

Nanotechnology for development of advanced energy harvest and storage devices

February 17-18, 2015

Masdar Institute of Science and Technology, Abu Dhabi, UAE

February 16

Arrival at Hotel

Yas Island Rotana Hotel

Yas Plaza - Abu Dhabi - United Arab Emirates

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8:30 pm

February 17

Dinner

9:00 am - 10:30 am

Opening at Masdar Institute

Ammar Nayfeh, Masdar, MC

- US-MENA International Collaboration presentation: Energy harvest and storage, Munir Nayfeh, University of Illinois at Urbana-Champaign

- ASTF remarks: Abdalla Alnajjar, Sharjah

-Masdar Institute introduction: Steven Griffiths

10:30 am - 11:00 am

Coffee Break

11:00 am - 12:30pm
devices

New concepts and architectures for renewable energy

- Advanced concepts of hetrostructure and quantum dot solar cells- Experiment and modeling, Ammar Nayfeh, Masdar Institute of Science and Technology, Abu Dhabi

-Polyaniline/Si Nanoparticle Nanocapsules for thin film solar cells, Noha Elhalawany, NRC, Cairo, Egypt

-Novel approaches for energy generation and storage on nanotechnology and biotechnology, Siu Tung Yau, Cleveland State University

-Solar cells: From Silicon to Perovskites, Nouar Tabet, Qatar Foundation

12:30 pm - 1:30 pm

Lunch

1:30 pm - 3:00 pm

Heat and light conversion into electricity

-Advanced Si-Ge near infrared photodetectors, Ali Okyay, Bilkent University

- Synthesis of silicon nanowire arrays for thermal energy to electricity applications, Hakan Ates and Mounir Fizari, University of Illinois-Gazi University, Turkey

- Characterization of Human Body-based Thermal and Vibration Energy Harvesting for Wearable Devices, Baker Mohammad, Khalifa University, Abu Dhabi

-Nanotechnology-Enhanced Solar Thermal Energy Conversion, T.J. Zhang, Masdar

3:00 pm - 3:30 pm

Coffee Break

3:30 pm - 6:00 pm

Nano structures and lighting

- Light harvesting enhancement for high-efficiency panchromatic dye-sensitized solar cells, N. X. Fang, MIT
- Infrared Colloidal Quantum Dot Chalcogenide Films for Integrated Light Sources, C. Dimas, Masdar
- Light management in PV solar cells: Characterization of a Dynamic Slow Light Cell, M. S. Dahlem, Masdar
- Time dynamics of Charge in thin photovoltaic devices, Abdulla Aldwayyan, KSU, Riyadh, Saudi Arabia
- Nanocluster production for solar cell applications, Ahmad I. Ayes, Qatar University
- DC/AC conductivity of thin films, Saleh Mahmoud, United Arab Emirate University

7:30 pm

Shaikh Zayed Mosque and Dinner

February 18

8:30 am - 10:00 am

Nanoparticle material and films I

- Synthesis of luminescent copper nanoparticles using electrochemical deposition, Laila Abuhassan, University of Jordan
- Carbon nanomaterials scale sensors for oil and gas industry, A. Al Ghaferi, Masdar
- Nano silicon-enhanced UV detection for various applications, James Malloy and Steve Magill, Argonne National Laboratory and University of Illinois
- Supercritical deposition of Vanadium oxide within CNTs network for supercapacitor, Quyet Do, Saigon High Tech Park, Ho Chi Minh City, Vietnam
- Functional Nanomaterials: Applications in Sensing and Catalysis, M. Ishaque Khan, Illinois Institute of Technology, Chicago

10:00 am - 10:30 am

Coffee Break

10:30 am - 11:45 am

Nanoparticle material and films II

- Atomization, spray and imaging of polymer nanofibers and nanoparticles, Khaled Sallam, Oklahoma State University, Tulsa
- Microfabrication of Colloidal Scanning Probes with Controllable Tip Radii of Curvature, Murat Yapici, Khalifa University, Abu Dhabi
- 3D Hierarchical Porous Carbon, Turki Baroud, Cornell University
- Nanofibers and modified cellulose morphologies and their applications, Raed Hashaikeh, Masdar

11:45am - 1:00pm

Nano Materials for health applications

- Perspectives of application of Layer by Layer assembly nanocomposite films for health applications, Dmitry Gorin, Saratov State University, Saratov, Russian Federation
- Characterization of amino-functionalized mesoporous silica and its application for CO₂ capture, Mohammad Abu Zahra, Masdar
- Functionalized metal nanoparticles for biomedical applications, Irshad Hussain, LUMS, Pakistan
- Nanomaterial and their medical and health effects, Bulent Aydogan, U of Chicago

1:00 pm – 2:00 pm	Lunch
2:00 pm – 3:00 pm	<p>Nanomaterial for chemical sensing and environmental effects</p> <ul style="list-style-type: none"> - Ni-Au core-shell nanowires: Synthesis, microstructures, biofunctionalization, and the toxicological effects on pancreatic cancer cells, Daniel Choi, Masdar -Photo-catalytic activity and UV-shielding of silica-coated Titania nano particles Mohamed Alsalhi, KSU, Riyadh, Saudi Arabia -Impact of dust on PV in Bahrain, Waheeb Alnaser, University of Bahrain -Mutational analysis of oil degrading genes, Hanan Malkawai Hamdan Bin Mohamed Smart University, Dubai
3:00 pm – 4:30 pm	Laboratory tours
4:30 pm – 5:30 pm	<p>Popularization of S and T</p> <ul style="list-style-type: none"> -Ahmad Rawdhan and Awwad Alshammeri, Arab Union for Science and Science Club, Kuwait -Nadia Almoulami, Saudi Center for Nanotechnology, Jeddah, Saudi Arabia -Mohammad Aref, Al-Itihad Daily, UAE
5:30 pm – 6:30 pm	<p>Collaborations and partnerships</p> <ul style="list-style-type: none"> -International collaborations in advanced materials science research and devices, Munir Eldesouki, KACST, Riyadh, Saudi Arabia - Expo 2017 for renewable green energy, Al-Farabi Ydrishev, National Center for Technology Foresight, Astana, Kazakhstan - Illinois partnerships and collaborations in energy research (Irfan Ahmad, and Ali Mirarefi, University of Illinois and Singapore UIUC program)
6:30 pm	<p>Closing ceremony</p> <p>Irfan Ahmad, Munir Eldesouki, Mahmud Duwayri, Waheeb Alnaser, Abdalla Alnajjar, Ammar Nayfeh</p>
8:30	Dinner

Travel Agent Information

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