



KFUPM



16th Saudi Technical Exchange Meeting (STEM 2020)

14 December 2020 (Online)

R&D in Clean Energy: Challenges and Opportunities

One of the main objectives of Saudi Arabia Vision 2030 is to create a sustainable economy by diversifying investments and increasing utilization of renewable "clean" energy resources.

An important endeavor under this vision is the KSA "clean energy mix", which will significantly increase renewable generation, radically change energy networks, and introduce intelligent information and communication infrastructures. STEM 2020 builds upon the success of previous workshops in addressing major technological issues related to the energy sector in the region. For this edition, the focus will be clean energy resources. The workshop will be a unique platform gathering top world-class researchers and industrial/ governmental leaders in the field of clean energy. It will be a unique opportunity to listen and interact with distinguished leaders from the industry and government sectors in the Kingdom as well as international eminent scholars in the field of energy.

ORGANIZED BY



KING FAHD UNIVERSITY OF PETROLEUM & MINERALS

College of Engineering and Applied Engineering



KING FAHD UNIVERSITY OF PETROLEUM & MINERALS

KFUPM Institute for Knowledge Exchange (KIKX)



ELECTRICAL ENGINEERING DEPARTMENT

M. Eng. in Sustainable and Renewable Energy



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Forum Schedule

Monday, 14 December, 2020 (Saudi Arabia Time, GMT+3)

SESSION 1: Opening Session
8:15 – 9:30



Session Chair:
Dr. Ali Al-Shaikhi

08:15 - 08:30 **Welcome Address**



Dr. Muhammad Al-Saggaf,
President,
King Fahd University of Petroleum & Minerals (KFUPM),
Saudi Arabia

08:30 – 08:50



Mr. Ahmad Al Khowaiter,
Chief Technology Officer,
Saudi Aramco,
Saudi Arabia

08:50 – 09:10



Dr. Bob Maughon,
Executive VP,
Sustainability and Technology & Innovation, SABIC,
Saudi Arabia

09:10 – 09:30



Mr. Peter Terium,
Managing Director
Energy, Water and Food, NEOM,
Saudi Arabia

SESSION 2:
09:45 – 12:00



Session Chair:
Prof. Mohamed Deriche

09:45 – 10:30 **How Cheap Can Solar Photovoltaics Become?**



Prof. Martin Green,
Professor,
UNSW,
Australia

10:30 – 11:15 **The Changing Global Energy Environment: Implications for the Renewable Energy Development**



Prof. Akhtar Kalam,
Professor,
Victoria University,
Australia

11:15 – 12:00 **Artificial Intelligence and Renewable Energy**



Prof. Fausto Pedro García Márquez,
Professor
University of Castilla-La Mancha,
Spain

SESSION 3:
13:00 – 16:15



Session Chair:
Prof. Shamshad Ahmed

13:00 - 13:45 **Perovskites Solar Cells: A New Paradigm in the Energy Sector**



Prof. Mohammad Nazeeruddin,
Professor,
École Polytechnique Fédérale de Lausanne, EPFL,
Switzerland

13:45 - 14:15 **Water Desalination using Renewable Energy: Future and Challenges**



Prof. Fahad Al-Sulaiman,
Professor,
KFUPM,
Saudi Arabia

14:15 - 14:45 **High-Throughput Screening of Inorganic Halide Perovskites for Photovoltaic Materials**



Prof. Fahhad AlHarbi,
Professor,
KFUPM,
Saudi Arabia

14:45 - 15:30 **Covid-19 Coronavirus: Closing Carbon Age, but Opening Hydrogen Age**



Prof. Ibrahim Dincer,
Professor,
Ontario Tech University,
Canada

15:30 - 16:15 **Using Reversible Metal Electrodeposition to Make Windows with Adjustable Tinting for Improving Energy Efficiency**



Prof. Mike McGehee,
Professor,
U. Colorado,
USA

Closing Remarks:
16:15-16:30



Chaired by:
Dr. Ali Al-Shaikhi