Kuwait Foundation for the Advancement of Sciences (KFAS) is a private, non-profit organization, established by an Amiri Decree issued on December 12th, 1976. The Foundation is governed by a Board of Directors chaired by H.H. the Amir of the State of Kuwait.

ACKNOWLEDGEMENT

KFAS acknowledges with appreciation the valuable continued support it receives from private shareholding companies to fund its operation. These companies are currently providing one percent of their annual net profit to KFAS as part of their social responsibility.
# TABLE OF CONTENTS

<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chairman &amp; Board Members</td>
<td>6</td>
</tr>
<tr>
<td>KFAS Centers</td>
<td>8</td>
</tr>
<tr>
<td>Wall of Achievements</td>
<td>10</td>
</tr>
<tr>
<td>Director General’s Message</td>
<td>12</td>
</tr>
<tr>
<td>Introduction to KFAS</td>
<td>14</td>
</tr>
<tr>
<td>Bringing Science to Life</td>
<td>16</td>
</tr>
<tr>
<td>The Scientific Center</td>
<td>26</td>
</tr>
<tr>
<td>Investing in Pioneering Research</td>
<td>32</td>
</tr>
<tr>
<td>The Dasman Diabetes Institute</td>
<td>42</td>
</tr>
<tr>
<td>The Jaber Al-Ahmad Center for Molecular Imaging</td>
<td>48</td>
</tr>
<tr>
<td>Sabah Al-Ahmad Center for Giftedness and Creativity</td>
<td>50</td>
</tr>
<tr>
<td>The Private Sector</td>
<td>57</td>
</tr>
<tr>
<td>Collaborations with International Institutions</td>
<td>64</td>
</tr>
<tr>
<td>Pioneering Research</td>
<td>70</td>
</tr>
<tr>
<td>Financial Highlights</td>
<td>84</td>
</tr>
</tbody>
</table>
My greatest wish and aspirations are building Kuwaiti individuals and developing their capabilities in order to enable them to build and develop their homeland.

H.H. The Amir Sheikh Sabah Al Ahmad Al Jaber Al Sabah
KFAS
BOARD OF DIRECTORS

Prof. Fayzah Mohammad Al-Kharafi
Dr. Yousef Hamad Al-Ebraheem

Mr. Mustafa Jasem Al-Shamali
Mr. Hani Abdul-Aziz Hussain
Mr. Osamah Mohammad Yousif Al Nisf

Dr. Salah Abdullateef Al Ateeqi
Mr. Khaled Khudhair Mashaan Al-Khudhair
KFAS

Dr. Adnan A. Shihab-Eldin
Director General
Kuwait Foundation for the Advancement of Sciences
KFAS CENTERS

Eng. Mijbil S. Al Mutawa
Chairman & Managing Director
The Scientific Center

Dr. Kazem Behbehani
Director General
Dasman Diabetes Institute

Dr. Omar Al Bannai
General Manager
Sabah Al Ahmad Center for Giftedness and Creativity

Dr. Naheel Al-Nafisi
Director
Jaber Al Ahmad Center for Nuclear Medicine and Molecular Imaging

Dr. Jasem Besharah
Chairman
Al-Taqaddum Al-Elmi Company
WALL OF ACHIEVEMENTS

BUILDING CAPABILITIES IN THE PRIVATE SECTOR

KFAS FUNDED RESEARCH FOR 7 COMPANIES TO DEVELOP THEIR CHEMICAL, MANUFACTURING, AND TECHNOLOGICAL PROJECTS.

THE INNOVATION CHALLENGE, DESIGNED IN PARTNERSHIP WITH CAMBRIDGE UNIVERSITY, AIMS TO INSTITUTIONALIZE INNOVATION AND CREATIVITY WITHIN THE PRIVATE SECTOR. TEN COMPANIES OUT OF 45 COMPETING BUSINESSES WERE SELECTED TO ENTER THIS PROGRAM. THESE COMPANIES ARE EXPECTED TO PRESENT 10 UNIQUE INNOVATIVE PROJECTS TO BE ADOPTED BY THEIR UPPER MANAGEMENT.

INVESTING IN PROJECTS TO ACCELERATE RENEWABLE ENERGY DEPLOYMENT

KUWAIT AIMS TO REACH A TARGET OF 15% OF IT’S ELECTRICITY GENERATED VIA RENEWABLE ENERGY SOURCES BY 2030. IN 2015, THE SOLAR ENERGY PROJECT AT AL ZAHRA CO-OPERATIVE SOCIETY WAS OFFICIALLY INAUGURATED WHILE SOLAR PANEL INSTALLATIONS ARE UNDERWAY IN AL ADAILIYA CO-OPERATIVE AND IN 150 PRIVATE HOMES. THE PROJECTS ARE FULLY FUNDED BY KFAS.

INCREASING INVESTMENTS IN RESEARCH WHILE DECREASING MANAGEMENT COST
INTERNATIONAL COLLABORATIVE PROGRAMS

KUWAIT-MIT MEGA PROJECT: ‘SUSTAINABILITY OF KUWAIT’S BUILT ENVIRONMENT’, IS APPROACHING A FRUITFUL OUTCOME WITH 28 RESEARCHERS FROM KUWAIT CONTRIBUTING TO THE PROJECT WITH MIT. TWENTY-SEVEN RESEARCH PAPERS ARE EXPECTED TO BE PUBLISHED IN 2016 AND USED FOR THE DEVELOPMENT OF NEW BUILDING IN KUWAIT.

TRAINING WORKSHOPS AT INTERNATIONAL UNIVERSITIES

HARVARD UNIVERSITY – USA: THE “DECISION MAKING STRATEGIES UNDER RISK AND UNCERTAINTY” WORKSHOP WAS HELD AT THE KENNEDY SCHOOL OF GOVERNMENT AND ATTENDED BY 40 EXECUTIVES. 95% HAVE FOUND IT EFFECTIVE AND BENEFICIAL.

SCiences PO UNIVERSITY – FRANCE: THE “REFORMATION OF PUBLIC SYSTEMS: HEALTH, HIGHER EDUCATION AND FINANCE- APPROACHES AND PRACTICES IN EUROPE” WORKSHOP WAS ATTENDED BY 22 PARTICIPANTS. 71% OF THEM HAVE FOUND IT EFFECTIVE AND USEFUL.

PROMOTING SCIENTIFIC CULTURE

Online and Print Publications

<table>
<thead>
<tr>
<th>Activity</th>
<th>2013</th>
<th>2014</th>
<th>2015</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of Al Oloom Magazine App downloads</td>
<td>1710</td>
<td>3455</td>
<td>9180</td>
</tr>
<tr>
<td>Number of books translated and published in Arabic</td>
<td>12</td>
<td>11</td>
<td>18</td>
</tr>
</tbody>
</table>

LAUNCHING TWO NEW PRIZES IN 2015

AL SUMAIT PRIZE FOR AFRICAN DEVELOPMENT: AL SUMAIT PRIZE FOR AFRICAN DEVELOPMENT IS DEDICATED TO THE MEMORY OF THE LATE DR. ABDULLRAHMAN AL SUMAIT. THE AWARD OFFERS A CASH PRIZE OF $1 MILLION AND COVERS 3 SPECIALIZED CATEGORIES: HEALTH, FOOD SECURITY AND EDUCATION.

ANWAR AL NOURI PRIZE: AL NOURI PRIZE, FUNDED BY ANWAR AL-NOURI PHILANTHROPIC TRUST, AWARDS THE BEST PH.D. THESIS IN EDUCATION IN THE ARAB WORLD. THE CASH PRIZE IS WORTH $35,000 FOR THE FIRST PLACE, AND THE SECOND PLACE WINNER RECEIVES $25,000.
The year 2015 marks the year of midterm assessment of our 5-year strategic plan and our promise to KFAS stakeholders to enhance the effectiveness and impact of its programs and activities. We witnessed the last stage of our ‘listen, plan, implement and evaluate’ cycle. With inputs from all directors and program managers ‘Self assessments, to interviews with stakeholders’ representatives (internal and external), conducted by independent international and local review panel of specialists, we transparently addressed questions of ‘Are we doing the right thing?’, ‘Are we doing it well?’, ‘Do we make a difference?’ and ‘What should we do next?’. The findings and recommendations of the evaluation are now in part addressed in our 2016 plans, while the wider and major issues will be addressed when we formulate our next strategic plan (2017-2021), due to take place in 2016.

Keen on assessing the value of research and its relevance to national priorities in the State of Kuwait, we will be producing a full analysis of research impact, conducted by Kuwait’s research community over a decade (2003-2013/2014).

With a portfolio of well over KD 100 million invested by KFAS in support of the research community over the past 40 years, we demonstrated our commitment to drive the furtherance of Kuwait’s research by offering over 1000 research grants to researchers at national institutions, encouraging international collaborations, steering targeted research programs and addressing national priorities such as diabetes (Dasman Diabetes Institute), energy and the environment.

2015 witnessed the implementation of two new major demonstration projects, with KD 2 Million allocated for each project, in renewable energy technology a matter of essence towards a more sustainable energy future. Installing solar power panels at Al Zahra Co-op resulted in saving a total of 2150 Megawatt Hour, for lighting and air-conditioning. The second project aims to install rooftop solar panels to generate electricity in 150 private Kuwaiti homes as a first step to the commercialization of the technology.
The initiative’s success has been echoed by genuine interest from the Ministry of Social Affairs and the Supreme Council for Planning to adopt the scheme on a wider scale for cooperatives and homes. The number of home beneficiaries will be increased in the next stage to 1,500 Kuwaiti homeowners and it is expected to grow exponentially over the next ten years and from there on become available for all homes in Kuwait by 2030.

Collaborative research through Kuwait-MIT Mega Project: “Sustainability of Kuwait’s Built Environment,” is approaching a fruitful outcome with 28 researchers from Kuwait University and KISR -contributing to the project with their colleagues at MIT. Twenty seven research papers in the field of sustainable buildings are expected to be published in 2016 as a result. Plans are underway to make use of the results in new buildings in Kuwait.

Our successful engagement with private sector companies is equally another highlight of our achievements in 2015. Over half of ‘Innovation Challenge-2015’ projects have been presented to the senior management of the 10 participating companies, and are either approved for implementation or positively considered for approval. Seen by the majority of participants and managers as an effective and worthwhile experience, the ‘challenge’ has enabled many of the participants to establish new methodology, thinking and behaviour within their organizations.

A post event evaluation conducted by a third party specialists showed that ALL participants have acquired new knowledge about innovation as a result of taking part in the “Innovation Challenge Program” conducted in 2015 in cooperation with The University of California, Berkley. The 2016 innovation challenge program was launched in November 2015 in Cooperation with the University of Cambridge.

This is the ‘change - catalyst’ - KFAS is set out to achieve by careful planning, closer engagement with stakeholders, tailoring the optimum solution, delivering on the promise, and measuring its impact on STI development in Kuwait’s private sector.

With a genuine and sincere effort to reflect on stakeholders’ perception of KFAS activities and image within their communities, an audit was conducted. It revealed a valuable affinity with the Foundation, yet a yearning for a better communications level with them.

Appreciating the former and acting on the latter, KFAS invested on changing its image to weave in its achievements into the canvas of its communication strategy. This lead to a full renewal of its identity to parallel the internal change. Creating and launching the new identity was a deliberate reflection on ‚A Sign of Change’ rather than, ‚A Change of a Sign (logo)’. Establishing a cross-functional 18-members’ team of catalysts alert and keen to spot and report evidence-based achievements and assume their role in being the internal voice funneling relevant results to communications to disseminate to the public, was key to this success.

I invite the report readers to follow our social media accounts to be informed and engaged in the cycle of improved communications and effective feedback; we have created through our new approach to communications.

I conclude by highlighting the launch of two new initiatives in 2015, Al Sumait Prize for African Development and Anwar Al Nouri Prize. The first aims to recognize the best research and initiatives that contribute to African development in the fields of health, food security and education. The prize was announced by H.H. The Amir of The State Of Kuwait at the 2013 Arab African Summit and it offers an annual award of one million US Dollars. The second initiative is the Anwar Al Nouri Prize which awards the best PhD thesis in Education in the Arab World.

I am pleased to present to you our 2015 annual report, which includes more details on the issues raised here and many more rich content of the achievements of KFAS and its centres during the year.

Dr. Adnan A. Shihab-Eldin
Director General

Dr. Adnan A. Shihab-Eldin
INTRODUCTION TO KFAS

KFAS was established in 1976 by an Amiri Decree under the direction of the late Amir of Kuwait, H. H. Sheikh Jaber Al-Ahmad Al-Jaber Al-Sabah with a vision of turning Kuwait into a regional leader in the fields of science and technology. The initiative coincided with a commitment from the private sector shareholding companies to fully fund KFAS through a pledge in the charter of each company to contribute a percentage of their annual profit to KFAS; currently at one percent. Since its establishment, KFAS developed and implemented a wide range of programs, all of them aimed at promoting the development of science education, frontline research and the promotion of a general scientific culture across all areas of society.

Since its launch 40 years ago, KFAS has successfully established four distinguished research and educational centers of excellence. These are: The Scientific Center, Dasman Diabetes Institute, Sabah Al-Ahmad Center for Giftedness & Creativity and Jaber Al-Ahmad Center for Nuclear Medicine and Molecular Imaging in addition to Al Taqaddum Al Elmi Company. All of these enjoy excellent global reputations and ensure Kuwait is at the forefront of pioneering scientific research.
Further notable achievements include ongoing collaborations with outstanding international research and academic institutions, among them, The Kennedy School of Government at Harvard University, Massachusetts Institute of Technology (MIT), Oxford University, Cambridge University, Sciences Po, and the London School of Economics and Political Science. Such international collaborations play a key role in helping KFAS achieve its goal of ensuring Kuwaiti researchers are able to work alongside their peers on a global scale, enhancing the State’s knowledge base in all areas of Science, Technology and Innovation (STI).

Similarly, by promoting a full calendar of scientific lectures, conferences and symposia, KFAS helps keep science and technology at the heart of national life, inviting the brightest minds to Kuwait, and helping inspire the next generation of Arab researchers.

At the same time, KFAS is also committed to addressing the key challenges facing Kuwait right now. Research projects and programs focused on the areas of the environment, water security, and clean, renewable energy have benefitted, and continue to benefit from KFAS funding. While much has been accomplished by KFAS and other related scientific and educational institutions in Kuwait, there is still much to be done, as H.H. the Amir of Kuwait, Sheikh Sabah Al-Ahmad Al-Jaber Al Sabah, Chairman of the Board of Directors at KFAS, has himself recognized.

It was Sheikh Sabah Al-Ahmad Al-Jaber Al-Sabah’s vision that led to the setting-up of the Kuwait Research and Review Panel (KRRP) in 2007. The blue ribbon panel is made up of leading members of Kuwait’s science community as well as international experts in STI and R&D management. Most of the KRRP’s recommendations were adopted, and accordingly, KFAS updated its vision, mission and strategy.

KFAS’ current strategy, to be pursued until the end of 2016, supports the goals listed in Kuwait’s 2030 Vision and Strategic Plan, alongside the targets set out in the State’s five years development plan. KFAS’ strategy represents the latest thinking on the STI needs of Kuwait, the proper role of KFAS and its centers in meeting those needs, and a more systematic approach to initiating programs for funding to meet those needs.

By engaging with and channeling the interests of both individuals and institutions, KFAS helps drive progress in all areas of science and technology, serving as a catalyst for future economic growth and the advancement of Kuwaiti society as a whole.
BRINGING SCIENCE TO LIFE

59 CONFERENCES, WORKSHOPS, LECTURES AND OTHER EVENTS WERE FUNDED BY KFAS IN 2015.

Through strategic partnerships with key organizations, KFAS continued to provide forums for scientific discussions, debates and exchange of knowledge. Right throughout 2015, KFAS funded a variety of events, bringing together the brightest minds from both Kuwait and the rest of the world.

By varying the content of the events it funds, KFAS continues to steer interest in science, technology and innovation.
SELECTED TITLES OF CONFERENCES AND WORKSHOPS FUNDED BY KFAS IN 2015

JAN
Risk Management
Negotiation Skills in Business Transactions
Kuwait Economic Society

JUN
First Forum on Food Security
Union of Consumer Cooperative Societies

FEB
The 5th Kuwait International Pharmacy Conference
The Faculty of Pharmacy
Kuwait University

JUL
'A Day of Change Training Program' Ghiras
Ghiras Awareness Program

MAR
Health and Society Contemporary Issues
College of Social Sciences
Kuwait University

AUG
'Scientific Research Skills' Summer Training Program
Kuwait Science Club

APR
Say NO to Violence Against Children Campaign
College of Social Sciences
Kuwait University

OCT
'I Can be Smarter' Course on Academic Excellence Skills Volunteer Team

OCT to DEC
Financial Markets Training Courses
Kuwait Financial Markets Association

MAY
Intel International Science and Engineering Fair 2015
Kuwait Science Club

Energy Harvesting and Nonlinear Dynamic Techniques for Young Scientists
Australian College of Kuwait (ACK)
INSPIRING THE NEXT GENERATION OF KUWAITI SCIENTISTS

KFAS is committed to sharing scientific knowledge. By ensuring that news of the latest advances made by Kuwaiti and Arab scientists is not restricted to specialist scientific journals, but made available to the wider public as well, science and innovation becomes a true part of the national conversation.

Through its online and print publications in Arabic, KFAS can reach large Arab speaking audiences, inspiring a passion for science among students and showcasing and translating international best-selling books within the science and technology fields.

THE NUMBER OF INTERNATIONAL SCIENTIFIC WORKS TRANSLATED BY KFAS INCREASED BY 64% IN 2015: 18 KEY WORKS (10 E-BOOKS AND 8 PRINT BOOKS) WERE TRANSLATED DURING THE YEAR.

A SELECTION OF E-BOOKS

Secret of the Universe
Smart Cities
Extreme Physics
Genius

A SELECTION OF PRINTED BOOKS

Age of Steam
Chemistry
Energy & Matter
Timeline for the Advancement of Science and Technology
IN 2015, KFAS RECEIVED 352 APPLICATIONS FROM INDIVIDUAL SCIENTISTS REQUESTING FUNDING FOR SCIENTIFIC MISSIONS TO INTERNATIONAL CONFERENCES, OUT OF WHICH 257 WERE APPROVED.

KFAS provides special opportunities for scientists and researchers to participate in international conferences to advance their research knowledge and to have their work published in international journals.

KFAS not only provides grants for these individual researchers, but also takes an active role to encourage them to publish their papers in peer-reviewed journals. Moreover, this not only provides applicants with a higher quality of research groups and peers to network with, but also provides more leverage in terms of credibility behind proposed papers once they are sent to international journals to be published.
SCIENCE ON THE MOVE

KNOWLEDGE GOES MOBILE

‘Al-Taqaddum Al-Ilmi’

Recognizing that new technology is changing how knowledge is being consumed, 2015 saw the creation of a dedicated smartphone and tablet app for the popular Al-Taqaddum Al-Ilmi Magazine, to be launched in early 2016. This new app will allow readers to download current and past issues of the quarterly publication and read them on the move. From the beginning, Al-Taqaddum Al-Ilmi was aimed at informing the general public of the latest advances being made in the fields of science and technology. Thanks to the new app, this news will reach an even bigger audience, inspiring readers and driving interest in science not just in Kuwait but right across the Arab region.

THE PRINT VERSION OF AL-TAQADDUM AL-ILMI REMAINED AS POPULAR AS EVER. 4 QUARTERLY ISSUES WERE PUBLISHED IN 2015, WITH 19,700 COPIES OF EACH DISTRIBUTED TO GOVERNMENT AND NON GOVERNMENT ENTITIES, PRIVATE SECTOR ESTABLISHMENTS, EMBASSIES, SCHOOLS AND LOCAL AND REGIONAL BOOK FAIRS.

‘Al-Oloom’

To enable Arab readers to access the best scientific thinking from the United States, KFAS continued to publish its Al-Oloom Magazine, the Arabized version of Scientific American throughout 2015.

12 ISSUES ARE AVAILABLE ON THE MAGAZINE APPLICATION. TOTAL UNIQUE DOWNLOADS OF AL-OLOOM APP JUMPED FROM 5,165 DOWNLOADS IN 2014 TO 9,180 IN 2015, A SIGNIFICANT INCREASE OF 78%. NOTABLY, 47% OF ALL APPLICATION DOWNLOADS WERE MADE IN NORTH AMERICA, HIGHLIGHTING THE GLOBAL REACH OF THE PUBLICATION.
KFAS WAS PRESENT AT INTERNATIONAL BOOK FAIRS IN KUWAIT, BEIRUT AND ABU DHABI, SPREADING THE LATEST KNOWLEDGE FAR AND WIDE. MORE THAN 4,200 COPIES OF KFAS BOOKS WERE SOLD.

Additionally, more than 6,300 KFAS books were distributed for free as part of a national campaign in Kuwait to spearhead the dissemination of science and technology.
IGNITING THE SPIRIT OF CREATIVITY AMONG KUWAIT HIGH SCHOOL STUDENTS

Getting the next generation interested in science is at the heart of KFAS’ work. Through a wide range of extra-curricular activities, high school and university students are encouraged to develop an interest in the sciences, explore their own personal capabilities and learn from the world around them.

773: THE NUMBER OF HIGH SCHOOL AND UNIVERSITY STUDENTS WHO PARTICIPATED IN COMPETITIONS FUNDED BY KFAS IN 2015.

The Kuwait Competition for Science and Engineering was held for the fourth time in 2015, attracting more interest and stronger entries than ever before. The competition is open to all students in grades 7-12. It aims to get students actively involved in science and technology, developing their independent research skills and, just as importantly, awakening their passion for science. The competition includes special training workshops, conducted by international trainers who are leaders in their respective fields, with a particular focus on training students in independent research in preparation for their participation in an international exhibition.
In 2015, Kuwait’s young scientists shone again on the international stage. The year saw two students claim top prizes at the prestigious Intel Science Competition Arab World, held in Alexandria, Egypt, in December.

KFAS and the Kuwait Science Club were both represented at the annual event, which attracts the finest young minds from across the Arab world. In total, 9 students – the finalists of the Kuwait Science and Engineering Competition – showcased their own science projects, with two winning top awards for their thought-provoking work.

Talal Ahmed Saleh Shehab, won second place in the field of physical energy. His project focused on the potential of power generation from hot air and cold water temperature variation. Abdul Rahman Rashid Al Jassim came in third place in the field of environmental engineering. His project entitled ‘Lost Treasure (used tires)’ looked at the untapped energy potential of discarded tires. The Head of the Judging Committee for the Intel Science Competition Arab World also honored Sultan Kanaan Al-Anzi, a student from Kuwait who was the youngest participant in 2015. The judges praised him for his distinguished performance during the presentation of his project.
In 2015, KFAS announced the launch of a new funding program designed to provide financial assistance to the high achieving graduates so that they can progress in their studies and future career. Besides bridging funds for Ph.D. and Master’s Programs, the scheme is also aimed at enabling excelling young scientists who are not yet in employment but are to undertake internship, interim research and post-doctoral research.

In 2015, six applications were approved in the following categories:

- 1 Internship
- 1 Interim Researcher
- 2 Post doctoral Researcher
- 1 Academic Achievement Grant for Masters
- 1 Academic Achievement Grant for Ph.D.

THROUGHOUT 2015, KFAS REVIEWED 11 APPLICATIONS FOR FUNDING, ALL OF THEM FROM HIGH ACHIEVING YOUNG GRADUATES OUT OF WHICH, A TOTAL OF 6 APPLICANTS WERE ENROLLED.

HELPING YOUNG SCIENTISTS REALIZE THEIR POTENTIAL
In 2015, the Professional Development Initiative (PDI) was launched in a partnership between KFAS and the National U.S. Arab Chamber of Commerce (NUSACC).

Funded by KFAS and the Ministry of Education, the aim of this program is to build U.S.-Kuwait business and capacity-building through one-year professional fellowships in the U.S. The Kuwaiti PDI fellows gain valuable on-the-job experience in a U.S. professional work environment that they can bring home to Kuwait once their year is completed with their host company.
THE SCIENTIFIC CENTER BRINGING THE MAGIC OF THE OCEANS TO THE HEART OF KUWAIT

Since it opened its doors in 2000, The Scientific Center of Kuwait (TSCK) has welcomed more than 8 million visitors, among them, students who were inspired to learn more about the natural wonders surrounding them. Serving as a valuable educational resource for both children and adults, TSCK offers year-round interactive attractions and educational programs, as well as films, lectures and workshops.

MORE THAN 360,000 PEOPLE MARVELLED AT THE WONDERS OF THE AQUARIUM IN 2015.
In 2015, TSCK launched two new programs, the most eagerly-anticipated of which offers visitors the chance to see a different side of the popular attraction. The ‘Behind the Scenes Tour’ allows visitors to see the aquarium from different angles and join the staff as they take care of the colorful residents living in the huge desert and marine exhibits.

At the same time, the ‘Video Games on the IMAX’ program gives video game enthusiasts the chance to play their favorite titles on Kuwait’s largest screen.
WORLD WATER DAY

SUMMER CAMP

VOLUNTEERS TSCK
1001 INVENTIONS: EXHIBITION SHOWCASED THE ACHIEVEMENTS MADE BY SCIENTISTS AND SCHOLARS DURING THE CREATIVE GOLDEN AGE OF MUSLIM CIVILIZATION. IT AIMED AT INSPIRING AMBITION IN YOUNGSTERS, TO PURSUE CAREERS IN SCIENCE, ENGINEERING, MEDICINE AND ARTS AND TO ENCOURAGE THEIR INQUISITIVENESS AND CURIOSITY IN THE WORLD TO STRIVE TOWARDS BUILDING A BRIGHTER AND BETTER FUTURE. DURING ITS 32-DAY EXHIBIT, 1001 INVENTIONS RECEIVED 42,000 VISITORS.

CELEBRATING 15 YEARS IN STYLE:
APRIL 2015 MARKED THE 15TH ANNIVERSARY OF THE OPENING OF TSCK. TO MARK THE OCCASION, A NUMBER OF DEMONSTRATIONS AND SHOWS TOOK PLACE, INCLUDING ONE THAT WAS HELD ON THE DECK OF THE HISTORIC FATEH AL-KHAIR DHOW. THE SPECIAL DAY ENDED WITH A SPECTACULAR FIREWORKS DISPLAY.
BRINGING SCIENCE TO LIFE WITH
DAZZLING IMAX 3D

The team at TSCK carefully curates the films presented on the huge IMAX screen, ensuring that they not only entertain, but they also provoke a sense of awe and inspire an interest in science and nature. In 2015, TSCK introduced 4 IMAX films:


- **Titans of the Ice Age 3D**
  Shown to 28,285 visitors

- **Secret Ocean 3D**
  Shown to 21,112 visitors

- **Pandas: The Journey Home 3D**
  Shown to 20,103 visitors

- **Kenya: Animal Kingdom 3D**
  Shown to 23,099 visitors
COMING TOGETHER TO MAKE A DIFFERENCE

Throughout the year, TSCK works with the wider community to not only highlight the environmental challenges facing the world today, but to actively address them. In 2015, TSCK joined the rest of the world in marking several International Days, while also promoting special days unique to Kuwait.

PEOPLE POWER
THE SUMMER VOLUNTEER PROGRAM

TSCK, once again, organized its 15th Summer Volunteering Program in 2015, with 53 people signing up. For seven weeks over the summer, the team of volunteers engaged in a series of useful activities, from cleaning beaches to communicating environmental issues to the wider public.

PUTTING GLOBAL KNOWLEDGE CENTER STAGE

Alongside presenting the best of Kuwaiti and Arab science, TSCK is also committed to hosting some of the best travelling exhibits from around the world. As always, attention is paid to making sure such exhibitions are as entertaining as they are informative and capable of making young minds interested in science and technology.

THE ‘PLAYING WITH LIGHT’ EXHIBITION ATTRACTED 51,153 VISITORS IN ITS FIRST 5 MONTHS ALONE. AIMED AT IGNITING THE IMAGINATION OF PEOPLE OF ALL AGES, THE EXHIBITION ILLUSTRATES THE VITAL ROLE LIGHT PLAYS IN OUR EVERYDAY LIVES.
Kuwait’s scientists are actively tackling some of the key challenges facing the country today. Research projects supported by KFAS are key to developing sustainable solutions to challenges such as water scarcity, the need for alternative energy and those relating to public health.

To address the main challenges facing Kuwait, KFAS continues to fund joint research projects involving researchers at national institutions such as Kuwait University, Kuwait Institute for Scientific Research and counterparts at renowned international research centers such as Massachusetts Institute of Technology (MIT) and Interuniversity Microelectronics Centre (IMEC). The funding aims at helping accelerate discoveries, and enhance levels of collaboration within the scientific community.

**ALLOCATION OF INVESTMENTS IN RESEARCH CATEGORIES**

<table>
<thead>
<tr>
<th>Program</th>
<th>Completed</th>
<th>Ongoing</th>
<th>New</th>
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</thead>
<tbody>
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<td>2</td>
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<td>Environment Program</td>
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<tr>
<td>Research Grant Program</td>
<td>25</td>
<td>46</td>
<td>55</td>
<td>126</td>
</tr>
</tbody>
</table>

**In 2015, KFAS Funded A Total Of 201 Research Proposals, Out Of Which 80 Were New Additions. Total Funding For These Research Grants Reached Up To KD 6.6 Million, In 2015 Alone. In Addition, KFAS Fully Funded Research Programs At Dasman Diabetes Institute And International Centers With More Than KD 10 Million.**
RESEARCH FUNDING PER PROGRAM (IN KD)

- Environment Program: 1,088,449
- Research Grant Program: 1,890,190
- Water & Energy Program: 3,612,978

INCREASING INVESTMENTS IN RESEARCH WHILE DECREASING MANAGEMENT COST

- Total value of Grants, KD:
  - 2008: 2000000
  - 2009: 4000000
  - 2010: 6000000
  - 2011: 8000000
  - 2012: 10000000
  - 2013: 12000000
  - 2014: 14000000
  - 2015: 16000000

- No. of New Projects Funded:
  - 2008: 31%
  - 2009: 22%
  - 2010: 21%
  - 2011: 14%
  - 2012: 10%
  - 2013: 5.9%
  - 2014: 6.5%
  - 2015: 7%

- Management Cost (%):
  - 2008: 23%
  - 2009: 14%
  - 2010: 10%
  - 2011: 5.9%
  - 2012: 6.5%
  - 2013: 7%
  - 2014: 8%
  - 2015: 10%
BUILDING A SMART SEWERAGE INFRASTRUCTURE FOR KUWAIT

THE UNDERWORLD PROJECT RESEARCH

Numerous studies have been carried out into the safe processing of sewage, producing a wealth of useful information. In order to make best use of this data and utilize the latest knowledge to benefit human health, KFAS is funding a new collaborative research project between MIT in the US, Kuwait University and the Kuwait Institute for Scientific Research (KISR).

This innovative project has two key aims:

Building the underworld platform:
The first stage of the project is the development of a robust platform aimed at facilitating collaborative research. Through this platform, researchers in the US and Kuwait will be able to work together to develop prototypes for the planned infrastructure system.

Building a collaborative MIT-Kuwait application project:
Once the platform has been established, scientists will work together alongside key Kuwaiti stakeholders to implement a series of projects, ranging from the tracking of infectious diseases such as influenza and rotavirus, to investigating the emergence of resistance to antibiotics. This stage will also see international researchers analyze the effects of governmental policies on public health, for instance, the role of the state in the fight against obesity.

One key component of the underworld project will be the development of tools to communicate the team’s findings to not just the relevant government and industry stakeholders that can benefit from the platform, but to the wider public as well.

THE TOTAL BUDGET FOR THE UNDERWORLD PROJECT FOR 2015-2018, FULLY-FUNDED BY KFAS, TOTALS TO KD 1,200,000.
RESEARCH PUT INTO ACTION: FURTHERING ADVANCES IN THE WATER AND ENERGY SECTORS

CLEAN, DRINKABLE WATER FOR ALL

KFAS continues to spearhead creative solutions to the challenge of water scarcity. Above all, cutting-edge research is aimed at improving water efficiency and reducing wastage across Kuwait, with the latest thinking in the fields of science and technology harnessed to ensure the optimal utilization of this precious resource.

Significant progress was made in this important area in 2015.

A NEW WATER SAVING AND CONSERVATION PILOT PROJECT WAS OFFICIALLY LAUNCHED, WITH A BUDGET OF KD 1.7 MILLION.

The project aims at achieving water conservation in residential dwellings through the installation of water conserving tools.

Simultaneously, plans for a new solar-powered water desalination plant were discussed at a workshop organized by KFAS in collaboration with Kuwait Institute for Scientific Research (KISR), and attended by more than 80 participants. The outcome of the workshop will be submitted as a proposal by KISR to KFAS and the Ministry of Electricity and Water (MEW) in 2016 for funding of the pilot plant.

The year 2015 also saw KFAS play a leading role in a conference on Water Security in Kuwait and the Gulf Cooperation Council (GCC). In all, around 80 delegates from several countries attended with their recommendations to be incorporated into KFAS’s programs in order to encourage researchers to focus on water security.
The waters off the coastline of Kuwait are some of the shallowest in the whole of the Arabian Gulf. They are also some of the saltiest, with salinity levels of up to 49,000 ppm. This presents a number of challenges in the field of desalination.

Specialist desalination plants can discharge salty brines and other contaminants, such as chlorine or chromium back into the Gulf, potentially causing environmental damage. At the same time, normal wastewater discharges into the Gulf generally have low salinity levels, though they may cause damage by driving the eutrophication of the coastal waters.

To address these issues, KFAS is funding a new collaborative project between MIT and Kuwait University. The initiative is aimed at finding ways of making water management processes more energy efficient and more environmentally sustainable in Kuwait. With the help of KFAS funding, experts will work together to draw up and develop novel ideas for enhanced plant workflow which will then be put into action over the next three years.

KFAS IS CONTRIBUTING KD 1,650,000 TO FUND THE WATER DESALINATION RESEARCH PROJECT TO REDUCE WASTE WATER CONTAMINENTS.
BUILDING A GREENER FUTURE

MAKING KUWAIT’S BUILT ENVIRONMENT MORE SUSTAINABLE

The signature initiative of the ongoing dynamic collaboration between Kuwait and MIT ‘Sustainability of Kuwait’s Built Environment’ – is a joint project between Kuwait Institute for Scientific Research (KISR), Kuwait University (KU) and Massachusetts Institute of Technology (MIT). It is funded by KFAS through the support of Kuwait-MIT Center for the Natural Resources and the Environment (CNRE) agreement.

The project is aimed at developing innovative methods and solutions to promote sustainability in Kuwait’s built environment. The project takes a three-level multi-scale approach, addressing materials, buildings and urban neighborhoods. It includes three areas of research:


Focus Area B: Performance-based Engineering and Reliability.

Focus Area C: Energy Efficiency and Life Cycle Analysis.

Thanks to ongoing progress being made in the fields of science and technology, Kuwait is working towards achieving its target of 15% electricity usage to be generated via renewable energy sources by 2030, the target set by H. H. Sheikh Sabah Al-Ahmad Al-Jaber Al-Sabah, the Amir of Kuwait and the Chairman of the KFAS Board of Directors.

In 2015, the ambitious solar power project at the Zahra Co-operative Society was officially inaugurated. Lighting and air conditioning systems have been retrofitted to be partially run on solar power saving a total of 2,150 MWh annually in electrical energy. The second phase of the project at Al Adailiya Co-operative Society is expected to save a total of 1,300 MWh of electrical energy annually. The success of the pilot scheme resulted in the expansion of the project to include solar installation on the rooftop of 150 private homes.

As part of KFAS’ commitment to prioritize the use of renewable energy sources in Kuwait, KFAS is also taking the lead in addressing any commercial barriers that might prevent widespread uptake of PV solar panels. This project is also focusing on developing regulations and guidelines defining the relationship between government agencies, the private sector and homeowners. The solar rooftop homes project, to be implemented over three years, includes the design, installation and maintenance of rooftop PV systems with a total capacity of around 1.5 MWp and a total budget of KD 2 million. As an outcome of the Kuwaiti homes solar rooftop project, the number of home beneficiaries is planned to be increased to 1,500 Kuwaiti homeowners during the 2017-2021 Development Plan.
WE ARE, THROUGH THIS PILOT PROJECT, ACTING AS A CATALYST FOR ALL CONCERNED PARTIES TO TAKE SIMILAR STEPS AND CONTRIBUTE TOWARDS REDUCING ENERGY CONSUMPTION AND ADOPT SOLAR ENERGY AS AN ALTERNATIVE SOURCE OF ENERGY.

THE USE OF THE PV SYSTEM IN ZAHRA CO-OP CARPORT ALONG WITH THE ENERGY CONSERVATION MEASURES APPLIED IN THE CO-OP WILL AVERT AT LEAST 2,000 TONS OF CARBON DIOXIDE EMITTED ANNUALLY.

DR. ADNAN SHIHAB-ELDIN
KFAS DIRECTOR GENERAL

1,475 APPLICATIONS WERE RECEIVED THROUGH ‘INSTALLING INTEGRATED SOLAR PV FOR KUWAITI HOMES’ PILOT PROJECT FOR SOLAR POWER, DURING 2015.

THE AMOUNT OF KFAS FUNDING FOR SOLAR POWER PROJECT OF KUWAITI HOMES TOTALLED KD 2,000,000. THE PROJECT WILL RUN UNTIL THE END OF 2017.
In 2015, Phase-I of the Advanced Crystalline Silicon Photovoltaics Research Program came to an end. The project, which is a partnership between Kuwait University and IMEC, Belgium, is aimed at developing advanced solar cells that utilize silicon-based PV structures. The main objective of the collaboration, in particular, is to develop PV modules that are not only more efficient, but are also more competitive in terms of manufacturing costs.

With the help of KFAS funding (KD 598,000), researchers in Belgium and Kuwait enjoyed a successful 2015. Some key highlights of the year included:

- The publication of 16 articles, all of them in leading peer-reviewed scientific journals
- Representation at 12 top research conferences both in Kuwait and abroad
- The successful submission of one joint patent, with an additional patent currently under consideration
- Enhanced levels of knowledge and technology transfer achieved by Kuwaiti researchers
- Working alongside the scientific community, this project also made use of private sector expertise. Industrial partners overseeing the progress and direction of the research being carried out, in 2015, included Kaneka, Kyocera, Total, SoLayTec, Tempress and RENA

Ensuring energy use in all sections of Kuwait’s society which is as efficient as possible continues to be a major priority. Specialist auditors play a key role in keeping energy wastage to a minimum, delivering both economic and environmental benefits.

IN 2015, KFAS CONTINUED ITS PIONEERING CERTIFIED ENERGY AUDITOR TRAINING PROGRAM. OVER THE YEAR, 16 PARTICIPANTS TOOK THE EXAM, WITH 14 OF THEM PASSING. MEANWHILE, 5 PARTICIPANTS TOOK AND PASSED THE TRAINER COURSE. THEY ARE NOW QUALIFIED TO TRAIN FUTURE ENERGY AUDITORS, FURTHERING THE LONG-TERM SUCCESS OF THE INITIATIVE.
HELPING SCIENTISTS SHARE THEIR KNOWLEDGE

KFAS works directly with scientists to help them share their discoveries beyond the academic community. Ongoing funding means that the latest breakthroughs can be showcased on the global stage and knowledge can be shared with the rest of Kuwaiti society as a whole. Meanwhile, KFAS funding also means leading scientists from around the world are able to visit Kuwait to give lectures and share their expertise, helping drive inspiration and enthusiasm for science.

IN 2015, RENOWNED NOBEL LAUREATE SIR RICHARD J ROBERTS VISITED KFAS AND GAVE A LECTURE ON ‘WHY I LOVE BACTERIA’. THERE WERE MORE THAN 240 ATTENDEES FROM THE SCIENTIFIC COMMUNITY, INCLUDING REPRESENTATIVES FROM KISR AND KU AS WELL AS STUDENTS FROM DIFFERENT PRIVATE SCHOOLS. THE LECTURE WAS FOLLOWED BY VISITS TO KISR AND THE AMERICAN UNIVERSITY OF KUWAIT.

Similarly, recent developments in the field of renewable energy were shared through a special seminar on Sustainable Developments in Lighting, during which KFAS provided significant information on choosing energy-efficient lamps.
THE DASMANN
DIABETES INSTITUTE (DDI)
WORLD CLASS
RESEARCH,
EVERYDAY BENEFITS

Founded in 2006, DDI works on the forefront of research into diabetes and related conditions. Alongside its pioneering research, the institute also works to prevent and control diabetes in Kuwait through a range of innovative healthcare, education and outreach programs.

In 2015, DDI published 30 papers in peer-reviewed journals, up from 15 publications in 2014.

The institute is currently involved in 75 ongoing national and international research projects, including 21 launched in 2015.
THE ‘BE DASMANI’ INTERVENTION PROGRAM FOR ADULTS WITH TYPE 2 DIABETES WAS DELIVERED, HELPING PATIENTS BETTER UNDERSTAND AND MANAGE THEIR CONDITION. 88% OF PATIENTS WERE SATISFIED WITH THE PROGRAM.

OVER 25 CONFERENCES AND SEMINARS AND MORE THAN 65 TRAINING COURSES AND WORKSHOPS WERE ORGANIZED BY DDI IN 2015.

DDI WELCOMED MORE THAN 8,000 PARTICIPANTS TO THE YEARLY ‘BEAT DIABETES WALKATHON’, RAISING AWARENESS OF THE CONDITION AND HELPING PEOPLE ADOPT HEALTHIER LIFESTYLES.

DDI PARTICIPATED AT THE EXPO MILANO 2015, SHOWCASING THE INSTITUTE’S RESEARCH AT AN EVENT THAT ATTRACTED MORE THAN 20 MILLION PEOPLE.

MORE THAN 1,000 STUDENT WORKPLACE PROJECTS WERE COMPLETED IN 2015, GIVING THE SCIENTISTS AND DOCTORS OF TOMORROW VALUABLE EXPERIENCE TO COMPLEMENT THEIR STUDIES.

THE ‘BE DASMANI’ INTERVENTION PROGRAM FOR ADULTS WITH TYPE 2 DIABETES WAS DELIVERED, HELPING PATIENTS BETTER UNDERSTAND AND MANAGE THEIR CONDITION. 88% OF PATIENTS WERE SATISFIED WITH THE PROGRAM.
BUILDING ON A GLOBAL REPUTATION FOR CLINICAL EXCELLENCE

In November 2015, DDI completed and submitted a final survey from Accreditation Canada International (ACI) for its prestigious QMENTUM International Accreditation Program. ACI is a worldwide leader in raising the bar for quality healthcare and their program is designed to improve client outcomes and enhance the performance of care systems.

DDI has now completed two full cycles for accreditation. During the first ACI cycle DDI received Gold Level recognition and accreditation. The preliminary results for the second cycle, showed an achievement of 98-100 percent compliance within the Accreditation Program’s 10 standards, highlighting the quality of the work being carried out in the heart of Kuwait.
In April 2015, DDI held a ceremony to honor the 62 healthcare professionals who had successfully completed the innovative ‘Fundamentals on Diabetes: Primary Care Perspectives’ one-year course by the world-famous Joslin Diabetes Center, affiliated to the Harvard Medical School.

Also graduating in 2015 where 52 postgraduate students (double the number from the previous year) enrolled in a three year postgraduate program with a Certificate, Diploma and Master’s in Diabetes Care, Education and Management offered by the University of Dundee, in collaboration with DDI. A further 250 students are also currently enrolled on the joint program.

‘THE HARD WORK, ENDEAVOR AND EXPERTISE POOLED BY THE UNIVERSITY OF DUNDEE AND DASMAN DIABETES INSTITUTE HAS PROVIDED A GROUP OF GRADUATED STUDENTS WHO ARE ABLE TO ADDRESS SOME OF THE HEALTHCARE ISSUES WHICH ARE MOST TOPICAL AND PRESSING IN KUWAIT AND ACROSS MODERN SOCIETY.’

PROF. MAIRI SCOTT, PROGRAM DIRECTOR, UNIVERSITY OF DUNDEE
THE NUMBER OF DDI PATIENTS

<table>
<thead>
<tr>
<th>Year</th>
<th>Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>2013</td>
<td>800</td>
</tr>
<tr>
<td>2014</td>
<td>1,513</td>
</tr>
<tr>
<td>2015</td>
<td>2,223</td>
</tr>
</tbody>
</table>

DIABETES AWARENESS & PREVENTION SERVICES

- **3301**: Participated in national public health awareness events
- **1400**: Students participated in the Prevention of Diabetes Complications Campaign
- **370**: Personnel took part in the Screening & Awareness Campaign for the Kuwait National Guard
**HEALTHCARE PROFESSIONALS EDUCATION & TRAINING SERVICES**

- 170 Students enrolled in the University of Dundee Postgraduate Program in Diabetes Care, Education & Management
- 100 Nurses participated in the International Diabetes Federation Diabetes Education Course for Healthcare Professionals
- 85 Healthcare Professionals trained in Pump Therapy and Continuous Glucose Monitoring
- 61 Healthcare providers interned at the Pediatric & Adult Education Clinic

**PATIENT EDUCATION SERVICES**

- 3791 Patients received One-to-one Education
- 94 Patients benefited from Group Education
- 75 Patients installed with Insulin Pump
- 45 Participated in the Diabetes Camp
Opened in September 2013, the Jaber Al-Ahmad Center for Molecular Imaging (JACMI) was established with the aim of making Kuwait a true world leader in the field of nuclear medicine and molecular imaging.

Fully funded by KFAS currently and operated in partnership with Kuwait University and the Ministry of Health, the center is academically and scientifically independent, carrying out a wide range of cutting-edge clinical trials and studies.

The main aim of JACMI is to provide Positron Emission Tomography (PET) clinical imaging services to patients, while also providing an inspiring academic infrastructure for scientific research. Thus, alongside this state-of-the-art facility, the center offers a unique atmosphere for teaching and training. Additionally, by being equipped with a medical cyclotron for radioisotope production – the largest of its kind in Kuwait – the center is able to work at the forefront of research into molecular medicine.

Major achievements for 2015:
More than 800 patients were scanned at JACMI over the course of the year. PET imaging tests were provided for patients from Al-Ahmadi district, Capital district, and Al-Sabah district (with the exception of the patients of the Kuwait Cancer Control Center). Additionally, pioneering heart and bone examinations were provided for patients of Al-Razi Hospital, Al-Sabah Hospital, and DDI.

A PROPOSAL FOR A NEW COLLABORATIVE RESEARCH PROJECT WITH SAINT LOUIS UNIVERSITY WAS SUBMITTED TO KFAS. THE JOINT PROJECT WILL BE AIMED AT FURTHER DEVELOPING THE POTENTIAL OF PET IMAGING.

Representatives of JACMI presented two scientific research papers at the Annual Scientific Posters Conference, held at the Health Sciences Center at Kuwait University.
In 2015, JACMI strengthened its ties with the International Atomic Energy Agency (IAEA). Yukiya Amano, Director General of the IAEA, visited Kuwait and noted the technical expertise in place at the center. Additionally, JACMI also hosted several IAEA-led activities, all of them aimed at assessing the readiness of the center for the production of radioactive materials. Notably, the IAEA agreed to fund and supervise a new national project to establish the institution as a Regional Training Center in Nuclear Medicine.

In October 2015, JACMI participated in the international conference organized by the IAEA, which was held in Vienna, with the knowledge and connections acquired here to be utilized to enhance the Center’s technical capabilities.

In 2015, a new radioactive material production unit was completed at JACMI, under the supervision of the International Atomic Energy Agency (IAEA).
Sabah Al Ahmed Center for Giftedness and Creativity (SAC) is one of the centers of KFAS, established in May 2010. The Center supports and nurtures gifted, talented and creative Kuwaiti individuals through providing the appropriate environment and venues to allow their distinctiveness and talents to emerge, as well as providing opportunities to turn ideas into tangible products.

A CENTER FIT FOR THE FUTURE
THE NEW SHUWAIKH HEADQUARTERS

In 2015, SAC celebrated the opening of its new headquarters in Shuwaikh. This new base is equipped with everything the scientists of tomorrow need to develop their skills, including classrooms, laboratories and the state-of-the-art Applied Sciences Workshop, FABLAB. The first FABLAB was established in Al-Qadisiya and another new lab facility was opened in Al-Jahra, making it the third of its kind.
DURING 2015, 69 ACTIVITIES AND TRAINING PROGRAMS WERE HELD IN FABLAB ATTENDED BY 254 STUDENTS. THE ACTIVITIES VARIED BETWEEN SCIENTIFIC, ROBOTIC, MATHEMATICAL, AND ENRICHMENT CURRICULA.

HELPING THE BRIGHTEST MINDS SHINE
NURTURING THE GIFTED

In 2015, the number of talented students being nurtured and helped in reaching their true academic potential totaled 172. Six new giftedness classes were opened and they were fully equipped with the needed technology and specialized staff of teachers and specialists.
EXCELLENCE ACROSS BORDERS: A NEW CURRICULUM FOR TALENTED STUDENTS

International Technology and Engineering Educators Association (ITEEA) is a global leader in the field of developing up-to-date curriculum enrichment for gifted students. SAC signed a new contract with the specialists in 2015 whereby 172 students in grades 6, 7 and 8 were taught an enriched program in science and math. Moreover, 60 teachers were trained to put the program in action.

Purdue: During the first 6 months of 2015, the center worked closely with Purdue University to develop enrichment curricula in subjects including English and computer science for grade 6.

John Hopkins: Implementation of the Center’s agreement with Johns Hopkins University continued until the end of the third quarter of 2015, during which five talented students participated in the Center for Talented Youth (CTY) summer grants program in the United States. Additionally, an enhanced curriculum for gifted students was prepared and implemented; in all, 45 teachers were trained.
Thanks to the strength of both the Kuwaiti academic community and the private sector, the State is a hotbed of imagination, with new ideas being developed all the time. KFAS takes enormous pride in helping the smartest inventors transform their visions into reality. From drawing up concrete plans and applying for a patent through to creating commercially-viable products, KFAS supports individual inventors every step of the way and boasts an outstanding track record of helping creative minds fulfil their dreams.

SUPPORTING AND SPONSORING INDIVIDUALS WITH INNOVATIVE IDEAS THAT CAN BE CONVERTED INTO MARKET-READY PRODUCTS LOCALLY AND INTERNATIONALLY

In 2015, almost 100 science robotic and math workshops were held. Many of these events were open to the general public, helping to foster an innovative culture right across Kuwaiti society and creating the ideal environment in which great ideas are imagined and brought to life.
In 2015, SAC received and evaluated 137 requests for new invention ideas, a record amount. Of these, 54 obtained registration codes and were qualified as being viable for patenting. Additionally, 62 innovative ideas received patent certificates over the course of the year, highlighting the wealth of innovation and large number of exciting ideas being developed by Kuwaiti inventors.

Global Patents Granted 2000-2014
Per Million 2014 Population, GCC Countries

- Kuwait 132
- Saudi Arabia 84
- GCC Total 69
- Bahrain 51
- United Arab Emirates 43
- Qatar 18
- Oman 7

Source WIPO, UN Population Division

Kuwait's scientists are devising innovative ideas across a variety of fields on a near-constant basis. If an idea is seen as having potential, inventors are assisted in applying for a patent and securing their intellectual property. Only once an idea is patented and protected will it be put forward for further development.
FROM PATENT TO PROTOTYPE

SAC works closely alongside inventors themselves to transform their protected visions into tangible products.

Some of the Patents under Development to Become Prototypes in 2015

<table>
<thead>
<tr>
<th>Patent Title</th>
<th>Inventor(s)</th>
</tr>
</thead>
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<td>ALI AL SHAMMOH</td>
</tr>
<tr>
<td>BIFURCATED FORCEPS: A TWEEZERS-LIKE INSTRUMENT WITH TWO ELONGATED, FLATTENED ARMS JOINED AT THEIR MUTUAL PROXIMAL ENDS FOR USE IN A RANGE OF SURGICAL PROCEDURES</td>
<td>DR. HASAN AL SHEMMARI</td>
</tr>
<tr>
<td>SUBSURFACE IRRIGATION SYSTEM: AN INNOVATIVE SYSTEM FOR IRRIGATING A SPORTS FIELD MAKING USE OF A COMPLEX NETWORK OF DISTRIBUTING PIPES AND DISTRIBUTION CHANNELS</td>
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TRANSFORMING A PROTOTYPE INTO THE FINISHED PRODUCT

Once a product has been created, KFAS again works closely alongside the inventor to bring it to market and make it a commercial success. Working with commercial partners and venture capitalists, the Center aids the inventor to find extra funding for their product, paving the way for commercialization and licensing.

SAC managed to launch a Kuwaiti invention by Sulaiman Al-Khattaf titled “Portable Footrest”. The prototype was launched through Amazon website. Additionally, the Center presented 15 products viable for commercialization at “The International Inventions Exhibition” and was also able to sell the Kuwaiti invention, “The Surgical Needle Holder”, at another specialized medical exhibition.
BUILDING STRATEGIC PARTNERSHIPS FOR A BRIGHTER FUTURE

Once again, in 2015, several key strategic partnerships with both scientific institutions and private sector organizations were established, including:

An agreement with KISR to allow access to the Institute’s expertise in identifying new developments needed for inventions.

An agreement with the Public Authority for Applied Education and Training (PAAET) that will enable inventors to develop their ideas in their own workshops. Through this partnership, eight inventions were submitted for product development in 2015, two of which were accepted.

An agreement with the National Fund for SME Development, NAASCO, the College of Engineering and Petroleum at Kuwait University and the College of Technological Studies at PAAET to support inventors and assist in the development of their inventions.
INSPIRING A CULTURE OF INNOVATION IN THE PRIVATE SECTOR

KFAS has worked with its partners to encourage debate and unlock the creative potential found within the Kuwaiti private sector. Through conferences, workshops and seminars, companies and organizations have been inspired to think differently and see innovation as a key driver of long-term development.

Events funded by KFAS through its innovation and enterprise programs, over the course of 2015, focused on a wide range of topics, though all of them were aimed at spurring innovation in the workplace and adopting a creative approach to the advancement of science.

‘Innovation is a very timely subject and represents a cross-cutting theme in the workplace, in education, in health, in culture and in all other productive sectors, and is a game changer in both business and daily life.’

Mona Bseiso
Economic Consultant
KDIPA
In 2015, KFAS organized more than 12 workshops, all of them aimed at sharing ideas and best practices, as well as facilitating innovative thinking.

Among the several workshops was a session on undertaking feasibility studies and writing winning proposals, attended by almost 80 participants, and a day focused on Franklin Covey’s, ‘The 4 Disciplines of Execution’, which was also attended by more than 80 participants.

Additionally, KFAS organized a workshop with The Industrial Bank of Kuwait and Kuwait Industries Union, aimed at introducing the industrial sector to the latest technology available in Germany. Two major German research institutes (Fraunhofer and the Max Planck Institute), presented such technology to the companies, which responded by inviting the German delegation to visit their facilities to aid in developing new products and provide solutions for current challenges.

Feedback from participants was universally positive, with many business leaders praising KFAS for taking the lead in helping drive innovation in the region.

‘I would personally like to thank you and your team for sponsoring and organizing this interesting event on, ‘The People Side of Innovation’. This really shows KFAS’s leadership and commitment to the development of human capabilities in the private sector across the State of Kuwait.’

Khaled Al Sharrad
Group Chief of Human Resources, KIPCO
Some of the brightest minds in the field of science and technology gave lectures organized and hosted by KFAS. Through the year-long series of lectures, hundreds of participants from a range of industries in the private sector were able to gain valuable insight into the latest thinking.

The highlight of the year was once again the Chairman Speaker Series. Talks given under this banner included a lecture by Nish Acharya, on ‘The role of innovation and entrepreneurship in economic growth strategy’, as well as a lecture by Prof. Dean Alderucci entitled, ‘Innovation as a Business Process’.

Prof. Bjørn Asheim, from the Center for Innovation Research at the University of Stavanger, also gave a lecture with the title, ‘Economic Diversification and New Path Development’. This special talk was part of a wider collaboration between KFAS and the leading Norwegian institution. Prof. Asheim’s research policy on, ‘An Innovation Driven Economic Diversification Strategy for Kuwait’, also benefitted from input from a number of other world-class institutions, including Lund University, Sweden and the BI Norwegian Business School.
The year 2015 saw the launch of special KFAS-led training programs aimed at boosting innovative thinking in the private sector. The Facilitating Breakthrough Thinking program brings together management-level leaders from the private sector for week-long boot camps in which they receive expert coaching and feedback from their professional peers. Through this training, participants become adept at creative problem solving and just as importantly, develop the ability to inspire innovation in others.

In 2015, representatives of eight companies participated in the Facilitating Breakthrough Thinking Boot Camp. Participants included:

• National Bank of Kuwait
• Boubyan Capital
• Burgan Bank
• Commercial Bank
• EQUATE Petrochemical Company
• Warba Bank
• Zain
• Ooredoo

Promoting Innovation

Through KFAS Open Enrolment Program, private sector companies can tap into a vast network of leading training providers. The program offers the latest approaches to innovation that can further advance organizations’ knowledge and capabilities. These activities help engage companies in institutionalizing innovation and driving growth.

KFAS’s Open Enrolment Program for the private sector has continued to grow in popularity. In 2015, 220 participants enrolled in the program’s courses tackling subjects, some of which include:

• Innovation and Culture
• 4MAT Mastering Training Design
• Innovation Through Human-Centered Design
• Emerging Role of HR & OD in Fostering a Culture for Innovation
• Five Core Competencies for Promoting Innovative Teamwork

Some of the companies that benefited from Open Enrolment include:

• Advanced Technologies Company
• Agility
• Al Kout Logistics & Logistics Co.
• Zain
• Boubyan Capital
• National Bank of Kuwait
• National Electronic Services Management Company
• Ooredoo
• Gulf Investment Corporation
• INJAZ
Winners of the Innovation Challenge will benefit from customized training delivered by Cambridge experts, giving them a unique opportunity to develop their company’s innovative capabilities.

The program is centered on real business challenges that will be explored throughout the program phases and teams will apply their learnings on their innovation projects. The program started in November 2015 with workshops in Kuwait, followed by four months of mentoring. The program will conclude in Cambridge, UK on 23rd-27th May, 2016, where it will consist of a combination of workshops and site visits to innovative companies.


Other than offering its own designed training programs, KFAS provides funds for high caliber training activities to improve business productivity and competitiveness within the private sector, hence contributing to the development of the companies’ human capital.

In 2015, 77 individual grants and 106 corporate grants were given.
The EQUATE Petrochemical Company is a leading producer of high-grade of Ethylene, Polyethylene (PE), Ethylene Glycol (EG) and Polypropylene (PP). The company is also at the forefront of sustainable industry, working in partnership with public and private bodies in the fields of development, education and public health.

EQUATE approached KFAS for funding to help research the development of value-added PE grades. Following a KFAS funded feasibility study, EQUATE is now on track to develop PE grades capable of delivering enhanced safety applications for hydrocarbon storing and handling. In addition, the development of these innovative materials will enhance the efficiency of liquid separation in the energy and water purification industries, delivering significant environmental benefits.

‘KFAS programs are highly valuable and contribute to research and development at Kuwait enterprises for overall sustainability. KFAS, as one of our main, ‘Partners in Success,’ is playing a key role in creating collaboration among several organizations to bring higher value to communities.’

Dr. Poondi R. Srinivasan
Product Development Resource Supervisor, EQUATE
Boubyan Petrochemical Company is one of the leading private sector investors in chemical and petrochemical projects in the Gulf region. It is also an investor in the Muna Noor Group of Companies, a dynamic manufacturer of plastic pipes for industry and consumer use.

In 2015, KFAS helped the Muna Noor Group address a challenge set by one of its customers, namely the design and construction of a large diameter, thick-walled polyethylene pipe capable of meeting a specific application. The production parameters, particularly during the cooling period, and after exiting the die, needed to be meticulously adhered to.

Assistance provided by KFAS in 2015 helped fund research that firstly determined the most suitable PE 100 (HDPE) material from several potential suppliers. KFAS then provided support for in-house research and development in the Boubyan Petrochemical Company, allowing for the development of an innovative rheological testing protocol that can measure the properties of HDPE under conditions that mimic those at the die exit, and initial cooling stage of the pipe production process. The initial findings of the trials indicate that this method could prove a valuable way of screening materials and assessing their potential usefulness for industrial applications, thereby saving time and money.

‘Based on what we have achieved so far, we would like to enhance the relationship with KFAS, so that we can get both financial and technical expertise for our industrial ventures. Finally we would certainly recommend that qualified applicants make use of such great KFAS programs, whenever possible and as needed.’

Mr. Mohammed A. Al-Bahar
General Manager
Boubyan Petrochemical Company
In the pursuit of its goal of creating and sustaining a science-based culture in Kuwait, KFAS continues to extend its global vision to create strategic partnerships with the world’s finest scientific and research institutions.

By providing a range of collaborative research programs, workshops and conferences, KFAS offers policymakers, researchers and business executives the chance to work alongside prestigious universities, think tanks and professional associations worldwide.
Throughout 2015, KFAS worked with leading global institutions to enable exchange of knowledge in research excellence, best management practices, evidence-based policy making and innovation. Some of the standout achievements of the year include:

• Eighty six aspiring scholars from different Arab countries were funded to attend specialized scientific sessions at the International Centre for Theoretical Physics (ICTP). Three more benefited from KFAS support allowing them to enroll in a Diploma Program

• A Kuwaiti Researchers’ Database which includes researchers in Kuwaiti research institutions was commissioned. A similar database will be created for all research published by Kuwaiti entities or through Kuwaiti sponsorship in Arabic and English

• An agreement with the Oxford Institute for Energy Studies, was renewed for 2015. The agreement aims to give Kuwaiti decision-makers in the field of energy access to the finest scientific knowledge in this field. It also provides collaborative research opportunities for local researchers on topics of interest

• Four Public agencies approached KFAS for support to design training programs and locate international knowledge providers in their respective areas of interest. These agencies are: National Assembly, Capital Markets Authority, Ministry of Youth and Ministry of Education. This cooperation calls for development of relevant training programs, search and communication with the best competent specialized entities in the world to submit their services

• Researchers from different Kuwaiti institutions benefitted from 9 travel grants, enabling them to attend the Gulf Research Meeting held at the University of Cambridge, where they attended workshops on intellectual property and the diversification of Gulf economy

• A Kuwaiti team comprising of five members from KFAS, Kuwait University and KISR attended various workshops on intellectual property in preparation for the revision of KFAS’ policy in this regard. This was in coordination with the Ministry of Commerce and The Patent Office of the Gulf Cooperation Council (GCC)

• A workshop was held at Sciences Po on Reformation of Public Systems: Health, Higher Education and Finance - Approaches and Practices in Europe. It was attended by a number of decision-makers in the three fields from both the public and private sectors
The success of the long-standing partnership between the John F. Kennedy School of Government at Harvard University and KFAS continued throughout 2015. The Kuwait Program, which is administered by the Middle East Initiative at the Belfer Center, promotes the highest levels of scholarly exchange, while also providing a range of world-class training opportunities for both Kuwaiti researchers and international academics and executives.

**Highlights and achievements of the program in 2015:**

Responding to the need to navigate business in a volatile market, a workshop for senior executives in the public and private sectors was held at the Kennedy School on, ‘Decision Making Strategies Under Risk and Uncertainty’. More than 40 senior executives from a wide range of sectors were in attendance.

Due to the success of the blind selection process, HKS executive education offered to increase the number of executives for this program to 50 next year.

Enabled 10 executives (2 from the public sector and 8 from the private sector) to benefit from Harvard’s prestigious executive education programs.

A further 10 executives benefitted from access to Comprehensive Leadership Program at the Harvard Business School. Participants in these intensive long-term study programs spent part of their time in Kuwait and the remainder of the time at Harvard itself.

The KFAS Distinguished Executives program was launched at the end of 2015. The special program aims to foster the continued interaction between the alumni of the various executive training programs.

95% OF THE EXECUTIVES ATTENDING THE WORKSHOPS AT HARVARD SAID IT WAS ‘VERY USEFUL AND EFFECTIVE’.
KFAS’s collaboration with the London School of Economics and Political Science (LSE) grew stronger in 2015. The Kuwait Program encourages and enables collaboration between academics, including doctoral and post-doctoral researchers, while regular seminars, public lectures and workshops helped develop vital networks between the LSE and leading Gulf institutions.

**Highlights and achievements of the program in 2015:**

To inform a wider audience about the latest developments and findings in important issues related to resource rich economies and the Gulf regions, a number of important activities took place. One workshop, four public lectures including a talk by the Speaker of Kuwait National Assembly, and one public seminar were held.

The program held a closed workshop with a group of healthcare professionals working in Kuwait. Local specialists and experts from the London School of Economics and Political Science discussed the requirements of a functional healthcare system and best practices in reform. A set of recommendations for the health sector were developed in preparation for the joint research project with Kuwaiti researchers about diagnosing the healthcare system in Kuwait, to enable decision-makers to reach informed decisions based on sound scientific studies.
Established in 2005, the partnership with the renowned Massachusetts Institute of Technology (MIT), enabled scholars from Kuwait and the United States to work together on scientific research, a priority for Kuwait.

Through the Kuwait-MIT Center for Natural Resources and the Environment (CNRE), leading experts collaborate on a range of explorative research in areas including nanotechnology, Robotics, renewable energy, tailored medical testing and synthetic biology. In 2015, KU-MITCNRE continued to sponsor a number of programs, providing grants to support research and offering a visitor exchange scheme for students, postdoctoral fellows and professional scientists.

Over the course of 2015, MIT representatives were invited to Kuwait to participate in a closed workshop. Alongside these initiatives, a special workshop was held with the aim of enhancing levels of research collaboration between Kuwaiti scientists and their MIT peers. The workshop concluded with the approval of two major joint research projects relevant to national research priorities.

Four graduate students and doctoral candidates from Kuwait were able to attend a 12-week summer research and training program at MIT, enhancing their professional prospects and allowing them to forge international links for future collaborations.
2015 saw the establishment of the new program in collaboration with the University of California, Berkeley. The program is a partnership funded by KFAS on behalf of Kuwait University, with the aim of allowing scientists to benefit from enhanced levels of research collaboration, the design abilities of architecture students and provide training opportunities for teaching excellence of the faculty of Kuwait University.

Since its establishment, KFAS has been committed to the values of openness, transparency and equal opportunity.

To stay true to these founding principles, in 2015, the Office of International Programs launched a new electronic application system to receive all applications for training opportunities. This system ensures that the applicant and their institutional affiliation remain anonymous to the selection committee ensuring that selection is done purely on comparative merit.
Under the patronage and attendance of His Highness the Amir of Kuwait, Sheikh Sabah Al Ahmed Al Sabah, KFAS held its annual award ceremony of the Kuwait Prize and the Scientific Production Prize for the years 2014 and 2015, at Salwa Hall on the 2nd of December, 2015.

The Kuwait Prize

Established in 1979, the Kuwait Prize recognizes the lifetime achievements of Arab scientists actively engaged in pioneering research anywhere in the world. The Prize is divided into five main categories, covering a wide range of research areas. For 2015, the value of the Kuwait Prize increased to KD 40,000 per winner, further enhancing the prestige of the accolade within the global scientific community. The topics of each categories are subject to change annually.

In the field of Applied Sciences - Engineering Sciences.

Professor Gabriel M. Rebeiz

Obtained a Ph.D. in Electrical Engineering from the California Institute of Technology in 1988.

Currently is a distinguished Prof. and Wireless Communications industry Chair at the University of California, San Diego.

Author of 227 papers in high ranking reviewed journals.

Cited 19,000 times, and has a H-index of 64.

In the field of Economics and Social Sciences - Economics and Management (shared).

Professor Nidal Rasheed Sabri

Obtained a Ph.D. in Business Administration 1981 from the University of Northern Colorado.

Currently a Professor of Business and Economics at the Faculty of Economics, Birzeit University, Palestine.

Published 33 research papers in English and 7 in Arabic, all in refereed scientific journals. He contributed to the preparation of 16 books in Arabic, and 23 books in English.
In the field of Economics and Social Sciences - Economics and Management. (shared).

**Professor Adel Mohammed Abdallah Al Adwani**

Obtained a Ph.D. in Business Administration in 1996 from the University of Southern Illinois at Carbondale.

Currently a Professor of Information System at the faculty of Business Administration at Kuwait University.

Published 28 research papers in refereed scientific journals, and 16 scientific reports. 3 of his research studies were categorized as the best in the scientific theme.

In the Field of Arts and Literature Arabic Language and Literature Studies.

**Professor Mahdi Asad Saleh Arar**

Obtained a Ph.D. in Linguistics from the University of Jordan in 1999.

Currently Dean of Faculty of Arts at the Birzeit University, Palestine.

Published 24 research papers and scientific studies in refereed journals, authored 6 books and edited 7 books.

In the field of Arabic and Islamic Scientific Heritage.

**Professor Nader El Bizri**


Currently a Professor and Director of the Civilization Sequence Program at the American University in Beirut, Lebanon.

Authored several academic books and published numerous scientific articles in international refereed Journals.
WINNERS OF
KUWAIT PRIZE
2015

In the field of Basic Sciences - Basic Medical Sciences.

Professor Huda Fakher Akil

Obtained a Ph.D. in Biopsychology from the University of California, Los Angeles, in 1972.

Currently, the Gardner Quarton Distinguished University Professor of Neuroscience and Psychiatry and Co-Director of the Molecular & Behavioral Neuroscience Institute at the University of Michigan.

Holds several US patents for inventions in the field of Neuroscience and the treatments of psychiatric disorders.

Published more than 441 research papers and 130 chapters in scientific journals and books, as well as making 183 research contributions at international conferences.

Has more than 45,000 citations with the index of 113.

In the field of Applied Sciences - Water.

Professor Hisham Mohamed Awad Eltouny

Obtained a PhD in Chemical Engineering in 1983 from the Massachusetts Institute of Technology (MIT).

Currently, Professor of Chemical Engineering at the Department of Chemical Engineering, Faculty of Engineering and Petroleum, Kuwait University.

The author of more than 97 research publications in scientific journals, 3 book chapters and the co-author of 1 scientific book.

A pioneer and expert in water desalination process.

Published 97 research articles in refereed journals, three chapters in one book and coauthored a book. He has more than 3000 citations with H-index of 30.
In the field of Economics and Social Sciences - Social Sciences.

Professor Sari Hanafi


Currently a Professor of Sociology and Chairman of the Department of Sociology, Anthropology and Media studies at the American University in Beirut, Lebanon.

Has an outstanding contribution in sociological methodology, theoretical frameworks and concepts.

Published numerous research papers in scientific journals in 3 languages: Arabic, English and French, and sole author of 13 books and co-author and publisher of 11 books.

In the field of Arts and Literature - Studies in Foreign Languages and Literature.

Professor Mona El Saeed Baker

Obtained a Ph.D. in the field of Translation Studies from the Manchester Institute of Science and Technology, UK, in 1999.

Currently a Professor Emeritus at the Centre for Translation and Intercultural Studies at the University of Manchester.

Published 50 works, ranging from scholarly articles in international and regional refereed journals to books published in UK, US, Sweden, China, and Germany over the past 20 years.
The Scientific Production Prize, was established in 1988 at the behest of the late Amir of Kuwait H.H Sheikh Jaber Al-Ahmad Al-Jaber Al-Sabah. The prize aims at recognizing outstanding Kuwaitis already in possession of doctoral degrees and at encouraging dedication to research, studies, writing, and translation in various branches of the scientific production fields.

The Scientific Production Prize covers 6 distinct fields of research with a value of KD 10,000 awarded to each winner.

The Scientific Production Prize for 2014 & 2015

In the field of Physical Sciences and Mathematics.

Professor Fakhreia Abdulrahman Al-Sagheer

Obtained a Ph.D. in Physical Chemistry from the University of Nottingham, England, in 1992.

Currently a Professor of Chemistry at Kuwait University.

Published more than 50 research papers in scientific journals, and has contributed to the production of two scientific books and attended more than 20 national and international conferences.
In the field of Engineering Sciences.

**Professor Tariq Abdulmohsen Ahmad Aldowaisan**

Obtained a Ph.D. in Industrial Engineering and Management System in 1990, from Arizona State University, USA.

Currently a Professor in the Department of Industrial Engineering and Management Systems, College of Engineering and Petroleum, Kuwait University.

Published more than 30 articles in both English and Arabic, principally focusing on development and education, he has also been widely published in many leading peer-reviewed scientific journals.

In the field of Biological Sciences.

**Dr. Abdul Ameer Eisa Alsaffar**

Obtained a Ph.D. in Nutrition from Harper Adams University, UK in 2001.

Currently a research scientist in the Department of Environment and Life Sciences Center at the Kuwait Institute for Scientific Research.

Published more than 20 papers at conferences around the world and founded the Kuwait branch of the World Poultry Association.
In the field of Medical Science and Allied Health Sciences.

Dr. Maie Dawoud Al-Bader

Obtained a Ph.D. in Molecular Endocrinology from University College London Medical School, UK, in 1999.

Currently Vice-Dean of Administration and Finance, Faculty of Medicine, Kuwait University.

Published 27 papers in leading international sciences journals, and is a co-author of three scientific books.

In the field of Social Sciences and Humanities.

Professor Obaid Srour Alotaibi

Obtained a Ph.D. in Geography in 1988, from the University of Exeter, UK.

Currently a Professor in the Dep. of Geography, College of Social Sciences, Kuwait University.

Published 21 researches and authored 2 books, and 2 chapters in 2 other books.

In the field of Administrative and Economic Sciences.

Dr. Bader Attia Al-Shammari

Obtained a Ph.D. in Accounting in 2006, from the University of Western Australia.

Currently an Associate Professor in the Department Of Accounting, Faculty of Business Studies, Public Authority for Applied Education and Training.

Published 22 researches and 2 books.
THE SCIENTIFIC PRODUCTION PRIZE
2015 WINNERS

60 SCIENTIST WERE NOMINATED FOR THE PRIZE IN 2014 WHILE 56 WERE NOMINATED IN 2015, ALL LEADERS IN THEIR SCIENTIFIC FIELDS.

In the field of Engineering Sciences.

Professor Abdulazeem Mohammed Jawad Marafi

Senior Researcher at the Oil Research Center at the Kuwait Institute for Scientific Research.

Obtained a Ph.D. in Chemical Engineering from the University of Oklahoma in 1996.

Published 24 papers in scientific journals, in addition to 35 research papers published and presented at national and international conferences.

In the field of Biological Sciences.

Dr. Dina Musaed Al-Mailem

Associate Professor in the Department of Biological Sciences at Kuwait University.

Obtained a Ph.D. in Microbiology from Bath University, UK, in 2006.

Published 22 papers in scientific journals, and co-authored two books.
In the field of Social Sciences and Humanities.

**Professor Othman Humoud Othman Al-Khadher**

Professor at the Department of Psychology, Faculty of Social Sciences, Kuwait University.

Obtained a Ph.D. in the Science of Industrial and Organizational Psychology from the University of Nottingham, UK, in 1994.

Published 23 papers in scientific journals and authored six science books, and translated five books.

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In the field of Medical Science and Allied Health.

**Professor Fahd Rashid Al-Mulla**

Professor and Head of Molecular Pathology Unit. Faculty of Medicine at Kuwait University.

Obtained a Ph.D. in Molecular Genetics of Cancer Metastasis from the University of Glasgow, UK, in 1999.

Published 96 papers in peer-reviewed scientific journals and presented 50 papers at international conferences. He also boasts six patents from several international scientific organizations.
300 TEAM MEMBERS, WORKING ON 195 DIFFERENT PROJECTS, COMPETED FOR THE KUWAIT E-CONTENT AWARD IN 2015, A RECORD NUMBER.

Celebrating Kuwaiti advances in Global Information Technology.

Aimed at driving forward advances in the field of e-Content, Kuwait e-Content Award was established in 2008. Since then, the prize has grown in both prestige and popularity.

The award celebrates and recognizes excellence in 8 separate categories, with total prizes of KD 50,000. In 2015, 195 projects put themselves forward to be considered for an award, out of which 25 winners were ultimately chosen.

Projects that won first place at the eContent Award are:

• In e-Government, ‘Well Surveillance Management System’
• In e-Learning, ‘Capitaledukw’ website
• In e-Culture, ‘Kuwait Heritage’ website
• In e-Science, ‘Snowball Master Control Unit’
• In e-Inclusion, ‘The Comprehensive Muslim eLibrary’ website
• In e-Entertainment, ‘Bubble Rumble’ game
• In e-Health, ‘AbiDoc’ website
• In e-Business, ‘Fishfishme’ website

7 OF THE 2015 E-CONTENT AWARD WINNERS WERE NOMINATED TO COMPETE INTERNATIONALLY IN THE WORLD SUMMIT AWARD (WSA).
Out of the seven Kuwaiti nominees at the international WSA 2015 competition, one emerged as a winner, beating strong competition from teams from all around the world. That winning project which was in the e-science category was **Snowball Master Control Unit**, whose owners are Ahmad Abdulwahab Alsleh and Naser Hayawi Naser Jasem.

**Snowball Master Control and E-robot: Cross Media**

**Team Members: Ahmad Abdulwahab Alsaleh - Naser H N Jasem**

**Project Description:**

The E-Robot project provides kits containing three platforms electronics, mechanical and software. The kit will help users prototype their ideas or create educational projects. The project’s goal is to encourage students in primary school to enter the world of manufacturing and innovation.

The Snowball Software is the first part of the project and a freeware. It’s a user-friendly interface that contains drag and drop icons called nodes used to create the program flow chart in a modular way. Nodes can be inputs representing the hardware sensors, while outputs represent actuators of the E-robot, or flow representing programming conditions, iteration and special codes. The software will convert all graphical programming done by the user into real C++ programming automatically. The generated program will be compiled and downloaded into Snowball Hardware MCU or any other selected open source controller.

Snowball contains many devices and elements that allow the user to enter the world of robotics and embedded systems including SD Card, Bluetooth, 4 high current ports to control DC motors and a 16 general inputs and outputs. The project doesn’t only convert the traditional educational way from knowledge learning to skills learning, but also it solves the lack of motivation in the current education systems and presents an easy-to-use kit for programming and building mechanical systems using plastic bricks and sensors.
REWARDING SCIENTISTS TRANSFORMING LIVES ON A GRAND SCALE

Al-Sumait prize for African Development

$1 MILLION: THE VALUE OF THE AL-SUMAIT PRIZE FOR AFRICAN DEVELOPMENT.

DEVELOPMENT IN HEALTH FOR 2015

Unveiled at the Arab Africa Summit, hosted in Kuwait, in 2013, the Al-Sumait Prize for African Development recognizes scientists using their expertise to make a real difference to the lives of millions in Africa. Dedicated to the memory of the late Dr. Abdulrahman Al-Sumait, who devoted his life in helping the poor in Africa, the award offers a cash prize of $1 million and covers 3 specialized categories: health, food security and education. H.H. the Amir of the State of Kuwait, appointed KFAS to manage and oversee this pioneering award, while the Board of Trustees assigned to oversee the prize.

In 2015, KFAS began the search for scientists truly worth of such an accolade. The nominations were opened in September 2015, in the Field of ‘Health’ and the first meeting of the Board of Trustees was held in December 2015.

The nomination panel will evaluate, select and shortlist the candidates for final recommendation to the Board of Trustees. It will then be presented to the Board of Directors. The winner is expected to be announced during the fourth Arab-African Summit to be held in Guinea, Africa in November 2016.
The Board of Trustees comprises prominent international personalities in the field of development in Africa and world-renowned philanthropists.

Chaired by:

H.E. Sheikh Sabah Khaled Al-Hamad Al-Sabah
First Deputy Prime Minister and Minister of Foreign Affairs of the State of Kuwait

The Board includes:

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Co-Chair of the Bill & Melinda Gates Foundation

Dr. Donald Kaberuka  
Former President of the African Development Bank

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International Atomic Energy Agency

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Gathering Charity Committee and Director  
General and Chairman of Board of Sadeer

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Director General of the Kuwait Foundation for  
the Advancement of Sciences

REWARDING THE GREAT ARAB SCIENTIFIC MINDS OF TOMORROW
ANWAR AL-NOURI PRIZE FOR BEST PHD. THESIS IN EDUCATION IN THE ARAB WORLD

Funded by Anwar Al-Nouri Philanthropic Trust and administrated by KFAS, the award for best Ph.D. thesis in education, in the Arab world, honors the major role played by the late Al-Nouri, in this field at the national level in the State of Kuwait and the Arab world, as well as his services to KFAS as a member of its Board of Directors.

The cash prize is worth US $35,000 for the first place, and the second place winner receives US $25,000.

The 2016 prize was announced in November 2015, in all Arab universities, and the scheduled deadline will be on 30th March, 2016.
FINANCIAL HIGHLIGHTS
KFAS WITH ITS CENTERS

THE SHARE OF EACH DEPARTMENT AND CENTER IN 2015 - KD 33.12 MILLION.

IN 2015, 41% OF KFAS’S BUDGET WAS SPENT ON ITS CENTERS.

* MIT-Project: Next generation brine desalination and management for efficiency reliability and sustainability
KFAS receives financial contributions from the Kuwaiti Shareholding Companies, amounting to 1% of the net annual profit. These funds enable KFAS to carry out its mission towards promoting scientific, technological and intellectual progress in Kuwait.

KFAS is grateful to the shareholding companies for their continuous support towards the advancement of science.

KFAS relies on two sources of income to fund its operational budget: the contributions from the private shareholding companies and the investments from its endowment. The Foundation implements a long-term investment strategy by investing its endowment to provide a sustainable source of funds to support its mission. The investment strategy aims to target returns associated with prudent risk and a long-term investment horizon as it applies a conservative approach to minimize long term risk. KFAS expects to earn a sustainable investment return over the long-term with relative liquidity.
THANK YOU

To all our contributors, stakeholders, partners and employees for making 2015 an impactful year.

Special Thanks to H.H The Amir Sheikh Sabah Al Ahmad Al Jaber Al Sabah, Chairman of KFAS Board of Directors for his patronage and guidance

Funded by Kuwait’s shareholding companies as part of their corporate social responsibility

Telephone: +965 2227 81 00 - Fax: +965 2227 04 21
Address: Ahmad Al Jaber St., Sharq, State of Kuwait
P.O.Box 25263, Safat, 13113 Kuwait
www.kfas.org
Email: info@kfas.org.kw