Gulf conference on sustainable built environment 2019
10-13 March, 2019 - Kuwait

مؤتمر الخليج لبيئة عمرانية مستدامة
10-13 مارس 2019 - الكويت
**Day 0: Sunday, March 10, 2019**

**Welcoming and registration**

16:30 – 20:00  Registration, Marina Hotel

19:00 – 21:00  Conference Welcome Reception, Six Palms Lounge at the Marina Hotel

**Day 1: Monday, March 11, 2019**

07:30 – 09:00  Registration: Salwa Al Sabah Ballroom

09:00 – 09:30  Opening Ceremony: Salwa Al Sabah Ballroom
(Moderator: Ali E. Hajiah, Kuwait Institute for Scientific Research, Kuwait)

09:00 – 09:10  Director General, Kuwait Foundation for the Advancement of Sciences, Kuwait.

09:10 – 09:20  Sameera A. S. Omar, Director General, Kuwait Institute for Scientific Research, Kuwait.

09:20 – 09:30  Ali Bumajdad, Conference Chair, Kuwait University, Kuwait.

09:30 – 10:15  Plenary Lecture 1: Salwa Al Sabah Ballroom
(Moderator, Ali E. Hajiah, Kuwait Institute for Scientific Research, Kuwait)

International Collaboration and the Future of Research Universities,
Richard Lester, Massachusetts Institute of Technology, USA.

10:15 – 10:25  Group Photo

10:25 – 11:00  Exhibition Opening / Coffee Break

11:00 – 11:45  Plenary Lecture 2: Salwa Al Sabah Ballroom
(Moderator: Jamal Al-Qazzweeni, Kuwait Institute for Scientific Research, Kuwait)

Roadmap for a Sustainable Built Environment: A Science based Multidisciplinary Research,
Oral Büyükoztürk, Massachusetts Institute of Technology, USA, & Hasan Kamal, Kuwait Municipal Council, Kuwait.

11:45 – 12:15  Keynote Lecture 1: Salwa Al Sabah Ballroom
(Moderator: Adnan Al-Anzi, Kuwait University, Kuwait)

Optimal Energy Analysis of Commercial Buildings in the GCC region, Moncef Krarti, University of Colorado at Boulder, USA.

12:15 – 13:30  Prayer & Lunch

**PROGRAM**

**13:30 – 16:10**

<table>
<thead>
<tr>
<th>Concurrent Session Material (A) Turquoise Hall</th>
<th>Concurrent Session Structure (B) Sapphire Hall</th>
<th>Concurrent Session Energy (C) Topaz Hall</th>
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<tbody>
<tr>
<td><strong>Session Chairs:</strong></td>
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<tr>
<td>Suad Al-Bahar, Kuwait Institute for Scientific Research, Kuwait</td>
<td>Abdullah Al-Enezi, Kuwait Institute for Scientific Research, Kuwait</td>
<td>All E. Hajiah, Kuwait Institute for Scientific Research, Kuwait</td>
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<td>Urs Meier, Empa Swiss Federal Laboratories for Materials Science and Technology, Switzerland</td>
<td>Erdal Safak, Kandilli Observatory and Earthquake Research Institute, Turkey</td>
<td>Moncef Krarti, University of Colorado at Boulder, USA</td>
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**13:30 – 13:50 Invited Talks**

- Advanced experimental characterization of cement pastes with locally available pozzolanic volcanic ash, K. Kupwade-Patil, A. Bumajdad, O. Büyüköztürk, Massachusetts Institute of Technology, USA.

**13:50 – 14:10**

- Structural performance of full-scale reinforced concrete members strengthened in shear with anchored CFRP materials, N. Alotaibi, W. Shekarchi, W. Ghannoum, Kuwait University, Kuwait.
- GPS Monitoring of the Al-Hamra Tower, Kuwait City, T. Herring, C. Gu, N. Toksöz, J. Parol, A. Al-Enezi, F. Al-Jeri, J. Al-Qazweeni, H. Kamal, O. Büyüköztürk, Massachusetts Institute of Technology, USA.

**14:10 – 14:30**

- Compressed Earth Blocks: A sustainable construction alternative, A. S. Saad, H. Al-Sayab, F. Al-Enzei, Australian College of Kuwait, Kuwait.
- Studying the Effect of Building Design and Urban Design Variables in the Reduction of the Electricity Consumption of a Neighborhood in Kuwait, S. A. Al-Mohri, A. Al-Mumin, Kuwait University, Kuwait.

**Gulf Conference on Sustainable Built Environment, GCSBEKW-2019**

Marina Hotel (Salwa Al Sabah Ballroom) – Salmiya

March 10th to March 13th, 2019
14:30 – 14:50  Electrochemical behavior of cement pastes with volcanic ash subjected to accelerated sulfate attack, A. Husain, K. Kupwade-Patil, S. Al-Bahar, Kuwait University, USA.

14:50 – 15:10  On the Behaviour of Recycled Aggregate Concrete Incorporating Slag, M. El-Hawary, A. Al-Yaqouta and K. Nouh, Kuwait University, Kuwait.

15:10 – 15:30  Life-Cycle Cost Optimization for Devising Maintenance and Repair Strategies for Steel Bridges, H. Mahmoud, A. Chulahwat, Colorado State University, USA.


15:50 – 16:10  Design and manufacturing a miniature Reynolds Apparatus for testing nanofluids, A Sedaghat, H. Salem, L. Borvayeh, M. Rashid, A. Amini, S. Ghafouri, Australian College of Kuwait, Kuwait.

16:10 – 16:30  Refreshment and Poster Session I

16:30 – 17:10  Concurrent Session I

Concurrent Session Materials (A) Turquoise Hall

Concurrent Session Structure (B) Sapphire Hall

Concurrent Session Environment and Policies (D) Topaz Hall

19:30 – 21:00  Conference Dinner (by invitation), Atlantis Restaurant at the Marina Hotel

Day 2: Tuesday, March 12, 2019

09:00 – 09:45  Plenary Lecture 3: Salwa Al Sabah Ballroom
(Moderator: Hasan Kamal, Kuwait Municipal Council, Kuwait)

Sustainability of Carbon Fiber Reinforced Polymers in Construction, Urs Meier, Empa Swiss Federal Laboratories for Materials Science and Technology, Switzerland.

09:45 – 10:15  Keynote Lecture 2: Salwa Al Sabah Ballroom
(Moderator: Ali Bumajdad, Kuwait University, Kuwait)

10:15 – 11:00  Refreshment

11:00 – 12:40  Concurrent Session Materials (A) Turquoise Hall
Concurrent Session Structure (B) Sapphire Hall
Concurrent Session Environment and Policies (D) Topaz Hall

11:00 – 11:20  A Study of Using Asphalt Rubber for Road Pavements in Kuwait, S. M. Soleimani, Z. Mowaze, A. Faheiman, Australian College of Kuwait, Kuwait.

11:20 – 11:40  Research Needs for Seismic Design of Structure, E. Safak, Kandilli Observatory and Earthquake Research Institute, Turkey (Invited Talk)

11:40 – 12:00  Krail Al-Sanad, Kuwait Institute for Scientific Research, Kuwait.

12:00 – 12:20  Sustainability Guidelines: Islamic Principles and Pro-Environmental Responsiveness, C. Amor, Virginia Commonwealth University, Qatar.
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<thead>
<tr>
<th>Time</th>
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<tr>
<td>11:20 – 11:40</td>
<td>A Characterization Study of Late Neolithic Ceramics from As-Sabbiya, Kuwait, Using Non-Destructive pXRF, H. Ashkanani, R. H. Tykot, S. Al-Duwaish, Kuwait University, Kuwait.</td>
<td>14:00 – 15:00</td>
<td>Concurrent Session Energy (C) Turquoise Hall</td>
<td>Hussein J. Hussain, Kuwait Institute for Scientific Research, Kuwait.</td>
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<td>11:40 – 12:00</td>
<td>Modeling the Rutting Behavior of Asphalt Mixtures Obtained by Accelerated Testing Device, T. Ahmed, M. H. Yassin, Australian College of Kuwait, Kuwait.</td>
<td>15:00 – 16:00</td>
<td>Concurrent Session Structure (B) Sapphire Hall</td>
<td>Bilal Ayub, University of Maryland College Park, USA.</td>
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<td>12:00 – 12:20</td>
<td>Three-Dimensional Mesoporous TiO2 Films Deposited onto Windows Glass Substrates for Self-Cleaning Applications, A. A. Ismail, L. A. Al-Hajji, Kuwait Institute for Scientific Research, Kuwait.</td>
<td>14:00 – 16:00</td>
<td>Concurrent Session Education and Policies (D) Topaz Hall</td>
<td>Leila Dagher, American University of Beirut, Lebanon.</td>
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<td>12:20 – 12:40</td>
<td>Historic heritage protection as a part of sustainable growth, organization, methods, achievements, J. W. Lukaszewicz, Nicolaus Copernicus University, Poland.</td>
<td>14:00 – 14:20</td>
<td>Session Chair</td>
<td>Eitidal Al-Bassam, Kuwait Institute for Scientific Research, Kuwait.</td>
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<td>12:40 – 14:00</td>
<td>Prayer &amp; Lunch Break</td>
<td>14:20 – 14:40</td>
<td>Long-Term Energy and Moisture Performance of Reflective and Non-Reflective Roofing Systems with and without PCM under Kuwaiti Climates, A. Hajjah, H. Saber, Kuwait Institute for Scientific Research, Kuwait.</td>
<td>The road for sustainable and &quot;smart&quot; city: The case of Mutlaa City in Kuwait, H. M. AlTabtabai, Kuwait University, Kuwait.</td>
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<td>14:40 – 15:00</td>
<td>Using Optimization Analysis for Characterizing Transient Thermally Equivalent Wall, A. Al-Masri, K. Khanfar, Australian College of Kuwait, Kuwait.</td>
<td>15:00 – 15:20</td>
<td>Promoting Sustainable Built Environment through Climate Change Mitigation in Saudi Arabia, I. R. Abubakar, Imam Abdulrahman Bin Faisal University, Saudi Arabia.</td>
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<td>12:45 – 13:15</td>
<td>Closing Session: Salwa Al Sabah Ballroom</td>
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<td>Ali Bumajdad, Conference Chair. A. E. Hajiah, Organizing Committee Chair</td>
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<td>13:15 – 15:00</td>
<td>Prayer &amp; Lunch Break</td>
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<td>15:00 – 18:00</td>
<td>Workshops</td>
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<td>15:00 – 18:00</td>
<td>Advanced characterization of cement-based materials</td>
<td>(VIP Room)</td>
<td>K. Kupwade-Patil &amp; O. Buyukozturk</td>
<td>Massachusetts Institute of Technol</td>
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<td>15:00 – 18:00</td>
<td>Fundamentals of Structural Health Monitoring with novel applications</td>
<td>Sapphire Hall</td>
<td>D. Sen &amp; O. Buyukozturk</td>
<td>Massachusetts Institute of Technol</td>
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<td>15:00 – 18:00</td>
<td>Energy Productivity Analysis of Large-Scale Energy Efficiency Programs</td>
<td>Topaz Hall</td>
<td>M. Krarti, University of Colorado at Boulder, CO, USA</td>
<td>Kuwait Environment for Renewable Ener</td>
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<td>15:00 – 18:00</td>
<td>Solar energy for a sustainable low-energy buildings</td>
<td>Turquoise Hall</td>
<td>S. Mohasseb, Smteam GmbH, Zurich, Switzerland</td>
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<td>15:00 – 18:00</td>
<td>Optional Social Trips (Tours)</td>
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**Day 3: Wednesday, March 13, 2019**

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<th>Speaker(s)</th>
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<tr>
<td>09:00 - 09:45</td>
<td>Plenary Lecture 4: Salwa Al Sabah Ballroom</td>
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<td>Leila Dagher, American University of Beirut, Lebanon.</td>
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<td>09:45 – 10:15</td>
<td>Keynote Lecture 3: Salwa Al Sabah Ballroom</td>
<td>Salwa Al Sabah Ballroom</td>
<td>Saud Al-Otaibi, Kuwait Institute for Scientific Research, Kuwait</td>
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<td>10:15 – 10:45</td>
<td>Keynote Lecture 4: Salwa Al Sabah Ballroom</td>
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<td>M. Krarti, University of Colorado at Boulder, CO, USA</td>
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<td>10:45 – 11:15</td>
<td>Refreshment</td>
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<td>11:15 – 12:45</td>
<td>Round Table Discussion: Salwa Al Sabah Ballroom</td>
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<td>Ali E. Hajiah, Kuwait Institute for Scientific Research, Kuwait</td>
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**Building and Architectural Acoustics Code for the Gulf Region**

**Public space in Kuwait: from user behaviour to policy-making**

**Towards a Sustainable Approach to Urban Planning: A Human-Focused Vision for the New Kuwait**

**Building energy auditing case study jabber library**

**Investigating the potential for green power in the GCC**

**Challenges and opportunities for concrete in the digital era**

**Nano-composite windows converting solar power in electricity for self-sustaining buildings**

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Support

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KISR
Massachusetts Institute of Technology

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