

Poster Abstracts

Day 1

1. **Big data in materials science: Application to energy storage materials**
Donald Siegel, University of Michigan, United States
2. **Novel synthesis of nanofiltration hollow fiber membranes for toxic metal removal from wastewater**
Ramia Albakain, The University of Jordan, Jordan
3. **Compounding impacts of human-induced water stress and climate change in the MENA region**
Amir AghaKouchak, University of California, Irvine, United States
4. **Big Data: Exploring the challenges and opportunities for Kuwait's healthcare system**
Dari Alhuwail, Kuwait University, Kuwait
5. **Open water data and Alto optimize water resources management and aquatic ecosystem restoration**
Mark Tompkins, FlowWest, LLC, United States
6. **Bacterial contamination & mutagenicity of Malva parviflora grown side of Zarqa river in Jordan**
Nisreen AL-Quraan, Jordan University of Science and Technology, Jordan
7. **Climate change impacts on the built environment**
Simi Hoque, Drexel University, United States
8. **Integrated coastal zone management for the state of Kuwait: A conceptual framework**
Alanoud Al-Ragum, Kuwait Institute for Scientific Research, Kuwait
9. **Desalination of high-salinity brines: Novel energy-efficient technologies**
Ngai Yin Yip, Columbia University, United States
10. **Alternative approaches for controlling microbes: Light, nano and beyond.**
Rehab Amin, Cairo University, Egypt
11. **Automated design and fabrication of customized biomedical devices**
Paul Egan, Texas Tech University, United States
12. **Hamiltonicity in complex networks**
Milica Andelic, Kuwait University, Kuwait
13. **Lessons learned from the microbiome**
Sammy Datwani, Labcyte, United States
14. **IoT and big data technologies for occupancy detection in smart buildings**
Mohamed Bakhouya, International University of Rabat, Morocco

- 15. Innovative distributed electrochemical generators for next generation buildings and infrastructure**
Whitney Goldsborough Colella, Gaia Energy Research Institute, United States
- 16. Approaches to achieve sustainable groundwater management in the southern shore of the Mediterranean**
Adel Zghibi, University Tunis El Manar, Tunisia
- 17. Earth observations addressing key challenges**
Hesham El-Askary, Chapman University, United States
- 18. Tailoring the mechanics of origami to enable large-scale deployable and adaptable infrastructure**
Evgueni Filipov, University of Michigan, United States
- 19. Vacuolar sugar transporter identification in *Agave americana marginata***
Dalal Albaijan, Kuwait Institute For Scientific Research, Kuwait
- 20. Computational modeling to guide air quality research and environmental policy**
Fernando Garcia Menendez, North Carolina State University, United States
- 21. Adsorption of heavy metals and methylene blue from wastewater onto silica alumina geopolymers**
Malyuba Abu-Daibes, Australian College of Kuwait, Kuwait
- 22. Engineering advanced water purification membranes using fundamental structure/property relationships**
Geoffrey Geise, University of Virginia, United States
- 23. GIS based method for the characterization of atmospheric dust particles**
Amin Nawahda, Palestine Technical University - Kadoorie, Palestine
- 24. Use of ultra high-performance concrete and copper-based superelastic alloys in columns**
Esref Gencturk, University of Southern California, United States
- 25. Applying data and systems analysis to risk-based decision making**
Ellie Graeden, Talus Analytics, United States
- 26. Airborne dust microbiome in Kuwait**
Nazima Habibi, Kuwait Institute for Scientific Research, Kuwait
- 27. Safeguarding water infrastructure from heavy metal contaminants using novel electrochemical sensors**
Rohan Akolkar, Case Western Reserve University, United States
- 28. Managing environmental big data : Using apache spark for water and air quality data**
Hicham Hajji, IAV Institute, Morocco

- 29. Dust Storms in the southwestern United States: Health impacts and meteorological predictors**
James Crooks, Colorado School of Public Health, United States
- 30. Nano-microbial sensors for rapid capture and detection of pathogens**
Rabeay Hassan, Zewail City For Science And Technology, Egypt
- 31. Structural engineering with rocks and string**
Douglas Holmes, Boston University, United States
- 32. The impact of different types of filters on the quality of drinking water in the state of Kuwait**
Abdalrahman Alsulaili, Kuwait University, Kuwait
- 33. Scaling up micro- and nano-fluidics for disease diagnostics and drug manufacturing**
David Issadore, University of Pennsylvania, United States
- 34. Smart city testbed for cybersecurity research**
Michail Maniatakos, New York University Abu Dhabi, United Arab Emirates

Day 2

- 35. The Enve-Omics Lab: At the interface of microbial ecology with engineering and bioinformatics.**
Kostas Konstantinidis, Georgia Institute of Technology, United States
- 36. Infrastructure management in Kuwait: Shuwaikh Port as a case study**
Sharaf AlKheder, Kuwait University, Kuwait
- 37. Effects intermittent operation of piped water distribution systems on water quality**
Emily Kumpel, University of Massachusetts Amherst, United States
- 38. Photocatalytic oxidation of volatile organic compounds for indoor air purification**
Moursi Abu Bieh, Egyptian National Research Center, Egypt
- 39. Harnessing water chemistry to address complex water challenges for a thirsty world**
Haizhou Liu, University of California, Riverside, United States
- 40. Environmental radioactivity in food and air**
Tareq Alrefae, Kuwait University, Kuwait
- 41. Designing microbial consortia with defined social interactions**
Ting Lu, University of Illinois at Urbana-Champaign, United States
- 42. Modal analysis of cancer metastasis**
Bridget Martinez, Los Alamos National Laboratory, United States
- 43. Spatiotemporal analysis of the Nile river microbial diversity along the Cairo metropolis**
Ayman Yassin, Cairo University, Egypt

- 44. Hyperloop: Infrastructure security implications of the revolutionary transportation mode**
Mostafa Mobasher, Thornton Tomasetti, United States
- 45. The co-occurrence of extreme ozone and hot temperature events and impact of the general circulation**
Kenza Khomsi, Hassan II University, Morocco
- 46. Climate model shows large-scale wind and solar farms in the Sahara increase rain and vegetation**
Safa Motesharrei, University of Maryland, United States
- 47. Next generation functional organic materials for environmental remediation**
Lei Fang, Texas A&M University, United States
- 48. Interaction between host genome and gut microbiome in inflammatory bowel disease**
Ahmed Moustafa, American University in Cairo, Egypt
- 49. Air quality insight from open source data: OpenAirLocal**
Richard Peltier, University of Massachusetts Amherst, United States
- 50. Small-scale spatio-temporal statistical mapping of criteria air pollutants in Kuwait**
Alanood Alkhaled, Kuwait University, Kuwait
- 51. Wireless sensors for monitoring pharmaceutical lyophilization**
Dimitrios Peroulis, Purdue University, United States
- 52. Geomatics for delineation of groundwater potential zones in Medjerda watershed, Tunisia**
Fatma Trabelsi, University of Jendouba, Tunisia
- 53. Data Adsorption of oxyanions on ferrihydrite studied by flow microcalorimetry and computational chemistry**
Nadine Kabengi, Georgia State University, United States
- 54. Assessing the genomic diversity and selection footprints on dromedary camels using full genome sequencing and genotyping-by-sequence approaches**
Hussain Bahbahani, Kuwait University, Kuwait
- 55. Modulation of virulence in the skin microbiome by botanical natural products**
Cassandra Quave, Emory University, United States
- 56. Multifunctional porous polycalix[n]arenes for efficient water purification**
Dinesh Shetty, New York University Abu Dhabi, United Arab Emirates
- 57. Harnessing the cold of space as a renewable resource: Radiative sky cooling**
Aaswath Raman, University of Pennsylvania, United States

- 58. Exploring stochastic gene expression in the microbiome using biomimetic robots**
Warren Ruder, University of Pittsburgh, United States
- 59. A new classification approach for big data security based on networks labeling**
Sahel Alouneh, German Jordanian University, Jordan
- 60. Engineering human functions: Novel data analytics and instrumentation to alter swallowing and gait**
Ervin Sejdic, University of Pittsburgh, United States
- 61. Effect of soil spatial variability on onshore and offshore foundations.**
Mbarka Selmi, National Engineering School of Gabes, Tunisia
- 62. Bioinspired design of structural and thermal materials**
Nima Rahbar, Worcester Polytechnic Institute, United States
- 63. Determination of radiation sterilization dose (RSD) of bio-hazards using omics data**
Haitham Sghaier, National Center for Nuclear Sciences and Technology, Tunisia
- 64. Accelerating the discovery of new superhard materials via materials informatics**
Taylor Sparks, University of Utah, United States
- 65. Seismic performance of structural reinforced concrete walls**
Rafik Taleb, University of Blida 1, Algeria
- 66. Electrochemical nitrogen recovery from wastewater**
William Tarpeh, Stanford University, United States
- 67. Gamma radiation induced degradation of some dyes in aqueous solutions**
Haikel Jelassi, National Centre for Nuclear Sciences and Technologies, Tunisia
- 68. Microbial community engineering for clean water, renewable energy, and resource recovery**
George Wells, Northwestern University, United States
- 69. Impact of infection and treatment on epigenetic profiles of malarial children in Burkina Faso**
Dareen Almojil, New York University Abu Dhabi, United Arab Emirates