

Possibilities. Potential. Progress.

KFAS as a Catalyst of Change

Session : Research & Funding Opportunities for Collaboration

5th Arab-American Frontiers of Science, Engineering, and Medicine symposium

November 4th 2017



KFAS: a catalyst for STI advancement in Kuwait



- KFAS, a non-profit foundation established by an Amiri decree in 1976. The foundation is governed by a Board of Directors appointed and chaired by His Highness.
- The source of funds available to KFAS is from financial contributions made by Kuwait's private shareholding companies.
- The foundation has a 40-year history of advancing science and technology in the State of Kuwait.





The 40-year Journey



1976

Building a solid platform for STI

Society:
Science for the
Public

Research:
Enhancing R&D
quality and
capabilities

Enterprise:
Enabling and
Improving STI
capability

2016



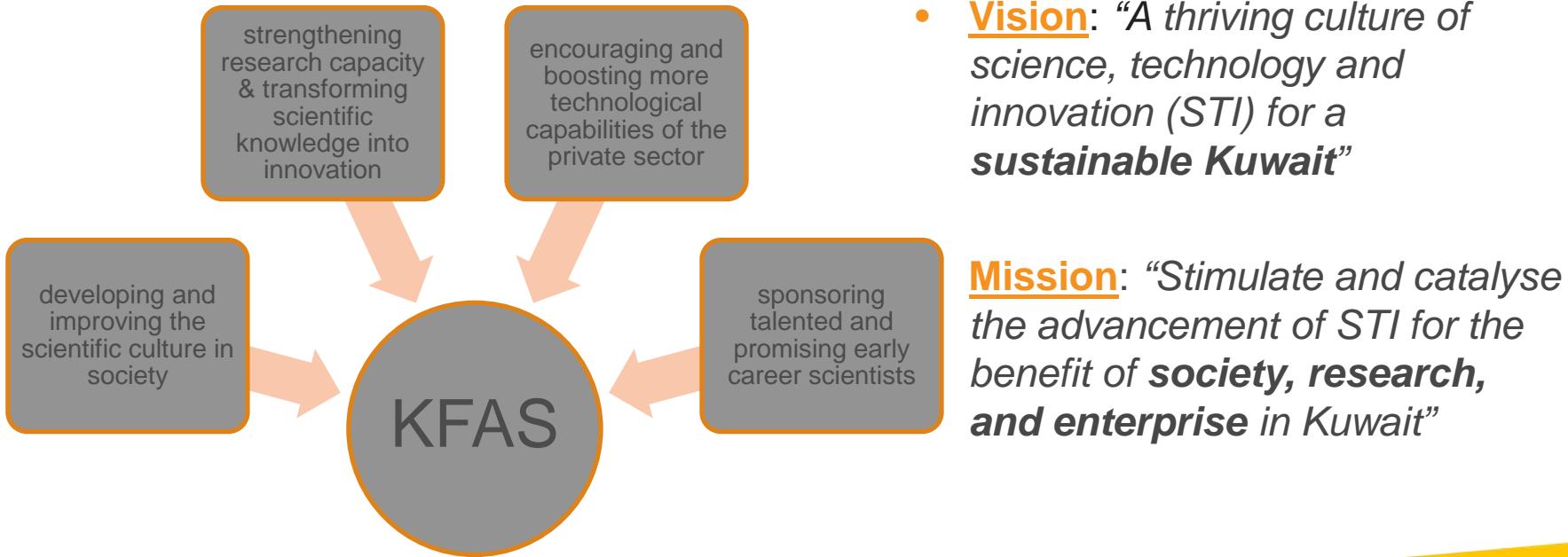
AL-SUMAIT PRIZE
FOR AFRICAN DEVELOPMENT



KFAS mandate and role

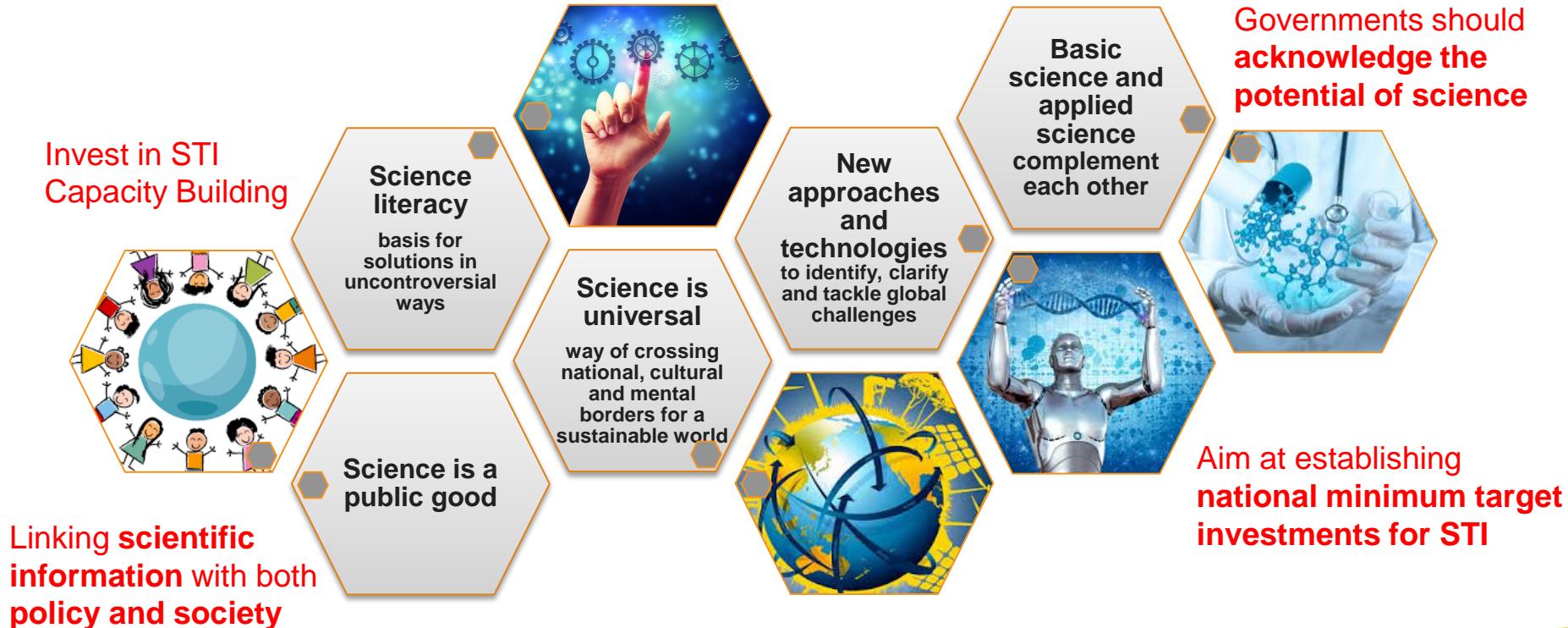


As one of **3 key institutions** (along with Kuwait University and Kuwait Institute for Scientific Research), KFAS was established to **advance science and technology in the State of Kuwait (as per its mandate)**

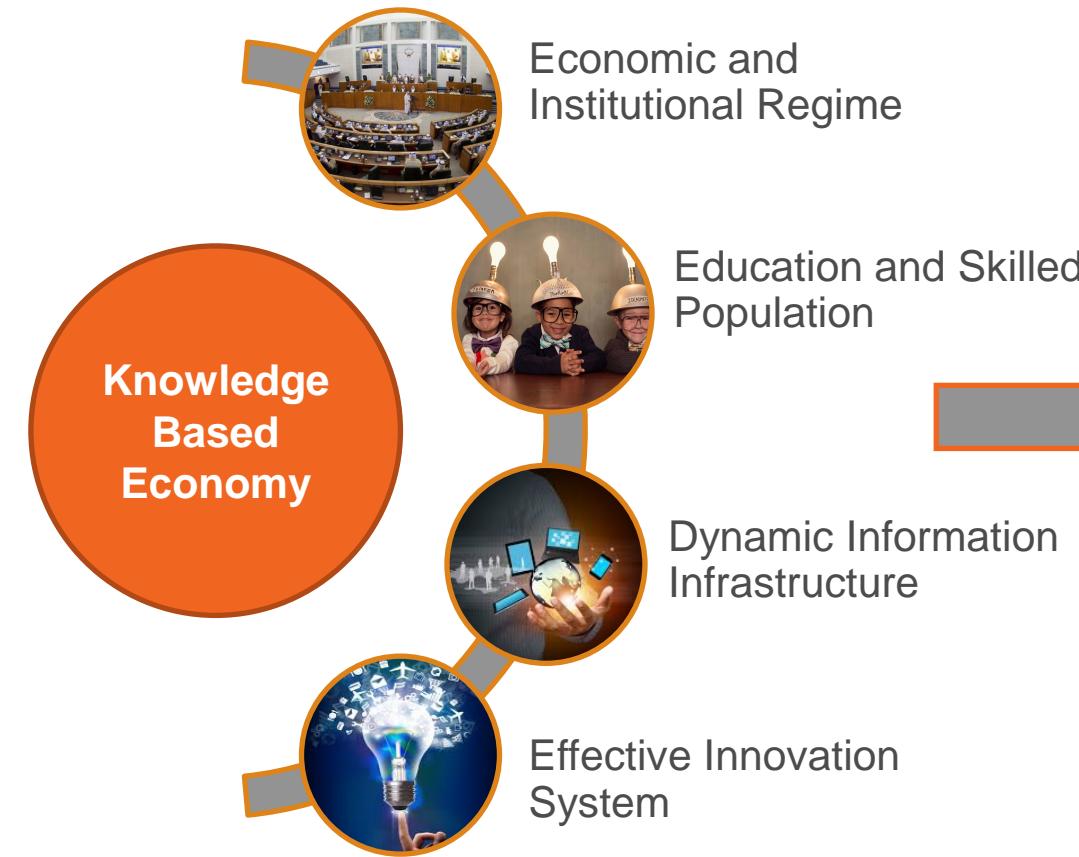




Science, Technology, Innovation (STI) is the Driver of Change and CRITICAL in meeting the challenges for sustainable development



Pillars of a Knowledge Based Economy



1. **Strategic thrust 1:** Strong advocacy for scientific culture through science education, dissemination and public engagement.
2. **Strategic thrust 2:** Promote research quality, deployment and performance
3. **Strategic thrust 3:** Support an infrastructure for commercialization of science, technology & innovation.

Moving Forward: Cross Cutting Programs



KFAS Prizes



- **Kuwait Prize**

Aimed at recognizing the lifetime achievements of Arab scientists across the globe,

- **Scientific Production Prize (early career researchers)**

- **Al-Sumait Prize for African Development**

An annual award by the State of Kuwait for the advancement of economic, social, human resources, and infrastructure development in the African continent

- **Anwar Al-Nouri Prize**

Set to reward the best PhD thesis in education in the Arab world every 2 years.

Moving Forward: Cross Cutting Programs

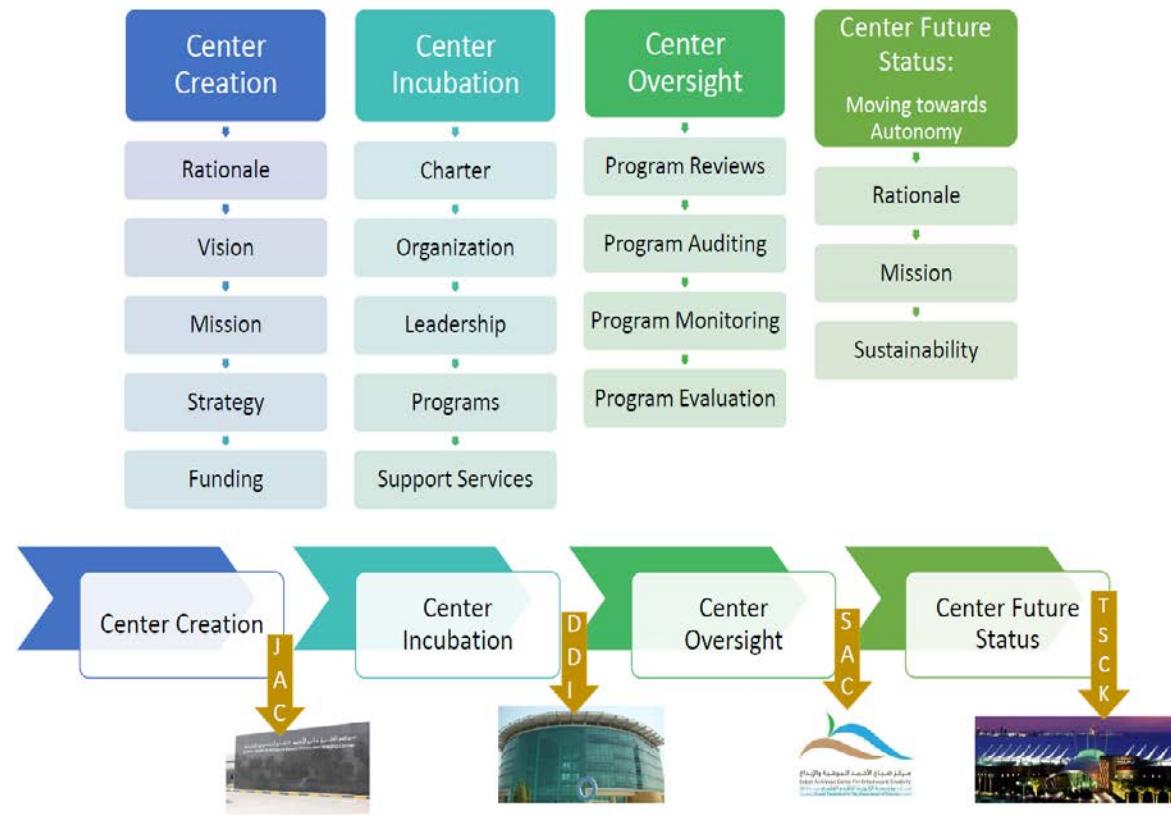


Office of International Programs (OIP)

OIP: customizing international agreements to meet STI needs of the private sector and other stakeholders



Moving Forward: KFAS Centers



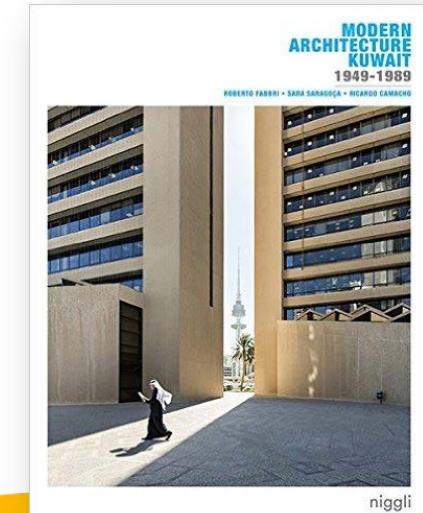
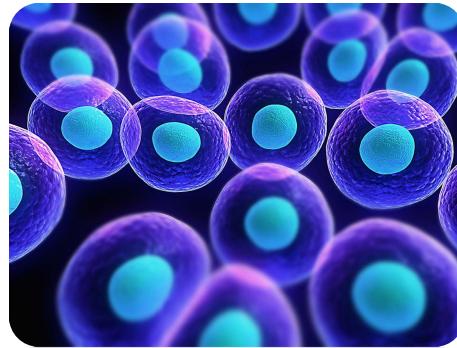
The maturity cycle of the KFAS Centers and current position of each Center within that cycle.

- **Helping the centers become sustainable**
- **Centers to find alternative funding for programs not core to KFAS's mandate**
- **KFAS may continue to provide funding (e.g. annual grant for research; gifted program)**



ST2: Research Directorate (RD)

- The Research Directorate plays a **pro-active role as a catalyst** mapping out relevant activities to improve national **research quality and performance**.
- Through it's Research Grant-making activities, RD **stimulates** an increase in the mass of **competitive** research and supports the adoption of best research practices with a focus of **national priorities**.



7-2021



ST2: Research Directorate (RD)

Research Grants Program P1	Research Capacity Building Program P2	Flagship Programs P3
<ul style="list-style-type: none">• Solicit proposals in issues of national priority• Enhance Quality of Research• Increase impact of research	<ul style="list-style-type: none">• Further develop researchers' capabilities and capacity• Build research culture	<ul style="list-style-type: none">• Pilot/assigned projects addressing national priority areas• Foster sustainable approaches to national challenges• Translate policy and societal changes through research

KFAS Call for Proposals as a strategic tool for competitiveness in research & innovation



National Priorities Research

1. Energy

- Innovative application of renewable energy technologies that lead to significant reduction in peak load and energy consumption.
- Development of realistic Energy Use Intensity benchmarks for different types of buildings.
- Policy oriented research aiming at improving and optimizing the use of available energy technologies and schemes that promote energy efficiency and conservation in existing and new buildings.

2. Water

- Innovation in Desalination Technologies.
- Integrated Water Management including preservation, protection and wastewater recycling.
- Policy oriented research aiming at optimizing not only the use of available and new water production technologies, but also the economics of domestic water and energy systems.

3. Environment

- Prevention and control of pollution including waste recycling and management of hazardous material through development of strategies and technologies.
- Restoration of degraded ecosystems.
- Climate change research in relation to best approaches to meet Kuwait's obligations with emphasis on new promising technologies and policies.
- Application of GIS for enhanced environmental planning.

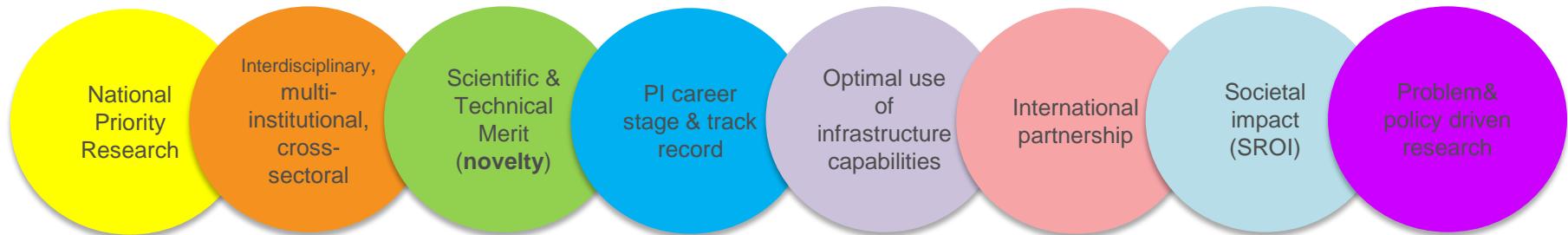


KFAS encourages researchers to:

- Explore new science frontiers by integrating related disciplines (inter-disciplinary) to enhance areas of research;
- Inter-institutional research proposals involving several institutions (local, regional, international);
- Proposals for jointly funded research to support collaborative partnerships amongst several research institutions (local, regional, international).



Internal Competitiveness Tool

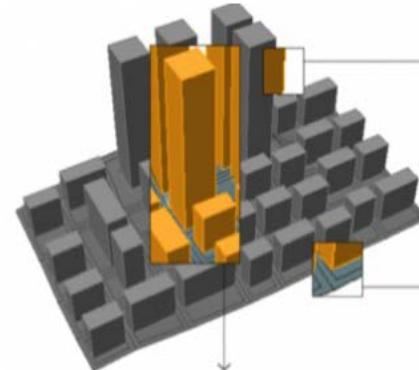




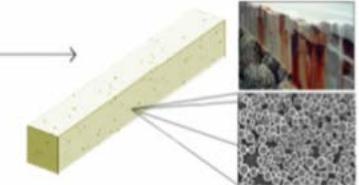
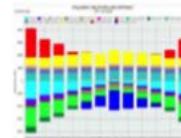
Collaborative Outcomes



Catalyzing
change
through
research



Energy Efficiency and life cycle performance of construction materials and buildings in Kuwait



Nano-engineering for durability of construction materials in aggressive environment in Kuwait



Seismic ground motion and superstructure monitoring for safety and innovations in design

Sustainability of Kuwait Built Environment

Development, Economic Growth, Competitiveness, Education and Leadership

Collaborative Outcomes



— — — — — **Catalyzing
change
through
research**



International collaboration with IMEC has resulted in:

- 18 published papers + 2 patents
- Capacity building
- Technology Transfer (combined basic and applied research)

Collaborative Outcomes



Calibration and validation of NASA (SMAP) satellite for the retrieval of soil moisture and its applications to water resources and dust storms in Kuwait

(KU, NASA, CUNY)



→
Catalyzing
change
through
research

Students Field Trip

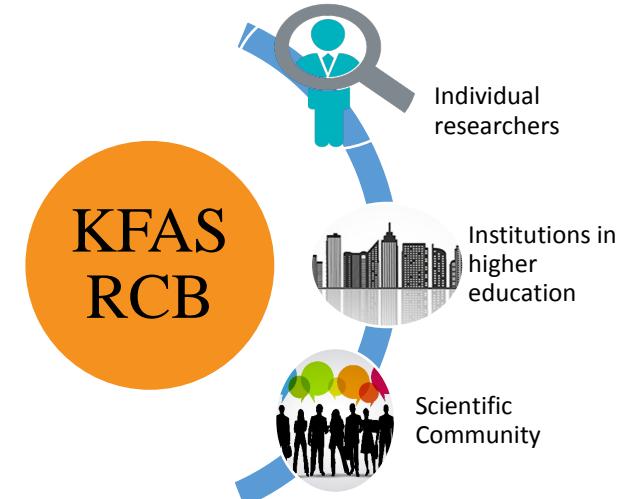
The Science Team in Physics Department under NASA SMAP Project (Funded by KFAS) will conduct field experiment with the Scatterometer (1.4 GHz) next Saturday, 25th of February 2017. Any student who wants to join, please go to Lab # 45 to register.



Research Capacity Building Program (P2)

RD Research Capacity Building aims to invest in knowledge-based capital to progress towards an “Efficient Scientific Research Community” through a spectrum of interventions that include:

- Technical and non-technical skills workshops
- Research networking events
- Graduate & postdoctoral support and PhD supplementary funds
- Academic Achievement Grant ‘Bridging Scholarship’
- Scientific Missions
- **Researcher match-making to forge collaborative partnerships** and map existing infrastructure facilities





The Kuwait-ICTP joint program supports scientists from Kuwait and other Arab countries to be engaged in ICTP activities. The program offers the following opportunities:

- Supporting Scientists from Arab Countries to attend ICTP
- Diploma Students Programme
- Post-doctoral Fellowship



Supplementary fund outcomes

App-delivered Therapy for Arabic Readers With Hemianopic Alexia



NEUROTHERAPEUTICS GROUP @ INSTITUTE OF COGNITIVE NEUROSCIENCE





مؤسسة الكويت للتقدم العلمي
Kuwait Foundation for the Advancement of Sciences



10th Anniversary International Conference on Women Leaders in Science, Technology and Engineering

October 23-25, 2017 - Kuwait
wlste.org





Thank you