



الجامعة العربية المفتوحة
Arab Open University

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Federal Ministry
of Education
and Research

agya
ARAB-GERMAN
YOUNG ACADEMY
OF SCIENCES AND
HUMANITIES

Summer School

Quantum Materials for Energy Relevant Technologies

of the Arab-German Young Academy
of Sciences and Humanities (AGYA) &
the Arab Open University Jordan (AOU)

15 – 17 May 2022 Amman, Jordan



agya.info



The summer school is a project
of the AGYA Working Group
Energy, Water & Environment

Saturday, 14 May 2022

Venue: Amman Marriott Hotel

17:30 **Get-Together and Gala Dinner on the Invitation of the Arab Open University**

Sunday, 15 May 2022

Venue: Arab Open University, Dr. Muhammad Hamdan Amphitheater

08:30 **Gathering in the Hotel Lobby and Transfer to Arab Open University (AOU)**

09:00 – 10:00 **Registration**

10:00 – 10:45 **Opening Ceremony of the Arab Innovation Forum in Sustainability Development Goals (AIFSDG) and the AGYA Summer School on Quantum Materials on Energy Relevant Technologies**

with speeches by

His Royal Highness Prince Abdulaziz bin Talal Al-Saud
Chairman of the Board of Trustees of the Arab Open University (AOU)

Her Royal Highness Princess Somia bent El Hassan of Jordan
President of the Royal Scientific Society (RSS), Jordan
Chair of the Princess Sumaya University for Technology (PSUT), Jordan

Prof. Dr. Isaac Slivera
Harvard University, USA

Prof. Dr. Olle Eriksson
Uppsala University, Sweden

Prof. Dr. Mohamed Qtishtat
President of the Arab Open University, Jordan

Prof. Dr. Mahmoud Abdel-Hafiez
AGYA Co-President, Goethe University Frankfurt, Germany & Uppsala University, Sweden

10:45 – 11:15 **Poster Session I**

10:45 – 11:15 **Coffee break**

11:15 – 12:15 **Panel Discussion I**
Outreach Activities and Science Communication in the Field of Energy and Environment

Prof. Dr. Olle Eriksson
Uppsala University, Sweden

Prof. Dr. Alejandro Silhanek
University of Liege, Belgium

Prof. Dr. Isaac Silvera
Harvard University, USA

Prof. Dr. Mahmoud Abdel-Hafiez
AGYA Co-President, Goethe University Frankfurt, Germany & Uppsala University, Sweden

Chair: Naser El Kahtani
CEO of AGFUND, Arab Gulf Programme for Development

12:15 – 13:15 **Lunch & Networking Coffee**

13:15 – 14:00 **Public Keynote Speech I**
The Participatory Role in Serving Refugees and Developing their Capabilities: The Arab Open University, AGFUND, and their Partners
His Royal Highness Prince Abdulaziz bin Talal Al-Saud

14:00 – 14:30 **Public Keynote Speech II**
Potential of 2D Dichalcogenides for Future Electronics
Prof. Dr. Goran Karapetrov
Drexel University, USA

- 14:30 – 15:00** Invited Talk I
Advanced Crystal Growth of Novel Quantum Materials with Strong Electronic Correlations
Prof. Dr. Corenelius Krellner
Gothe University Frankfurt, Germany
- Chair: Prof. Dr. Ali Elgayar
AGYA member, University of Benghazi, Libya
- 15:00 – 15:30** Poster Session II
- 15:00 – 15:30** **Coffee break**
- 15:30 – 16:30** Panel Discussion II
Batteries and Energy Materials: Arab and German Perspectives
Prof. Dr. Ruediger Klingeler
Heidelberg University, Germany
Prof. Dr. Arafa Hassen
Fayoum University, Egypt
Prof. Dr. Djamel Djenouri
AGYA member, University of the West of England, UK
- Chair: Prof. Dr. Osama Ayyadi
The University of Jordan, Jordan
- 16:30 – 17:30** Invited Talk II
Nuclear Energy and SESAME: Advanced Research and Future Cooperation
Prof. Dr. Mohammad Al-Shannag
Nuclear Agency, Jordan
Eng. Belal Qtaishat
Nuclear Agency, Jordan
- Chair: Dr. Kamal Araj
Nuclear Agency, Jordan
- 19:00** **Dinner on the Invitation of the Arab Open University**

Monday, 16 May 2022

Venue: Arab Open University, Dr. Muhammad Hamdan Amphitheater

- 8:30** **Gathering in the Hotel Lobby and Transfer to Arab Open University**
- 9:30** **Presentation of the AGYA Working Group Energy Water & Environment**
- 10:00 – 10:30** Public Keynote Speech III
Metallic Hydrogen
Prof. Dr. Isaac Silvera
Harvard University, USA
- 10:30 – 11:00** Invited Talk III
Electronic Erosion in Nanocircuits
Prof. Dr. Alejandro Silhanek
University of Liege, Belgium
- Chair: Prof. Dr. Mahmoud Abdel-Hafiez
AGYA Co-President, Goethe University Frankfurt, Germany & Uppsala University, Sweden

- 11:00 – 11:30** **Coffee break**
- 11:30 – 12:30** **Panel Discussion III**
Unconventional Water Resources
Dr. Rund Abu Zraiq
The University of Jordan, Jordan
Dr. Maha Halalsheh
The University of Jordan, Jordan
Eng. Khaldoun Khesman
Arab Countries Water Utilities Association (ACUWA), Jordan
Eng. Manar Mahasneh
General Secretary of Jordan Valley Authority, Jordan
- Chair: Prof. Dr. Mohammed Qtaishat**
Arab Open University, Jordan
- 12:30 – 13:30** **Lunch & Networking Coffee**
- 13:30 – 14:00** **Public Keynote Speech IV**
What Can Be Calculated and What Can't
Prof. Dr. Olle Eriksson
Uppsala University, Sweden
- 14:00 – 14:30** **Invited Talk IV**
How to Study Spin Lattice Coupling and Magnetic Anisotropy and their Relevance for 2D Van-der-Waals Ferromagnets
Prof. Dr. Ruediger Klingeler
Heidelberg University, Germany
- Chair: Dr. Abdel-Wahab Hassen**
Fayoum University, Egypt
- 14:30 – 15:30** **Poster Session III**
- 14:30 – 15:30** **Coffee break**
- 15:30 – 16:15** **Panel Discussion IV**
Climate Change: Possible Solutions from Material Sciences
Dr. Abeer Al-Bawab
The University of Jordan, Jordan
Mohamed Matouq
Balqa' Applied University, Jordan
Eng. Ghalib Sarhan
United Nations Development Programme (UNDP), Jordan
- Chair: Prof. Dr. Mohamed Matouq**
Former Minister of Water and Irrigation in Jordan
- 16:15 – 17:00** **Panel Discussion V:**
Innovation and Entrepreneurship: Challenges and Future Perspectives
Dr. Abeer Al-Bawab
The University of Jordan, Jordan
Prof. Dr. Yousef Al-Abdallat
The University of Jordan, Jordan
- Chair: Prof. Dr. Motasem Saidan**
Former Minister of Water and Irrigation, Jordan
- 18:00** **Gala Dinner on the invitation of the Arab Open University**

Tuesday, 17 May 2022

- 08:00 *Gathering in Hotel Lobby and Transfer to SESAME*
- 09:00 **Scientific Excursions to the Synchrotron-Light for Experimental Science and Applications in the Middle East (SESAME)**
- 13:00 Lunch
- 14:00 **Scientific Excursion to Petra on the Invitation of the Arab Open University**
- 17:00 *Transfer back to Marriott Amman Hotel*

Wednesday, 18 May 2022

Departure of Participants

Contact Information:

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