SESSION 4: THE WAY FORWARD

PANEL 4.1: Challenges and opportunities for the promotion of nuclear science and technology

Khaled TOUKAN
Jordan

Chairman, Jordan Atomic Energy Commission

Khaled Toukan has been President of Al-Balqa Applied University, then Jordan's Minister of Education, Minister of Higher Education and Scientific Research and Minister of Energy and Mineral Resources; currently, he is Chairman of the Jordan Atomic Energy Commission and Director of the Synchrotron-light for Experimental Science and Applications in the Middle East (SESAME) Center

Towards an IAEA Center of Excellence for Regional Cooperation in Nuclear Science & Applications in the Middle East

Dr. Khaled Toukan
Chairman, Jordan Atomic Energy Commission

Jordan Research & Training Reactor (JRTR)

1st Full Production- September 2017

From Theory to Reactor Experiments

Theory

Data Collection

Analysis

Conclusion

Synchrotron-light for Experimental Science and Applications in the Middle East (SESAME)

SESAME Building

Inside Experimental Hall

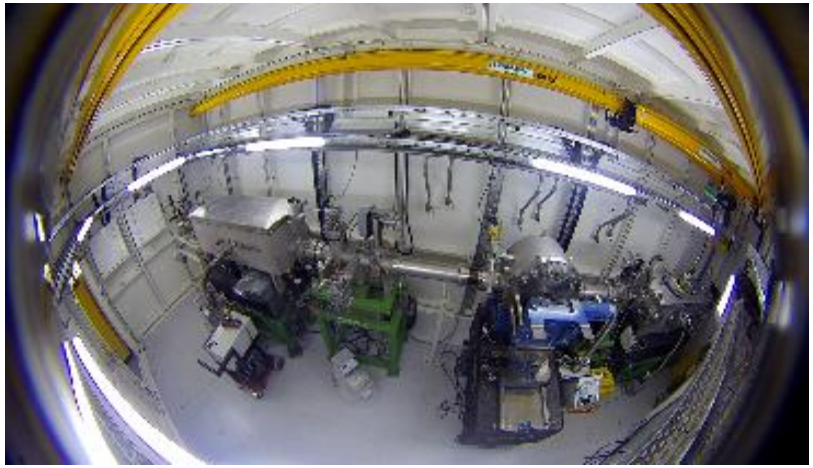
SESAME Members and Observers

- **Members:**
  Cyprus, Egypt, Iran, Israel, Jordan, Pakistan, Palestine, Turkey.

- **Observers:**
  Brazil, Canada, China, CERN, EU, France, Germany, Greece, Italy, Japan, Kuwait, Portugal, Russia, Spain, Sweden, Switzerland, UK and USA.

XAFS/XRF and IR Beamlines are now Operational

In July, the first users arrived at SESAME to perform experiments using the Center's XAFS/XRF (X-ray Absorption Fine Structure/X-Ray Fluorescence) spectroscopy beamline, SESAME's first beamline to come into operation.



IAEA's Role

SESAME:

Through a series of three interregional projects over the past ten years, the IAEA has been providing technical cooperation support including:

- Capacity Building (66 fellows trained, 30 meetings convened and 43 expert missions).
- Safety Review of SESAME.
- Working with TC to construct a MS beamline on co-funding basis.
- TC support is now focusing on expanding the Users Community.

JRTR:

- Building human capacity at the JRTR (20 fellows trained since 2009).
- INSARR missions to review the results of the commissioning program and the routine operation of the reactor.
- Assistance through national TC projects, in design, commissioning and licensing the neutron radiography beamline, high resolution powder diffractometer and assessing the current status of the NAA facility.

Future Direction

- **SESAME** & **JRTR** should be viewed as a Center of Excellence for regional cooperation in nuclear science and technology.
- **Photons (SESAME) and Neutrons (JRTR)** are complimentary in probing materials in several important fields covering fundamental, basic and applied research.
- These two state-of-the-art facilities offer a unique regional hub for photon and neutron science and applications.
- IAEA's support is sought to recognize this hub, develop synergism, attract fellows, researchers and users from the ME region and beyond.

Thank you