

**6<sup>th</sup> INTERNATIONAL CONFERENCE ON ENERGY RESEARCH &  
DEVELOPMENT (ICERD – 6)**

*March 14-16, 2016*

**Crowne Plaza Kuwait**

**Organized By:**



**Sponsored By:**



**6<sup>th</sup> INTERNATIONAL CONFERENCE ON ENERGY RESEARCH &  
DEVELOPMENT (ICERD – 6)**



**Detailed Final Program**

**Monday March 14, 2016 (Day 1)**

**Opening Ceremony** 9:00 am to 9:45 am (Al BARAKA)

**Coffee Break** 9:45 am to 10:00 am

**Keynote 1** 10:00 to 10:50 am (Al BARAKA)

Title: **Energy Challenges in Kuwait and GCC: in Low Oil Price Environment**

Speaker: Dr. Adnan Shihab-Eldin

## **Sessions 11:00 am to 12:30 pm**

(DANA-1)

**Session Title: Renewable Energy Application I**

Session Chairs: M.H. Hosni

Co-Chairs: Djamel Ouahrani

1. Paper Title: **Performance Evaluation of Solar Flat Plate Collector Under Climatic Conditions of Islamabad Pakistan.**  
Author: Fawad Azeem
2. Paper Title: **Utilizing Solar Energy for Operating Indoor Fans and Water Pump of Fcu System.**  
Author: Esam Jassim
3. Paper Title: **How to Integrate Large Shares of Variable Renewables in Electricity Systems.**  
Author: Reinhard Haas
4. Paper Title: **Energy Performance, Environmental Impact, and Co3st Assessments of one MWp Photovoltaic Market Technologies Plant under Kuwait Climate Condition.**  
Author: Ahmed Hamza H Ali

(DANA-2)

**Session Title: Thermal Comfort and IAQ**

Session Chairs: Timothy G. Wentz

Co-Chairs: Essa Khalil

1. Paper Title: **Energy Consumption Indicators of Public Facilities in AP Vojvodina with Focus on Human Factor and Factors Influencing**  
Author: Milana Medojevic
2. Paper Title: **Optimized Strategy for Combined Liquid Desiccant Dehumidification Membrane with Chilled Ceiling and Displacement Ventilation System.**

Author: Nesreen Ghaddar

3. Paper Title: **CFD Modeling of Operator Movement Effects on the Dispersion of Particles in Clean Rooms.**

Author: Jaber Eslami

4. Paper Title: **Assessment of Air Distribution in Office Spaces: Improving Indoor Thermal Comfort.**

Author: Essam E Khalil

## **Keynote 2**

1:30 pm to 2:20 pm

(AI BARAKA)

Title: **International Developments in Certification and Labeling of Building Performance**

Speaker: Eng. John W. Field

## **Sessions 2:30 pm to 3:30 pm**

(DANA-1)

**Session Title: Cooling Technologies**

Session Chairs: Nesreen Ghaddar

Co-Chairs: Aisha Buqrais

1. Paper Title: **Energy Efficiency and Optimization Measures of Compressed Air Systems with Pneumatic Cylinders As an End Compressed Air Energy Users in the Large Exhibition Hall.**

Author: Melovan Medojevic

2. Paper Title: **MODEL Predicting Future Energy Performance of Natural Ventilation in Beirut.**

Author: Kamel Aboughali

3. Paper Title: **A New Mshe Design in the Context of Cryogenic Unit by Pinch Technology.**

Author: Fatemeh Joda

(DANA-2)

Session Title: **Energy Management**

Session Chairs: Nawaf Al Mutawa

Co-Chairs: Masouma Ashkanani

1. Paper Title: **On Current and Future Economics of Long-Term Electricity Storages.**  
Author: Reinhard Haas

## **Tuesday March 15, 2016 (Day 2)**

### **Keynote 3**

9:00 am to 9:50 am

(Al BARAKA)

Title: **HVAC Trends and Strategies: The Future of Smart Buildings and System Efficiencies**

Speaker: ASHRAE President-Elect Tim Wentz, P.E.

### **Sessions 10:30 am to 12:00 am**

(DANA-1)

Session Title: Renewable Energy Application II

Session Chairs: Majid Majeed

Co-Chairs: Nawaf Al-Juwayhel

1. Paper Title: **Selection of an Appropriate Solar Adsorption Chiller System for a Cold Storage Facility.**  
Author: Dibakar Rakshit
2. Paper Title: **Thermal Performance and Experimental Study of Solar Chimneys Integrated into a Room in Assiut University, Egypt.**  
Author: Amr Sayed Hassan Abdallah
3. Paper Title: **Geothermal HEAT Sink Energy Scenarios of a District Cooling Case Study with Ground Water Source HEAT Pump.**  
Author: Hesham Mohamed Safwat Osman Mohamed
4. Paper Title: **Marine Energy Resources in Kuwait.**  
Author: Neelamani Subramaniam

(DANA-2)

Session Title: **Cooling Application**

Session Chairs: Esam Al Awadhi

Co-Chairs: Sitaraman Chandra Sekhar

1. Paper Title: **Mathematical Modeling of PCM Cooling Vest for Workers in Hot Climates.**  
Author: Djamel Ouahrani
2. Paper Title: **A Thermodynamic Analysis of the Temperature Drop and Potential Cooling Effect of Cavitation.**  
Author: M.H. Hosni
3. Paper Title: **Utilizing Supersonic Nozzle for Air Dehumidification Process in A/C System.**  
Author: Nawaf Alkhan, Mohammed Albinali, Muaath Bajunaid and Mohammed Al-Khaldi

**Keynote 4**

**1:00 pm to 1:50 pm**

(Al BARAKA)

Title: **Carbon Capture, Reuse and Storage; Drivers and Emerging Technologies**

Speaker: Dr. Ahmed F. Ghoniem

**Sessions 2:00 pm to 3:30 pm**

(DANA-1)

Session Title: **Heat Transfer**

Session Chairs: Bader Sharaian

Co-Chairs: Ayman Youssef

1. Paper Title: **CFD Study on the Air-Side Thermo-Hydraulic Performance for Micro-Channel Heat Exchangers.**  
Author: Man-Hoe Kim

2. Paper Title: **Coupled Liquid and Vapor Flow in Porous Medium of Heat Pipes.**  
Author: A. Nouri Borujerdi
  
3. Paper Title: **Modeling of Condensation Film Thickness and Heat Transfer in Two-Phase Closed Thermosyphons.**  
Author: A. Nouri Borujerdi
  
4. Paper Title: **Heat Transfer Enhancement by Using Corrugated Surface in Laminar Radial Flow Cooling System with Nano-Fluids.**  
Author: Mohammed Fayed

(DANA-2)

Session Title: **Building Envelope**

Session Chairs: Osama Ebrahim

Co-Chairs: Adel Alshaiji

1. Paper Title: **Enhancing the Thermal Performance of Windows Used in Traditional Design Buildings.**  
Author: Esam Alawadhi
  
2. Paper Title: **Thermal Insulation System for Energy Efficient and Green Buildings.**  
Author: Krishna Kumar Mitra
  
3. Paper Title: **Effect of Operating Temperature and Moisture Content on the Thermal Conductivity of Building Insulation Material.**  
Paper Author: Maatouk Khoukhi



## **Sessions 1:30 pm to 3:30 pm**

(DANA-3)

**Session Title: Mechanical Engineering Chair Regional Meeting**

Session Chairs: Prof. M.H. Hosni

- ASME Vision 2030, Ideas and action items to enhance Mechanical Engineering Education.
- Ideas for curriculum reform, strategies to handle increased student enrollment in ME, and initiatives to keep the students engaged and motivated in their college education.
- ABET Criterion 3 (Student Outcomes) changes and their assessment.
- Improve collaborations among ME Departments

## **Wednesday March 16, 2016 (Day 3)**

### **Keynote 5**

9:00 am to 9:50 am

(Al- JAWHARA)

Title: **Sustainable HVAC Technologies for Occupant Comfort and Well-Being in the Built Environment**

Speaker: Dr. Sitaraman Chandra Sekhar

### **Sessions 10:15 am to 12:00 pm**

(DANA-1)

**Session Title: Energy Performance**

Session Chairs: Mohammad Salman

Co-Chairs: Sorour Alotaibi

1. Paper Title: **Constructing a Net Zero Laboratory in the United Arab Emirates: Mission Impossible?**  
Author: Gordon Sharp
2. Paper Title: **Performance Analysis of Energy Consumption and Energy Use Intensity for a Hotel Building.**  
Author: Fu-Jen Wang
3. Paper Title: **Impact of Dust Storms on Residential Buildings' Energy Performance in Saudi Arabia.**  
Author: Salem Algarni
4. Paper Title: **Energy Saving Potential of Indirect/ Direct Evaporative Cooling (IDEC) in AC Applications under Extreme Hot and Humid Conditions in Saudi Arabia.**  
Author: Ayman Youssef
5. Paper Title: **Holistic Approach to Energy Performance of Buildings: New Era of Standards.**  
Author: Essam Khalil

(DANA-2)

Session Title: **Fluid Flow**

Session Chairs: Asad Alebrahim

1. Paper Title: **Analytical Solution of Fluid Flow in Channels with Partially Felled Porous Medium.**

Author: A. Nouri-Borujerdi

Session Title: **Refrigerant**

1. Paper Title: **Performance Enhancement and Optimization of a Binary Refrigerant Domestic Refrigerator.**

Author: Bakhtier Farouk

2. Paper Title: **Experimental Modeling and Simulation of High Ambient Temperature Refrigerants for Air Conditioning.**

Author: Sahar Ajrawi

Session Title: **Power Plant Applications**

1. Paper Title: **MSF-RO Hybrid System for Seawater Desalination in Kuwait.**

Author: Yousef Gharbia