshmi Nair; Shruti Arivazhagan
11:30-11:45	1570865677	<b><i>Synthesis of CuO Nps through Solvent free biological synthesis methods using Orange Peel Powder</i></b> Amrutha Viswanathan Nambiar; Hardeep Kumar
11:45-12:00	1570868671	<b><i>Co-precipitation synthesized MnCo2O4 material: A comprehensive study on their properties</i></b> Dana Abdulrazzaq Mohammed Alkhoori; Shahad Sultan Ali Albedwawi; Tahani Abdulla MUSAED; Ahlam Ahmed Al Saadi; Tholkappiyam Ramachandran III; Nizamudeen Cherupurakal; Abdel-Hamid Ismail Mourad
12:00-12:15	1570868674	<b><i>Physico-chemical properties on MnCo2O4 nanocrystalline material via hydrothermal method</i></b> Tholkappiyam Ramachandran III; Nizamudeen Cherupurakal; Dana Abdulrazzaq Mohammed Alkhoori; Shahad Sultan Ali Albedwawi; Tahani Abdulla MUSAED; Ahlam Ahmed Al Saadi; Abdel-Hamid Ismail Mourad
12:15-12:30	1570869570	<b><i>Optical gain gradient under electric field on GaAsSb/InAs heterostructure</i></b> Sandhya Kattayat; Parvez Alvi; Smitha Josey; Syed Firoz Haider; Kuldeep Kumar; Abdul Mosawir Quraishi
12:30-12:45	1570869797	<b><i>The effects of Nano-Silica on the characteristics of Abu Dhabi's soil</i></b> Iman Bilal Abdul Karim; Abdelkareem Alzo'ubi; Omer Mughieda
12:45-13:00	1570877727	<b><i>Trends in Solar Powered Water Desalination Using Hydrogels: A Short Review</i></b> Chaitanya Bathina; Tholkappiyam Ramachandran III; Md Zishan Akhter; Ali Al-Marzouqi; Farag Omar
13:00-14:00	<b>Lunch Break</b>	
<b>Wednesday, 22<sup>nd</sup> February, 2023</b> Technical Session: Advanced Materials, Design, and Manufacturing 14:00-16:00, Room: Z240   Session Chair: Dr. Hassan Abdulmoti		
14:00-14:15	1570876891	<b><i>Design and Fabrication of a Mini Spectrometer</i></b> Abdalla Hableel <sup>1</sup> ; Abdellatif Bouchalkha <sup>2</sup> ; Safa Alhosani <sup>2</sup> ; Evgeny Lonshakov <sup>2</sup> ; Juan Coronel <sup>2</sup> ; Steevy Joyce Cordette <sup>2</sup> ; Milosch Meriac <sup>3</sup> ; Chaouki Kasmi <sup>4</sup> <sup>1</sup> Directed Energy Research Center - Technology Innovation Institute, United Arab Emirates <sup>2</sup> Technology Innovation Institute, United Arab Emirates <sup>3</sup> Directed Energy Research Center - Technology Innovation Institute, United Arab Emirates <sup>4</sup> University of Kashan, United Arab Emirates
14:15-14:30	1570876966	<b><i>Implications of COVID-19 Pandemic on the Importance of the Common Causes of Delay in the UAE Construction Projects</i></b> Osama Obaid <sup>1</sup> ; Mohamad Taklas <sup>1</sup> ; Saleh Abu Dabous <sup>2</sup> <sup>1</sup> University of Sharjah, United Arab Emirates <sup>2</sup> Civil Engineering, United Arab Emirates
14:30-14:45	1570877182	<b><i>Kinematics Study for Linkage System (Parallel Robotics System)</i></b> Alaa Saadah <sup>1</sup> ; Donald Medlin <sup>2</sup> ; Jad Saud <sup>3</sup> ; Xiao Ran Zheng <sup>4</sup> ; Husi Géza <sup>5</sup> <sup>1</sup> Debrecen & Spinotron Kft, Hungary <sup>2</sup> Medical Beams Laboratory, USA <sup>3</sup> Spinotron Kft, Hungary <sup>4</sup> Medical Beams Laboratory, USA <sup>5</sup> University of Hungary, Hungary
14:45-15:00	1570877226	<b><i>Dynamic analysis of FG beam with MR fluid core</i></b> Zeinab Soleimani-Javid <sup>1</sup> ; Ehsan Arshid <sup>2</sup> ; Abdel-Hamid Ismail Mourad <sup>3</sup> <sup>1</sup> University of Kashan, United Arab Emirates <sup>2</sup> University of Kashan, Iran <sup>3</sup> United Arab Emirates University, United Arab Emirates
15:00-15:15	1570877232	<b><i>Weather Effect on the Natural Frequencies of GNPs-Reinforced Composite Spherical Panels</i></b> Ehsan Arshid <sup>1</sup> ; Zeinab Soleimani-Javid <sup>2</sup> ; Saeed Amir <sup>3</sup> ; Abdel-Hamid Ismail Mourad <sup>3</sup> <sup>1</sup> University of Kashan, Iran

		<sup>2</sup> University of Kashan, United Arab Emirates <sup>3</sup> University of Kashan, Iran <sup>4</sup> United Arab Emirates University, United Arab Emirates
15:15-15:30	1570877255	<b><i>Molecular Dynamics Simulation of Selective Laser Melting of NiAl Alloy Nanopowder</i></b> Omarelfarouq Elgack <sup>1</sup> ; Syarif Junaidi <sup>1</sup> ; Hanan Alsefiri <sup>1</sup> ; Tahar Laoui <sup>1</sup> <sup>1</sup> University of Sharjah, United Arab Emirates
15:30-15:45	1570877267	<b><i>Evaluation of Ultra-High-Performance Concrete High-Rise Buildings in Dubai subjected to seismic loads</i></b> Mohammad AlHamaydeh <sup>1</sup> ; Mohamed Essam Elkafrawy <sup>2</sup> ; Shaziya A. Banu <sup>1</sup> ; Maha Assad <sup>1</sup> ; Reem Talo <sup>1</sup> <sup>1</sup> American University of Sharjah, United Arab Emirates <sup>2</sup> American University of Sharjah & Tanta University, United Arab Emirates
15:45-16:00	1570877283	<b><i>Nonlinear Seismic Assessment of Tall Buildings with Coupled UHPC Shear Walls in Dubai, United Arab Emirates</i></b> Mohammad AlHamaydeh <sup>1</sup> ; Mohamed Essam Elkafrawy <sup>1</sup> ; Nour Ghazal Aswad <sup>1</sup> ; Salem Mazen Khalaf <sup>1</sup> ; Ruba Ahmad Elmootassem <sup>1</sup> <sup>1</sup> American University of Sharjah, United Arab Emirates
16:00-16:15	<b>Break</b>	
<b>Wednesday, 22<sup>nd</sup> February, 2023</b> Technical Session: Nanostructured Materials and Nanotechnology 16:15-18:00, Room: Z233   Session Chair: Dr. Hussien Alwedyan		
16:15-16:30	1570869860	<b><i>Metal and Metal Oxide Based Nanomaterials for Latent Fingerprint Development</i></b> Gopika Nair; Shwetha Sajeev; Asha Madhavan
16:30-16:45	1570869877	<b><i>A perception into the mechanism of degradation rhodamine B in industrial wastewater on a silver nanoprisms impregnated titanium dioxide nanoparticles, an electrochemical study</i></b> Rania Ghabboun
16:45-17:00	1570874052	Two-terminal reliability of the K4-ladder – revisited Authors: Philippe Poulin; Simon R Cowell; Valeriu Beiu
17:00-17:15	1570875185	<b><i>Green synthesis of copper nanoparticles using Ananas comosus</i></b> Shwetha Sajeev; Meby Susan Johnson; Reshmi Nair; Amrutha Viswanathan Nambiar
17:15-17:30	1570876130	<b><i>Structural insights of 2D layered Ti3C2Tx MXene material via in-situ characterization</i></b> Tholkappiyar Ramachandran III; Fathalla Hamed
17:30-17:45	1570876840	<b><i>Synthesis and Characterization of Graphene Oxide doped ZnV2O5 Nanocomposites for Enhanced Photocatalytic Activity under Sunlight Irradiation</i></b> Elmi Elias; Marie Lorida; K Krishnasamy; V Manikandan
17:45-18:00	1570877532	<b><i>Benefits of nanotechnology in using waste materials as sustainable cementitious materials</i></b> Hussain M Hamada; Farid Abed; Mohammed S. Al Jawahery; Ali Majdi; Salim Yousuf

## Day 4 – Thursday 23<sup>rd</sup> February 2023

	Sub-Conference	Chairs	# of Papers
AMDM	Advanced Materials, Design, and Manufacturing.	Dr. Najeeb Khan <a href="mailto:nkhan1@hct.ac.ae">nkhan1@hct.ac.ae</a> , Dr. Mansoor Janjua <a href="mailto:mjanjua@hct.ac.ae">mjanjua@hct.ac.ae</a> .	34

<b>Thursday, 23<sup>rd</sup> February, 2023</b> Technical Session: Advanced Materials, Design, and Manufacturing. 08:00–18:00, Room: Z240   Session Chair: Dr. Akram Joda (8:00 – 10:30) / Dr. Nizar Harb (10:30 – 13:00)/ Dr. Hassan Fawad (14:00 – 16:00) / Dr. Tariq Khan (16:00 – 18:00)			
Time	Paper ID	Paper Title and Author(s)	
08:00–08:15	1570877288	<b><i>Enhancement of Solar Still Productivity: An Experimental Approach</i></b> Ranjeet Ranjan <sup>1</sup> ; Dhaneshwar Mahto <sup>2</sup> ; Sunil Chaudhary <sup>2</sup> ; Jitendra Mahto <sup>2</sup> <sup>1</sup> HCT, United Arab Emirates <sup>2</sup> BIT Sindri, India	
08:15–08:30	1570877291	<b><i>Seismic Performance of Reinforced Concrete Special Structural Wall Buildings in Dubai: Nonlinear Analysis</i></b> Mohammad AlHamaydeh <sup>1</sup> ; Mohamed Essam Elkafrawy <sup>1</sup> ; Shaziya A. Banu <sup>1</sup> ; Shahed Alhomsy <sup>1</sup> ; Haider Hasan <sup>1</sup> <sup>1</sup> American University of Sharjah, United Arab Emirate	
08:30–08:45	1570877318	<b><i>Study on the Seismic Performance of Tall Buildings in UAE with Coupled Special UHPC Shear Walls</i></b> Mohammad AlHamaydeh <sup>1</sup> ; Mohamed Essam Elkafrawy <sup>2</sup> ; Nour Ghazal Aswad <sup>1</sup> ; Youcef El Berizi <sup>1</sup> ; Firas Safadi <sup>1</sup> <sup>1</sup> American University of Sharjah, United Arab Emirates <sup>2</sup> American University of Sharjah & Tanta University, United Arab Emirates	
08:45–09:00	1570877336	<b><i>Effect of strain fields on frequency bandgaps of periodic lattice materials</i></b> Mohamed Shendy <sup>1</sup> ; Maen Alkhader <sup>1</sup> ; Bassam A. Abu-Nabah <sup>1</sup> <sup>1</sup> American University of Sharjah, United Arab Emirates	
09:00–09:15	1570877371	<b><i>Dry Gas Seal System - Integral Orifice Flow Transmitter Design Consideration for Dual Gas Streams</i></b> Manikandan Chandran <sup>1</sup> ; Noel Joe Thomas <sup>2</sup> <sup>1</sup> Manipal University & John Crane, United Arab Emirates <sup>2</sup> Manipal Academy of Higher Education Dubai UAE, United Arab Emirates	
09:15–09:30	1570877398	<b><i>Sustainable Bio-polymerized Sulfur Cement and Concrete for the Construction Industry</i></b> Maisa El Gamal <sup>1</sup> ; Abdel Mohsen Onsy Mohamed <sup>2</sup> <sup>1</sup> United Arab Emirates & Zayed University, United Arab Emirates <sup>2</sup> Civil and Environmental Engineering, USA	
09:30–09:45	1570877467	<b><i>Mechanical Properties of Different Types of Fiber Reinforced Concrete: Benefits and Limitations</i></b> Abdelaziz Mahmoud Salim <sup>1</sup> ; Abdalla Mahmoud Salim <sup>1</sup> <sup>1</sup> University of Sharjah, United Arab Emirates	
09:45–10:00	1570877561	<b><i>Rheological and Structural Performance of Fiber-Reinforced 3D Printed Concrete</i></b> Habibelrahman Hassan <sup>1</sup> ; Eyad Shahin <sup>1</sup> ; Mohamed Khalifa <sup>1</sup> ; Adil Al-Tamimi <sup>1</sup> <sup>1</sup> American University of Sharjah, United Arab Emirates	
10:00–10:15	1570877562	<b><i>Investigating the Flexural Mechanical Characteristics of Flawed 3D Printed components.</i></b> Salama Alblooshi <sup>1</sup> ; Sadaa Alhajeri <sup>1</sup> ; Amal Almansoori <sup>1</sup> ; Mariam Alshamisi <sup>1</sup> ; Sara Alsaedi <sup>1</sup> ; Amged El Hassan <sup>1</sup> ; Waleed Ahmed <sup>2</sup> <sup>1</sup> UAE University, United Arab Emirates <sup>2</sup> United Arab Emirates University & Al Ain, United Arab Emirates	
10:15–10:30	1570877621	<b><i>Synthetic Jets Cooling for Microelectronic Devices</i></b> Sufian Shaker <sup>1</sup> <sup>1</sup> Higher Colleges of Technology, United Arab Emirates	
10:30–10:45	<b>Break</b>		

10:45–11:00	1570877641	<b>Graphene oxide-based High-density Polyethylene / Polypropylene Nanocomposites for Biomedical Applications</b> AlBaina Ali Alybhouni AIDhaheri <sup>1</sup> ; Mohammad Mozumder <sup>1</sup> ; Nizamudeen Cherupurakal <sup>1</sup> ; Abdel-Hamid Ismail Mourad <sup>1</sup> <sup>1</sup> United Arab Emirates University, United Arab Emirates
11:00–11:15	1570877686	<b>Numerical Study of the Effect of CorVis ST Tonometer Misalignment on IOP Measurement and Corneal Deformation</b> Akram Joda <sup>1</sup> <sup>1</sup> HCT, United Arab Emirates
11:15–11:30	1570877691	<b>Investigation of Mechanical and Wear behaviour of Al5056-CNT-Gr Hybrid MMCs using Powder Metallurgy Route</b> Chithirai Pon Selvan M <sup>1</sup> ; Girish B <sup>2</sup> ; Satish B <sup>3</sup> ; Girisha L <sup>4</sup> ; Mahesh B Davanagere <sup>5</sup> <sup>1</sup> Curtin University Dubai, United Arab Emirates <sup>2</sup> Alliance University, India <sup>3</sup> Mohan Babu University, India <sup>4</sup> PES Institute of Technology, India <sup>5</sup> Graphic Era University, India
11:30–11:45	1570877692	<b>Effects of Various Crushed Glass Particle Sizes on the Engineering Properties of Artificial Sand</b> Ahmed Mohsen Khalil <sup>1</sup> ; Mohammad Almasaeid <sup>1</sup> ; Mousa Attom <sup>1</sup> <sup>1</sup> American University of Sharjah, United Arab Emirates
11:45–12:00	1570877693	<b>Evaluation of Cast Aluminium fin tube designs for heat transfer applications</b> Saliya Jayasekera <sup>1</sup> ; Ransandage Darsha Sadevi Jayathunga <sup>2</sup> ; Jinendrika Weliwita <sup>3</sup> ; Hirushie Karunathilake <sup>4</sup> ; Sanjeeva Witharana <sup>3</sup> <sup>1</sup> UoM, Sri Lanka) <sup>2</sup> University of Moratuwa & The Open University, Sri Lanka <sup>3</sup> HCT, United Arab Emirates <sup>4</sup> University of Moratuwa, Sri Lanka & University of British Columbia, Canada
12:00–12:15	1570877696	<b>Effect of weld current and electrode force on the yield strength of resistance spot welded 22MnB5 steel sheets</b> Abdelrahman Ismail Abdelhalim <sup>1</sup> ; Mohamed Farouk <sup>1</sup> ; Jaber Abu Qudeiri <sup>1</sup> ; Ansar Kareem <sup>1</sup> ; Anasmon Valappil <sup>1</sup> <sup>1</sup> United Arab Emirates University, United Arab Emirates
12:15–12:30	1570877729	<b>Experimental cooling performance analysis of thermoelectric module</b> Ranjeet Ranjan <sup>1</sup> ; Dhaneshwar Mahto <sup>2</sup> ; Sunil Chaudhary <sup>2</sup> ; Sunil Kumar <sup>2</sup> <sup>1</sup> HCT, United Arab Emirates <sup>2</sup> BIT Sindri, India
12:30-12:45	1570877752	<b>Carbon Fiber Reinforced Polymer Adoption For Structural Rehabilitation</b> Yara Alzoubi <sup>1</sup> ; Boshra Akhozheya <sup>2</sup> ; Sawsan Dagher <sup>3</sup> ; Ivana Veselinova <sup>4</sup> <sup>1</sup> Department of Civil Engineering, Jordan <sup>2</sup> Polytechnic University of Milan, United Arab Emirates <sup>3</sup> Abu Dhabi Polytechnic, United Arab Emirates) <sup>4</sup> Polytechnic University of Milan, Italy)
12:45-13:00	1570877790	<b>Crashworthiness of a steel hollow beam subjected to axial and oblique loadings</b> Rizal Bin Zahari <sup>1</sup> ; Syed Aftab <sup>1</sup> ; Mohammad Yousef Alhaik <sup>1</sup> <sup>1</sup> The Higher Colleges of Technology, United Arab Emirates
13:00-14:00	<b>Lunch Break</b>	
14:00–14:15	1570877791	<b>Potential use of Fly Ash Activated with Sodium Hydroxide to Improve Sandy Soils for Pavement Applications</b> Ahmed Mohsen Khalil <sup>1</sup> ; Mohammad Almasaeid <sup>1</sup> ; Mousa Attom <sup>1</sup> ; Mohamed G. Arab <sup>2</sup> <sup>1</sup> American University of Sharjah, United Arab Emirates <sup>2</sup> College of Engineering & University of Sharjah, UAE
14:15–14:30	1570877793	<b>Improving hydrophilicity in PDMS/chitosan scaffolds for tissue engineering applications</b> Sandeep Suresh Babu <sup>1</sup> ; Fatemeh Bahaeddin <sup>1</sup> ; Anusha Mairpady <sup>1</sup> ; Mohammad Mozumder <sup>1</sup> ; Abdel-Hamid Ismail Mourad <sup>1</sup> <sup>1</sup> United Arab Emirates University, United Arab Emirates

14:30-14:45	1570877801	<p><b><i>Analysis of Different Spool Designs for Yb doped fiber cooling at 976 nm: A case study</i></b></p> <p>Jawaher Alameri <sup>1</sup>; Giuseppe Scurria <sup>1</sup>; Taif Alhmodi <sup>1</sup>; Asma Al Ahmadi <sup>1</sup>; Guillaume Matras <sup>1</sup>; Chaouki Kasmi <sup>1</sup></p> <p><sup>1</sup> Technology Innovation Institute, United Arab Emirates</p>
14:45-15:00	1570877818	<p><b><i>Evaluation of Mechanical and Wear Assessment of Al-1.2Si-0.75Fe /Mullite MMCs for Industrial Applications</i></b></p> <p>Raghavendra Govind Galgali <sup>1</sup>; Satish B <sup>2</sup>; Girish B <sup>3</sup>; Mahesh B Davanagere <sup>4</sup>; Girisha L <sup>5</sup>; Chithirai Pon Selvan M <sup>6</sup></p> <p><sup>1</sup> Nitte Meenakshi Institute of Technology, India  <sup>2</sup> Mohan Babu University, India  <sup>3</sup> Alliance University, India  <sup>4</sup> Graphic Era University, India  <sup>5</sup> PES Institute of Technology, India  <sup>6</sup> Curtin University Dubai, United Arab Emirates)</p>
15:00-15:15	1570877821	<p><b><i>The Assessment of Traction and Texture Features of Shoe-Floor Surfaces and Their Effects on Slipperiness</i></b></p> <p>Omar Hassan Omar <sup>1</sup>; In-Ju Kim <sup>1</sup></p> <p><sup>1</sup> University of Sharjah, United Arab Emirates</p>
15:15-15:30	1570877829	<p><b><i>Current status of Ti6Al4V fabrication using powder bed fusion (PBF): A review</i></b></p> <p>Shafahat Ali <sup>1</sup>; Ibrahim Deiab <sup>1</sup>; Salman Pervaiz <sup>2</sup></p> <p><sup>1</sup> University of Guelph, United Arab Emirates  <sup>2</sup> Rochester Institute of Technology - Dubai, United Arab Emirates</p>
15:30-15:45	1570877834	<p><b><i>Investigating Soil-Structure Interaction on Buildings Retrofitted with Buckling Restrained Braces</i></b></p> <p>Hussain Salah<sup>1</sup>; Mohamed G. Arab<sup>2</sup>; Zaid Al Sadoon<sup>1</sup>; Emran Alotaibi<sup>1</sup>; Maher Omar<sup>1</sup></p> <p><sup>1</sup> University of Sharjah, United Arab Emirates  <sup>2</sup> College of Engineering &amp; University of Sharjah, UAE, United Arab Emirates</p>
15:45-16:00	1570877841	<p><b><i>Performance of Cement Mortar Mixtures containing Fine Aggregate and Admixtures</i></b></p> <p>Monaf A. Alarab <sup>1</sup>; Sara A. Alattieh <sup>1</sup>; Waleed Zeiada <sup>2</sup>; Ghazi Al-Khateeb <sup>1</sup>; Salah Al-Toubat<sup>1</sup>; Fatma Abdulla Abdulrahman<sup>3</sup></p> <p><sup>1</sup> University of Sharjah, United Arab Emirates  <sup>2</sup> Civil Engineering, United Arab Emirates  <sup>3</sup> Ministry of Energy and Infrastructure, United Arab Emirates</p>
16:00-16:15	<b>Break</b>	
16:15-16:30	1570877842	<p><b><i>Application of Machine Learning Techniques to Predict Unconfined Compressive Strength of Sedimentary Rocks in UAE</i></b></p> <p>Hussain Salah <sup>1</sup>; Khaled Hamad <sup>1</sup>; Maher Omar <sup>1</sup>; Emran Alotaibi<sup>1</sup></p> <p><sup>1</sup> University of Sharjah, United Arab Emirates</p>
16:30-16:45	1570877846	<p><b><i>Reliability Based Optimization of Isolated Footings Subjected to Eccentric Loads</i></b></p> <p>Hussain Salah <sup>1</sup>; Samer Barakat <sup>1</sup>; Emran Alotaibi <sup>1</sup>; Maher Omar <sup>1</sup></p> <p><sup>1</sup> University of Sharjah, United Arab Emirates</p>
16:45-17:00	1570877853	<p><b><i>Prediction of Shear Capacity and Failure mode in Fiber-Reinforced Concrete Beams Using Machine Learning</i></b></p> <p>Nadia Nassif <sup>1</sup>; Zaid Al Sadoon <sup>1</sup>; Khaled Hamad <sup>1</sup>; Salah Al-Toubat <sup>1</sup></p> <p><sup>1</sup> University of Sharjah, United Arab Emirates</p>
17:00-17:15	1570877859	<p><b><i>Effect of Skewed Angle on the Buckling Performance of Functionally Graded Thin Plates with Openings</i></b></p> <p>Adnan Alashkar <sup>1</sup>; Mohamed Essam Elkafrawy <sup>2</sup>; Rami Hawileh <sup>1</sup>; Mohammad AlHamaydeh <sup>1</sup></p> <p><sup>1</sup> American University of Sharjah, United Arab Emirates  <sup>2</sup> American University of Sharjah &amp; Tanta University, United Arab Emirates</p>
17:15-17:30	1570877864	<p><b><i>Buckling Investigation of Functionally Graded Skew Thin Plates with Varying Circular Opening Position</i></b></p> <p>Adnan Alashkar <sup>1</sup>; Mohamed Essam Elkafrawy <sup>2</sup>; Mohammad AlHamaydeh <sup>1</sup>; Rami Hawileh <sup>1</sup></p> <p><sup>1</sup> American University of Sharjah, United Arab Emirates  <sup>2</sup> American University of Sharjah &amp; Tanta University, United Arab Emirates</p>

17:30–17:45	1570877871	<p align="center"><b><i>Effect of Zycotherm Nano-based Warm Mix Additive on the properties of asphalt binder in UAE</i></b></p> <p>Eyad Hany Nasr <sup>1</sup>; Alaa Sukkari <sup>2</sup>; Mohammed Wajeih Younus <sup>3</sup>; Ghazi Al-Khateeb <sup>4</sup>; Waleed Zeiada <sup>5</sup>; Helal Ezzat <sup>6</sup></p> <p><sup>1</sup> University of Sharjah &amp; UOS, United Arab Emirates  <sup>2</sup> University of Sharjah, United Arab Emirates  <sup>3</sup> University of Sharjah &amp; Al-Huda University Collage, Iraq  <sup>4</sup> University of Sharjah, United Arab Emirates  <sup>5</sup> Civil Engineering, United Arab Emirates  <sup>6</sup> University of Sharjah, United Arab Emirates &amp; Mansoura University, Egypt</p>
17:45–18:00	1570877870	<p align="center"><b><i>Impact of Sasobit on Asphalt Binder's Performance under UAE Local Conditions</i></b></p> <p>Alaa Sukkari <sup>1</sup>; Mohammed Wajeih Younus <sup>2</sup>; Helal Ezzat <sup>3</sup>; Waleed Zeiada <sup>4</sup>; Ghazi Al-Khateeb <sup>5</sup></p> <p><sup>1</sup> University of Sharjah, United Arab Emirates  <sup>2</sup> University of Sharjah &amp; Al-Huda University Collage, Iraq  <sup>3</sup> University of Sharjah, United Arab Emirates &amp; Mansoura University, Egypt  <sup>4</sup> Civil Engineering, United Arab Emirates  <sup>5</sup> University of Sharjah, United Arab Emirates</p>

## Day 4 – Thursday 23<sup>rd</sup> February 2023

	Sub-Conference	Chairs	# of Papers
LISE	Logistics and Industrial Systems Engineering.	Dr. Umesh Bhushi <a href="mailto:ubhushi@hct.ac.ae">ubhushi@hct.ac.ae</a> , Dr. Katerina Trendova <a href="mailto:ktrendova@hct.ac.ae">ktrendova@hct.ac.ae</a>	25
IoTMA	Mechatronics, Industry 4.0, IoT and their Applications.	Dr. Mohanad Alata <a href="mailto:malata@hct.ac.ae">malata@hct.ac.ae</a> , Dr. Saleh Ahmad <a href="mailto:sahmad@hct.ac.ae">sahmad@hct.ac.ae</a>	9

<b>Thursday, 23<sup>rd</sup> February, 2023</b> Technical Session: Logistics and Industrial Systems Engineering. 08:00–10:30, Room: Z243   Session Chair: <b>Dr.Nader Santarisi</b>		
Time	Paper ID	Paper Title and Author(s)
08:00–08:15	1570853581	<p style="text-align: center;"><b><i>Cost of Quality Reduction Roadmap with Integrated Lean Six Sigma and Knowledge Management</i></b></p> <p>Shivagond Nagappa Teli, Vinod G. Surange, Umesh Bhushi, Channappa Javalagi, Sayed Ahmed Imran Bellary, Dilip Radkar</p> <p>Bharati Vidyapeeth College of Engineering, Navi Mumbai, India                      St. John College of Engineering and Management, Palghar, India                      Higher College Technology, Abu Dhabi Women's Campus                      Basaveshwar Engineering College Bagalkot, India                      Arvind Gavali College of Engineering, Satara, India</p>
08:15–08:30	1570870342	<p style="text-align: center;"><b><i>Integration of Lean Six Sigma and Circular Economy for Enhancing Sustainable Performance: A Review Note</i></b></p> <p>Nadin Alherimi, Mohammad Shamsuzzaman, Salah Haridy, Hamdi Bashir                      Department of Industrial Engineering and Engineering Management, University of Sharjah</p>
08:30–08:45	1570877543	<p style="text-align: center;"><b><i>Artificial Intelligence based decision making for Lean Six Sigma in the Forensic Engineering Laboratory Department: A Review of the Literature</i></b></p> <p>Sarah Ahmed Alkindi, Zehra Canan Araci, Mohammad Ali Alqassim                      University of Sharjah, UAE</p>
08:45–09:00	1570874514	<p style="text-align: center;"><b><i>Reducing Purchasing Lead Time for a Service Provider by implementing Six Sigma</i></b></p> <p>Ibrahim Shaban, Hala Adel, Haya Al Nuaimi, Maher Al-Fakhouri, Malak Ali, Noura Al Aryani                      United Arab Emirates University, Al-Ain, UAE</p>
09:00–09:15	1570857690	<p style="text-align: center;"><b><i>Lean production system tools implementation in the Jordanian industrial sector</i></b></p> <p>Farhan Omoush, Malek Alkasrawi, Firas Kafiah, Tareq Salameh, Sara Maen Asaad, Amjad Hammoudeh                      University of Sharjah, UAE                      Al Hussein Technical University, Jordan</p>
09:15–09:30	1570870060	<p style="text-align: center;"><b><i>A Literature-Based Comprehensive Model for Factors Affecting Firm Productivity in the Service Sector</i></b></p> <p>Hamdi Bashir, Sarah Abdul-kadir Hamid, Salah Haridy, Mohammad Shamsuzzaman                      Department of Industrial Engineering and Engineering Management, University of Sharjah</p>
09:30–09:45	1570875516	<p style="text-align: center;"><b><i>The Use of Smart Bins in Municipal Solid Waste Collection: A Review of the Research Literature</i></b></p> <p>Afra Alzaabi, Ridvan. Aydin, Sameh AlShihabi                      Department of Industrial Engineering and Engineering Management, University of Sharjah</p>
09:45–10:00	1570877647	<p style="text-align: center;"><b><i>An np Chart for Reducing Sustainability Cost of Monitoring Manufacturing Processes</i></b></p> <p>Asma Omar, Salah Haridy, Ridvan Aydin, Mohammad Shamsuzzaman                      Ahmed Maged                      Department of Industrial Engineering and Engineering Management, University of Sharjah, UAE</p>

		Department of Mechanical Engineering, Benha University, Benha, Egypt
10:00–10:15	1570877704	<b><i>The mediation impact of time and cost on the relationship between Experiential knowledge creation and success for delayed projects</i></b> Rasha Abou Samra, Osama Hosam, Ossama Embarak Affiliation: Higher Colleges of Technology, UAE
10:15–10:30	1570869223	<b><i>Formation of Service Cells in Telecommunication Retail Stores Using Group Technology</i></b> Maryam Dasmal Alhaddad, Hamdi Bashir, Sarah Abdul-kadir Hamid, Salah Haridy, Mohammad Shamsuzzaman University of Sharjah, UAE
10:30–10:45	<b>Break</b>	
<b>Thursday, 23<sup>rd</sup> February, 2023</b> Technical Session: Mechatronics, Industry 4.0, IoT and their Applications. 10:45–13:00, Room: Z245   Session Chair: Mr. Mohammad Al Wedian		
10:45–11:00	1570876532	<b><i>Estimating the Behaviour of a Prismatic-Revolute Robot using a Robust Filtering Strategy</i></b> Mohammad AlShabi <sup>1</sup> ; Stephen Andrew Gadsden <sup>2</sup> <sup>1</sup> University of Sharjah, United Arab Emirates <sup>2</sup> McMaster University, Canada
11:00–11:15	1570876797	<b><i>Smart Inspection Glove: A real-time inspection and analysis system based on Raspberry Pi</i></b> Sofian Saidi <sup>1</sup> ; Imad Zyout <sup>2</sup> <sup>1</sup> Higher Colleges of Technology, United Arab Emirates <sup>2</sup> Higher Colleges of Technology & Tafila Technical University, United Arab Emirates
11:15–11:30	1570877701	<b><i>An Intelligent Controller for an Assisted Electric Wheelchair based on Interval Type-2 Fuzzy Logic</i></b> Qutaiba A. H. Al-Bashayreh <sup>1</sup> ; Ammar Kiftaro <sup>1</sup> ; Mahmoud Alsheikh <sup>1</sup> ; Mohammad A. Jaradat <sup>1</sup> <sup>1</sup> American University of Sharjah, United Arab Emirates
11:30–11:45	1570876262	<b><i>A stabilizing nonlinear controller for the reaction wheel pendulum</i></b> Turker Turker <sup>1</sup> ; Dani Abdo <sup>1</sup> <sup>1</sup> Abu Dhabi Polytechnic, United Arab Emirates
11:45–12:00	1570876289	<b><i>Linear estimation strategies applied to a spring-mass-damper system</i></b> Mohammad AlShabi <sup>1</sup> ; Stephen Andrew Gadsden <sup>2</sup> <sup>1</sup> University of Sharjah, United Arab Emirates <sup>2</sup> McMaster University, Canada
12:00–12:15	1570877713	<b><i>A Hybrid Rolling and Flying Robot for Pipeline Fault Detection Using Deep Learning</i></b> Megan Ghaly <sup>1</sup> ; Rohan Mitra <sup>1</sup> ; Abdullah Omar Al Rayess <sup>1</sup> ; Assem Ahmed <sup>1</sup> ; Dara Varam <sup>1</sup> ; Mohammad A. Jaradat <sup>1</sup> ; Michel Pasquier <sup>1</sup> ; Ahmed Khalil Muhammad Khalil <sup>1</sup> <sup>1</sup> American University of Sharjah, United Arab Emirates
12:15–12:30	1570877765	<b><i>Stability Control Analysis of the Double Inverted Pendulum using Linear-Quadratic Regulator</i></b> Abdulrahman Rahmani <sup>1</sup> ; Khalifa Harib <sup>1</sup> ; Vyshak Sureshkumar <sup>1</sup> ; Adewale Oseni <sup>1</sup> <sup>1</sup> United Arab Emirates University, United Arab Emirates
12:30–12:45	1570877838	<b><i>KUKA arc KR5 Industrial Manipulator's Trajectory Planning Modelling using MATLAB Based on Kinematics Study</i></b> Alaa Saadah <sup>1</sup> ; Maria Al Kadi <sup>2</sup> ; Husi Géza <sup>3</sup> <sup>1</sup> Debrecen & Spinotron Kft, Hungary <sup>2</sup> Debrecen University, Hungary <sup>3</sup> University of Hungary, Hungary
12:45–13:00	1570877886	<b><i>The Extended Innovation Kalman-Sliding Filter for Nonlinear Estimation</i></b> Mohammad AlShabi <sup>1</sup> ; Stephen Andrew Gadsden <sup>2</sup>

		<sup>1</sup> University of Sharjah, United Arab Emirates <sup>2</sup> McMaster University, Canada
13:00-14:00	<b>Lunch Break</b>	
<b>Thursday, 23<sup>rd</sup> February, 2023</b> Technical Session: Logistics and Industrial Systems Engineering. 14:00–18:00, Room: Z243   Session Chair: <b>Dr.Hussni Al Hajjar &amp; Dr.Umesh Bhushi</b>		
14:00–14:15	1570875607	<b><i>Evaluating the ergonomic criteria for the design of workstation in electronic assembly industry</i></b> Sasikumar Perumal, Mohammed Asif, Rauda Sultan Al Qemzi, Mouza Mohammed Al Mansoori, Maryam Abdulla Al Samahi, Rehaab Nawaf, Hamda Rashed Al Mazrouei Department of Industrial Engineering Technology, Higher Colleges of Technology, UAE
14:15–14:30	1570869546	<b><i>New Airline Business Model with Cost Optimization using Operation Research: Case Study DXB Airport as Hub</i></b> Yassin Benachour, Amira Ahli, Maryah Ali, Maryam Alkharoossi, Meera Almuawali Department of Industrial Engineering Technology, Higher Colleges of Technology, UAE
14:30-14:45	1570862708	<b><i>Worker job rotation optimization model to minimize exposure to hand-arm vibration</i></b> Saleh Hasan AlBaiti, Ali Cheaitou, Naser Nawayseh University of Sharjah, UAE
14:45–15:00	1570866539	<b><i>Enabling Factors For Digital Supply Chain Development in The Energy Sector</i></b> Shaikha AlShamsi, Ridvan Aydin, Salah Haridy, Concetta Semeraro Department of Industrial Engineering and Engineering Management, University of Sharjah, UAE
15:00–15:15	1570867108	<b><i>Taxi Fleet Management: A Bibliometric Analysis</i></b> Khadija Abdalla Alfzari, Khalid Obaideen, Ali Cheaitou, Amir Shikhli, Imad Alsyouf, Salah Haridy University of Sharjah, UAE
15:15-15:30	1570869679	<b><i>Reducing the Plastic Food Packaging Waste by Stimulating Sustainable Innovative Solutions</i></b> Katerina Trendova, Abdulmajeed Alghamdi, Ahmed Alameri, Ghanem Al Mheiri, Alya Alshurafa, Sultan Alameri, Abdulla Alnuwais, Mohammed Alsayed Logistics Engineering Technology Department, Higher Colleges of Technology, Abu Dhabi, UAE
15:30–15:45	1570873040	<b><i>Artificial Intelligence Based Logistics Client Service System</i></b> Sultan Bader Albahri, Yousuf Ibrahim Albahri, Rashed Atiq Alfalasi, Noor ul Misbah Khanum, Anwar Jarndal University of Sharjah, UAE
15:45–16:00	1570874244	<b><i>Towards Green Transportation: Control Carbon Footprints Using Cloud Computing Approach</i></b> Abdulmajeed Alghamdi, Shamma Alansari, Arun Joy Logistics Engineering Technology Department, Higher Colleges of Technology, Abu Dhabi, UAE
16:00–16:15	<b>Break</b>	
16:15–16:30	1570876499	<b><i>An Empirical Analysis of Cost-Effective Solutions of Baggage Handling at airports- Suggested improvements to industry problems</i></b> Sameera Iqbal, Mohammed Khalifa Alhosani, Hassan Mohammed Alhammedi, Majed Abdullah Alhosani, Marwan Abdulqader Alkhoori, Mohammed Hammad Almarri Logistics Engineering Technology Department, Higher Colleges of Technology, Abu Dhabi, UAE
16:30–16:45	1570869779	<b><i>Holistic Perspective to Organizational Knowledge Integration for Effective Performance Management</i></b> Veerbhadra Yadwad, Umesh Bushi, S. Bharamanaikar Department of Industrial Engineering Technology,

		Higher Colleges of Technology, UAE
16:45–17:00	1570846416	<b><i>Enhancing Seq2Seq Chatbot Architecture using Teacher Training</i></b> Osama Hosam, Rasha Abousamra, Hussain AlAqrabi, Ossama Embarak Usman Durrani CIS Department, Higher Colleges of Technology, Fujirah, UAE
17:00–17:15	1570869304	<b><i>Power Allocation Factor Controlled Adaptive Hybrid AF and DF Cooperative Relaying in UAVs assisted FANETs</i></b> Muhammad Nauman Bashir, Sameera Iqbal, Kamaludin Mohamad Yusof Universiti Teknologi Malaysia, Malaysia Higher Colleges of Technology, Abu Dhabi, UAE
17:15–17:30	1570869737	<b><i>A Review of Link Scheduling Strategies in Low-Density Multi Relay UAVs-assisted FANETs</i></b> Muhammad Nauman Bashir, Sameera Iqbal, Kamaludin Mohamad Yusof Universiti Teknologi Malaysia, Malaysia Higher Colleges of Technology, Abu Dhabi, UAE
17:30–17:45	1570876360	<b><i>Generalization of higher order methods for fast iterative matrix inversion via GPU acceleration</i></b> Marcus Engsig, Qingjie Yang, Chaouki Kasmir Directed Energy Research Centre, Technology Innovation Institute, Abu Dhabi, UAE
17:45–18:00	1570877187	<b><i>Comprehensive Study of The Cloud Computing Service Providers</i></b> Osama Hosam, Khalifa Alhosani CIS Department, Higher Colleges of Technology, Sharjah, UAE

## Day 4 – Thursday 23<sup>rd</sup> February 2023

	Sub-Conference	Chairs	# of Papers
IEE	Innovations in Engineering Education.	Dr. Asif Nawaz <a href="mailto:anawaz@hct.ac.ae">anawaz@hct.ac.ae</a>	19
AMDM	Advanced Materials, Design, and Manufacturing.	Dr. Najeeb Khan <a href="mailto:nkhan1@hct.ac.ae">nkhan1@hct.ac.ae</a> , Dr. Mansoor Janjua <a href="mailto:mjanjua@hct.ac.ae">mjanjua@hct.ac.ae</a> .	8
IoTMA	Mechatronics, Industry 4.0, IoT and their Applications.	Dr. Mohanad Alata <a href="mailto:malata@hct.ac.ae">malata@hct.ac.ae</a> , Dr. Saleh Ahmad <a href="mailto:sahmad@hct.ac.ae">sahmad@hct.ac.ae</a>	7

### Thursday, 23<sup>rd</sup> February, 2023

Technical Session: Innovations in Engineering Education.  
08:00–13:00, Room: Z241 | Session Chair: Dr. Asif Nawaz

Time	Paper ID	Paper Title and Author(s)
08:00–08:15	1570841897	<b><i>Qualitative Assessment of Tangible-Intangible Outcomes and Challenges of Massive Open Online Courses</i></b> Sadia Riaz
08:15–08:30	1570851353	<b><i>Holy Quran Query Correction Search Engine</i></b> Musa Shuaibu Bala
08:30–08:45	1570852298	<b><i>Creating Smart Study Plans for EE Curriculum</i></b> Mohammad S Laghari
08:45–09:00	1570866458	<b><i>Using Sentiment Analysis and Machine Learning to Collect the Perception of Online Learning</i></b> Suhail Madarbakus; Abhishek Gobin; Roopesh Kevin Sungkur
09:00–09:15	1570866846	<b><i>DRONA: A Novel Design of a Drone for Search and Rescue Operations</i></b> Mohammad Jamal Jamjoum; Saif Siouf; Emad AbdelSalam; Fares Almomani; Tareq Salameh
09:15–09:30	1570869309	<b><i>Implementation of numerical computing in Mathematics curriculum</i></b> Ho Hon Leung; Firuz Kamalov
09:30–09:45	1570869559	<b><i>Integration and optimization of Multiple Representations in Engineering Physics through Interactive Multimedia: Design and Impact</i></b> Sandhya Kattayat
09:45–10:00	1570869865	<b><i>Pronuntics: Development of pronunciation assessment model</i></b> Safa Silat; Seville Anna Maria Silveira
10:00–10:15	1570870335	<b><i>Review of the softwares used to test employability skills for the job readiness</i></b> Saeed Abdulla Mohammed Alsaadi; Abdul Vali Syed; Neha Gupta; Gomathy Krishnan
10:15–10:30	1570871975	<b><i>A Methodical Approach for Teaching Two-Dimensional Equilibrium of Particles in Statics</i></b> Mohammad Kilani
10:30–10:45	<b>Break</b>	
10:45–11:00	1570873329	<b><i>Analysis on students' performance in Mathematics courses in Engineering: Correlating courses and Misconceptions</i></b> Mohammad Al Masalmeh; Jinendrika Weliwita; Anil Midathada
11:00–11:15	1570873880	<b><i>An Argument for Education in Archaeological Geophysics</i></b> Adriaan De Man
11:15–11:30	1570874499	<b><i>Enhancing Assessment Placement and Curriculum Structure via Graph-Theoretic Approach</i></b> Mohammad Hayajneh; Asma Wasfi; Bisni Fahad Mon; Ahmad Slim; Najah A. Abu Ali
11:30–11:45	1570876456	<b><i>A Simulation Study to Compare the MISE and MWHD in the Kernel Multivariate Density Estimation</i></b> Abdel-Razzaq Mugdadi; Haneef Anver

11:45–12:00	1570876579	<b>Revolutionizing Engineering Education- Prospective of Generation Z</b> Sameera Iqbal; Muhammad Nauman Bashir; Hussni Farouk Hussni Al-Hajjar; Sokrates Ioannou; Muhammad Abrarulhaq
12:00–12:15	1570876622	<b>A Visualization System for Tracking Student Attention in Smart Classrooms: A primary study</b> Medha Mohan Ambali Parambil; Amna Mohammed Abdulla Alhammadi; Fady Alnajjar; Zouheir Trabelsi; Luqman Ali; Muhammed Swavaf
12:15–12:30	1570876658	<b>A Structure Literature Review on the Application of Augmented Reality in Education</b> Luqman Ali; Ali Nawaz; Medha Mohan Ambali Parambil; Wasif Khan; Hamad Al Jassmi; Fady Alnajjar
12:30-12:45	1570877497	<b>Automating Attendance Management in Educational Institutions: Improving Student Engagement and Academic Performance</b> Krishna Kr. Gupta; Azhar Ashraf; Kavita Verma; Kumar Ashutosh; Wathiq Mansoor; Shadi Atalla
12:45-13:00	1570877866	<b>Interactive Emirates Sign Language e-dictionary Based on Deep Learning Recognition Models</b> Ahmed Abdelhadi Ahmed; Munkhjargal' Gochoo; Ganzorig Batnasan; Munkh-Erdene Otgonbold; Mohamad Taghizadeh
13:00-14:00	<b>Lunch Break</b>	
<b>Thursday, 23<sup>rd</sup> February, 2023</b> Technical Session Advanced Materials, Design, and Manufacturing.. 14:00–16:00, Room: Z245   Session Chair: Dr. Govind Kalimuthu		
14:00–14:15	1570877875	<b>Outstanding Rheological Performance of Imidazolium-Based Ionic Liquids for Enhanced Oil Recovery</b> Noran Mousa <sup>1</sup> ; Basim Abu-Jdayil <sup>1</sup> ; Abdulrazag Zekri <sup>1</sup> <sup>1</sup> UAE University, United Arab Emirates
14:15–14:30	1570877876	<b>Elastic Buckling Analysis of Functionally Graded Skewed Thin Plates With Various Aspect Ratios</b> Mohamed Essam Elkafrawy <sup>1</sup> ; Adnan Alashkar <sup>2</sup> ; Rami Hawileh <sup>2</sup> ; Mohammad AlHamaydeh <sup>2</sup> <sup>1</sup> American University of Sharjah & Tanta University, United Arab Emirates <sup>2</sup> American University of Sharjah, United Arab Emirates
14:30-14:45	1570877880	<b>Rejuvenating Laboratory Aged Asphalt Binder Using Neem Seed Oil</b> Alaa Sukkari <sup>1</sup> ; Helal Ezzat <sup>2</sup> ; Waleed Zeiada <sup>3</sup> ; Ali Al Kiblawy <sup>1</sup> ; Syrine Chabchoub <sup>4</sup> ; Ghazi Al-Khateeb <sup>1</sup> <sup>1</sup> University of Sharjah, United Arab Emirates <sup>2</sup> University of Sharjah, United Arab Emirates & Mansoura University, Egypt <sup>3</sup> Civil Engineering, United Arab Emirates <sup>4</sup> Polytechnic School of Tunisia, United Arab Emirates
14:45–15:00	1570877883	<b>Review of Causes and Mitigations for Stress Corrosion Cracking on Carbon Steel Piping</b> Ravishankar Dudhe <sup>1</sup> ; Puratchivelan Krishnan <sup>1</sup> <sup>1</sup> Manipal Academy of Higher Education, Dubai, United Arab Emirates
15:00–15:15	1570878084	<b>Mechanical Analysis of a Gearless Elbow Transmission Mechanism</b> Adebayo Y Badmos <sup>1</sup> ; Fyzal Badarudeen <sup>1</sup> <sup>1</sup> Higher Colleges of Technology, United Arab Emirates
15:15-15:30	1570874776	<b>Numerical analysis of orthogonal machining of Ti6Al4V using different tool rake angles and edge radii</b> Mohammed Mustafa <sup>1</sup> ; Salman Pervaiz <sup>2</sup> ; Ibrahim Deiab <sup>3</sup> <sup>1</sup> American University of Sharjah, United Arab Emirates <sup>2</sup> Rochester Institute of Technology - Dubai, United Arab Emirates <sup>3</sup> University of Guelph, Canada
15:30–15:45	1570874842	<b>3D Printing in the Construction Industry</b> Ahlam Khaldoune <sup>1</sup> ; Arafat Abdulrahman Mohammed <sup>1</sup> <sup>1</sup> American University of Sharjah, United Arab Emirates

15:45–16:00	1570875477	<b><i>Fabrication of PVDF hollow fiber membrane using mixed solvents employed in water treatment</i></b> Nayef Mohamed Ghasem <sup>1</sup> <sup>1</sup> UAE University, United Arab Emirates
16:00–16:15	<b>Break</b>	
<b>Thursday, 23<sup>rd</sup> February, 2023</b> Technical Session: Mechatronics, Industry 4.0, IoT and their Applications. 16:15–18:00, Room: Z245   Session Chair: Dr. Laith Sawaqed		
16:15–16:30	1570877766	<b><i>Hysteresis Compensation and IMC Design for Piezoelectric Actuators</i></b> Abrar Ahmad Atieh Sobuh <sup>1</sup> ; Sofiane Khadraoui <sup>1</sup> <sup>1</sup> University of Sharjah, United Arab Emirates
16:30–16:45	1570877815	<b><i>Design of a Trust-Based Authentication Scheme for Blockchain-Enabled IoV System</i></b> Debashis Das <sup>1</sup> ; Sourav Banerjee <sup>2</sup> ; Pushpita Chatterjee <sup>3</sup> ; Uttam Ghosh <sup>4</sup> ; Wathiq Mansoor <sup>5</sup> ; Biswas Utpal <sup>1</sup> <sup>1</sup> M. Tech, India & University of Kalyani, India <sup>2</sup> Kalyani University, India <sup>3</sup> Kalyani Government Engineering College, India <sup>4</sup> Tennessee State University, USA <sup>5</sup> Universithy OF Dubai, United Arab Emirates
16:45–17:00	1570877828	<b><i>Image Classification for Toxic and Non-Toxic Plants in United Arab Emirates</i></b> Khulood Alobeidli <sup>1</sup> ; Maad Shatnawi <sup>1</sup> ; Bakheeta Almansoori <sup>1</sup> <sup>1</sup> Higher Colleges of Technology, United Arab Emirates
17:00–17:15		
17:15–17:30		
17:30–17:45		
17:45–18:00		



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