



# OVPR RESEARCH NEWSLETTER JULY 2019



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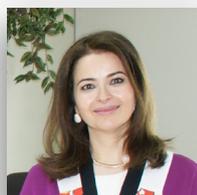
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## VPR's Message

### **RS inclined towards harnessing faculty members caliber, competence and potential for achieving research of high quality**

The Research Sector continues its journey on a developmental path, implementing its established programs, facilitating faculty members in pursuing advanced and innovative research, and enhancing collaborative ties within the framework of existing research support rules and regulations. With its commitment to sustain growth in faculty research, RS efforts will always be directed to harnessing faculty members caliber, competence and potential for achieving original, innovative and high quality research, that tackle priorities and issues of national, economic, educational, health, social and environmental significance.

A climate is also being created through flexible and facilitative approach, for which RS is currently reviewing the existing grant support by-laws to make the system more pliable to researchers needs. And in another vital move, RS initiated faculty visits during the current academic year as a significant step towards boosting researchers confidence in the grant support system, encouraging them to raise the problems they face and present their concerns and suggestions through free-flow of discussions. For RS, faculty visits mark a fundamental initiative towards promoting a better understanding of research rules and regulations, enhancing researchers role as active partners in the institutional research development through new ideas and initiatives, and encouraging their increased participation and performance in institutional research.

While RS thrust is on encouraging priority and interdisciplinary research, it is also driven towards expanding its collaborative base through signing MOUs with various public and private sectors, as RS always seeks to increase its partners in the research development process to achieve the desired values and goals of KU's Strategic plan 2018-2022, and the State's Plan 2035, which revolves around aspects of distinction, quality, presence and sustainability.

On the research publication front, statistics exhibited a clear surge in KU published research in JCR ranked journals resulted from funded research in Q1 to Q4 journals of impact. on the other hand, statistics showed a significant decrease in research papers published in



Prof. Jasem yousuf Al-Kandari, Vice President for Research

### **RS enduring commitment remains on sustaining the grants process, supporting researchers and elevating institutional research**

unrefereed journals, which is a clear indicator to the role played by the research rewards incentives in promoting publications in high impact journals. Moreover, our decisions concerning the approval of research funding constantly enhance the amount of research projects, and we also work on developing our infrastructure assets for facilitating researchers to accomplish advanced, analytical, and experimental research that yields outputs of international quality and credibility that would elevate the international standing of KU among distinguished universities worldwide.

The basic and fundamental commitment of RS remains insuring the continuity of the research grants system, and focusing on elevating institutional research through the application of highest standards of quality, integrity, and scientific excellence. To achieve that goal, RS had a packed calendar of events, signifying the pace and momentum of activities during the academic year 2018/2019 such as ceremonial honoring of the winners of Researcher Awards, SPSS workshops, RIG orientation session, first KU Inventions Forum, annual poster day, and many more. In addition, RS is currently working on the issuance of the Intellectual Property Rights protection law. Specifics of all activities and events are outlined in this issue of the OVPR's research newsletter, presenting a refreshing new image and outlook of RS latest developments, relaying valued information for the benefit of the scientific community and vast readership, keeping them informed and updated on scientific and research developments at Kuwait University.

**Prof. Jasem yousuf Al-Kandari**  
Vice President for Research

# Humanities Poster Day

## RS Organizes the Scientific Poster Day for Humanities and Social Sciences Faculties for the Academic Year 2018/19

Under the patronage of Kuwait University President, Prof. Hussein Al-Ansari, the Research Sector organized the Poster Day event for Humanities and Social Scienc-



The Inauguration

es faculties for the academic year 2018/2019, providing an appropriate platform to display their latest research activities and achievements in an atmosphere of openness and scientific exchange. The RS is committed to hold two poster day events annually, one for Humanities and Social Sciences faculties and another event for Sciences faculties, gathering researchers from diverse disciplinary streams in a distinct event that provides an encouraging environment for scientific interaction and exchange, presentation of new ideas to emerge for potentially significant joint and interdisciplinary research. The Research Sector seeks to promote creativity and innovation across faculties through original, high-quality research recognized for their scientific excellence. The annual poster day event reflects the RS efforts in achieving this ultimate purpose, with the event increasingly attracting wider participation of faculties.

This year's Humanities Poster Day event covered multiple research areas that were addressed by the scientific posters of six faculties, where the faculty of Arts displayed (21 posters), Business Administration (20 posters), Education (20 posters), Law (2 posters), Sharia and Islamic Studies (9 posters), and Social Sciences (20 posters), displaying the most recent research achievements on the most important topics that the Human-

ities and Social Sciences sector tackled throughout the year 2018/2019. This year's event was held in the Faculty of Arts under the patronage of Kuwait University President, amidst a distinguished audience that included KU vice presidents, deans, vice deans, faculty members, researchers, graduate students and others.

The purpose of organizing such events is to encourage the faculties to unite their efforts to achieve advanced research that assume added significance to the country and community. Hence, the poster day events provide an ideal opportunity for researchers to form connections and build collaborative links between different disciplines, paving the way to achieve research and joint studies. The research sector is witnessing a promising gradual spread of scientific and research culture among faculties, researchers and the various disciplines, which will widen the horizons for scientific and research collaborations, enhancing the scientific research quality at Kuwait University. The annual commitment to organize the Scientific Poster Day event for Humanities faculties reflects the RS sustained efforts in that direction, as it sheds the light on the faculties scientific and research abilities and endeavors, as well as their distinguished contributions to the advancement of science at Kuwait University.



Prof. Jasem Al- Kandari honored by the Faculty of Arts

On this occasion, Prof. Jasem Al-Kandari, Vice President for Research, expressed his delight with the increase in the numbers of research conducted annually, which is a clear indicator of the progress of scientific research and the interest dedicated to it. He pointed out that the scientific papers participating in the Poster day event for Humanities Faculties from various departments highlights the most pressing issues and contemporary phenomena in the Kuwaiti society in order to diagnose and solve them through scientific research. On his part, the Vice Dean of Academic Affairs, Research and Graduate Studies at the Faculty of Arts, Prof. Abdullah Al-Hajri, said that the Faculty of Arts is constantly striving

to spread the culture of Scientific Research, and it is especially committed to scientific research programs and the development of research performance by providing the appropriate scientific environment, and holding scientific and research events and activities, such as hosting the Scientific Poster Day event. Prof. Al-Hajri thanked Kuwait University's President for sponsoring such distinguished events, and he also praised RS for their enormous role in organizing this vital event annually to celebrate and honor scientific achievements.

## RS enlists the participation of six colleges in joint display of latest research in the Humanities Domain



Honoring participants

Prof. Laila Marouf, Assistant Vice President for External Research Collaboration and Consultation, said that supporting and promoting Scientific Research at Kuwait University is a key objective of the developmental plans, pointing out that the Research Sector aims through the Poster Day Event to provide research that serves the society and discusses its various issues in the humanitarian fields, which encourages the exchange of experiences among researchers from different faculties, the discovery of new ideas, and the promotion of creativity and innovation culture among Kuwait University Researchers.

It is largely within this frame that the 2018/2019 humanities posters event presented research creative scientific outcomes of faculty members, teaching assistants and graduate students of the humanities and social sciences faculties through the presentation of their outstanding scientific research. On the other hand, the Research Sector is working to enhance the value of this event and its importance through awarding prizes and incentives to the best scientific posters under the categories of Faculty Members, Teaching Assistants and Graduate Students.

In conclusion of the event, the distinguished scientific

## RS annually grants awards for top-ranking posters in the categories of Faculty Members, Teaching Assistants and Graduate Students



Prof. Al-Kandari, honoring the participants

posters from the participating faculties at the Scientific Poster Day event for Humanities Faculties for the academic year 2018/2019 were then announced as follows:

### Faculty of Arts:

1. **Dr. Amna Abdulkareem** – Department of History – Faculty Members Category
2. **Dr. Hani Abduladeem Qutub** – Department of French Language and Culture - Academic Support Members Category
3. **Ms. Elaf Al-Awadhi** – Department of English Language and Literature – Graduate students Category

### Faculty of Social Sciences:

1. **Prof. Hisham Mohammed Gadalrab** – Department of Psychology – Faculty Members Category
2. **Ms. Batool Al-Hindal** – Department of Information Studies - Academic Support Members Category
3. **Mr. Jassim Al-Banai** – Department of Geography - Graduate students Category

### Faculty of Sharia and Islamic Studies:

1. **Dr. Iqbal Ali Abdullah Al-Anizi** – Department of Quranic Interpretation and Prophetic Tradition – Faculty Members Category

### Faculty of Law:

1. **Dr. Hussain Marzouq Al-Rashidi** – Department of Private Law – Faculty Members Category

## Faculty of Education:

1. **Dr. Ammar Hasan Safar** – Department of Curriculum and Teaching Methods – Faculty Members Category
2. **Ms. Tahani Al-Mutairi** – Department of Education Administration and Planning – Graduate Students category



Faculty members explaining their posters



Professors attending the event

**Second Prize: Dr. Ammar Hasan Safar** - Department of Curriculum and Teaching Methods - Faculty of Education.

**Third Prize: Prof. Hisham Mohammed Gadralab** – Department of Psychology - Faculty of Social Sciences.

## Faculty of Business Administration:

1. **Dr. Mohammed Najeeb Al-Marzouq** - Department of Quantitative Methods and Information Systems - Faculty Members Category
2. **Prof. Mohammed Abdulaziz Al-Jamel** - Department of Management and Marketing - Faculty Members Category
3. **Mr. Jasim Al-Saifi**- Department of Finance and Financial Institutions - Academic Support Members Category
4. **Ms. Nour Subaitani** - Department of Economics - Graduate Students category
5. **Ms. Rola Safouri** - Department of Accounting - Graduate Students category
6. **Ms. Nada Al-Shehabi** - Department of Accounting - Graduate Students category

Following the standard evaluation of the participating posters by the specialized committee, the names of the winners of the best scientific posters for the academic year 2018/2019 were then announced as follows:

### First: Faculty Members Category:

**First Prize: Dr. Amna Abdulkareem** - Department of History - Faculty of Arts.

### Second: Teaching Assistants Category:

**First Prize: Ms. Batool Al-Hindal** - Department of Information Studies - Faculty of Social Sciences.

**Second Prize: Mr. Jasim Al-Saifi** - Department of Finance and Financial Institutions - College of Business Administration.

**Third Prize: Dr. Hani Abduladeem Qutub** - Department of French Language and Culture - Faculty of Arts.

### Third: Graduate students Category:

**First Prize: Mr. Jassim Al-Banai** - Department of Geography - Faculty of Social Sciences (supervised by: Dr. Mohammad Al-Saraawi).

**Second Prize: Mr. Hamad Al-Saeedi** - Department of Political Sciences- Faculty of Social Sciences (supervised by: Prof. Abdullah Al-Shaiji).

**Third Prize: Ms. Tahani Al-Mutairi** - Department of Education Administration and Planning - Faculty of Education (supervised by: Sultan Al-Daihani).



Prof. Jasem Al-Kandari, honoring participants

# Sciences Poster Day

## **The Scientific Poster Day Reflects Kuwait University's Continuous Efforts to Foster Creativity and Quality in Scientific Research**

*U*nder the patronage and presence of Kuwait University President, Prof. Hussain Al-Ansari, the Research Sector organized the Scientific Poster Day event for sciences faculties and Kuwait Institute for Scientific Research (KISR) for the academic year 2018/2019, held on Wednesday, 20th of March, 2019 at the Faculty of Life Sciences. The event highlighted Kuwait University's efforts to promote quality and originality in scientific research, it also reflected the diversity of research fields that researchers in the scientific faculties address throughout the year.

The event, hosted by Assistant Vice President for Research, Prof. Jasem Al-Kandari, reflected RS continuous efforts to shed the light on researcher's scientific and research achievements at Kuwait University through the presentation of 115 scientific posters submitted by faculty members, teaching assistants, and graduate students from the Faculty of Engineering and Petroleum, Science, Computer Science and Engineering, and Life Sciences, in addition to the distinguished annual participation of KISR, participating for the sixth consecutive year in presenting their research activity in this annual event. The event was attended by a distinguished audience that included Kuwait University leaders, Assistants Vice Presidents for Research, Prof. Yousuf Garashi, Prof. Haider Behbehani and Prof. Laila Marouf, along with Acting Dean of the Faculty of Life Sciences, Dr. Meshari Al-Harbi, in the presence of the deans of the participating faculties, vice deans, graduate students, KISR participants and a keen audience, in order to learn about the latest research areas that have been addressed and researched in the scientific faculties during the academic year.

On this occasion, Prof. Al-Ansari pointed out that scientific research at Kuwait University is evolving visibly, and can be witnessed through the increase in research productivity and the effective participation of faculties in scientific research. He also praised KISR's continuous participation, which contributes to realizing one of KU's objectives of promoting joint scien-



KU President Inaugurating the event

## **Kuwait University President Inaugurates the RS Scientific Poster Day Event for Scientific Faculties, Gathering Faculty members, Teaching Assistants, Graduate Students and KISR Researchers to Display Their Academic Achievements for the Academic Year 2018/2019**

tific and research collaborations with various national institutions and sectors. He added that the main objective of organizing the Scientific Poster Day event is to encourage researchers to present their ongoing and completed research to the academic community and those who are interested, as it provides a suitable opportunity to view and discuss vital scientific issues, and to find appropriate scientific solutions to the challenges that the Kuwaiti society faces through new and innovative techniques and methods.

On his part, Prof. Jasem Al-Kandari emphasized Kuwait University's commitment to highlight the faculty member's, teaching assistant's and graduate student's efforts dedicated to scientific research, which contributes to elevating the University's scientific and academic standing. He also added that the Scientific Poster Day event is the ideal platform to present research and

## 115 Scientific Posters Promoting Creativity and Innovation in Scientific Faculties Research



The Inauguration ceremony

studies' findings in various fields. It is also considered a suitable opportunity for researchers to learn about the research conducted in their fields of expertise, and to exchange ideas and opinions. In her speech, Prof. Laila Marouf, Assistant Vice President for External Research Collaboration and Consultation, expressed her hope of publishing the participating research in international refereed scientific journals, which will contribute in elevating Kuwait University's global standing and raising its classification among prestigious universities around the world. She also added that this year's event witnessed participations from a group of distinguished researchers from Kuwait University and KISR, displaying a total of 115 scientific posters to highlight the scientific and research achievements accomplished throughout the year, as this event primarily aims to enhance the spirit of creativity and competition among faculty members in all faculties.

The displayed posters discussed various contemporary issues of scientific, social and national importance, reflecting the research interests of the academic community in the participating faculties, which are the Faculty of Science (38 posters), Faculty of Engineering of Petroleum (28 posters), Faculty of Life Science (14 posters), Faculty of Computer Science and Engineering (5 posters), in addition to KISR's participation (30 posters). Through these activities, the Research Sector encourages Faculties to enhance the value of their research through displaying them widely, initiating dialogue, interaction, and exchange of ideas, as the event is considered the appropriate environment to embrace innovative interdisciplinary scientific research. The Research Sector believes that this scientific interaction plays a vital role in promoting institutional research, establishing a culture of quality across faculties, and opening new horizons

for creativity and scientific innovation. The displayed posters emphasized faculties commitment to address research priorities and interdisciplinary research that joins together several authors.

The participating posters underwent a unified refereeing process conducted by a specialized refereeing committee in order to identify the best posters in terms of scientific content, research methodology, presentation, and research outcomes. Three posters were then chosen to receive the awards for best scientific posters to be awarded in three different categories which are: the category of Faculty Members, the category

## RS Announces the Winners of the Best Posters Displayed at the Poster Day Event for Scientific Faculties under Three Categories: Faculty Members, Teaching Assistants and Graduate Students

of Teaching Assistants, and the category of Graduate Students.

In conclusion of the event, the distinguished scientific posters from the participating faculties at the Scientific Poster Day Event for Sciences faculties for the academic year 2018/2019 were then honored as follows:

### First: Faculty of Life Sciences:

**Dr. Tasleem Thafir** – Department of Food Science and Nutrition – Category of Faculty Members  
**Ms. Mariam Al-Asousi** – Department of Food Science and Nutrition – Category of Teaching Assistants

**Ms. Mariam Hameed Zadah** (supervised by Dr. Dalal Al-Kathemi) – Department of Food Science and Nutrition – Category of Graduate students

### Second: Faculty of Science:

**Prof. Saad Makhseed** – Department of Chemistry – Category of Faculty Members  
**Dr. Abdullah Awadh Al-Hindal** – Department of Chemistry – Category of Faculty Members  
**Mr. Mitwali Mdakwar** – Department of Chemistry – Category of Teaching Assistants

**Ms. Fatimah Hussain** (supervised by Dr. Ali Bumejdad – Department of Chemistry – Category of Graduate Students

### Third: Faculty of Engineering and Petroleum:

**Prof. Eisa Mohammad Al-Safwan** – Department of Petroleum Engineering – Category of Faculty Members

**Mr. Mohammad Jab** – Department of Electrical Engineering – Category of Teaching Assistants  
Ms. Areej Zaqzouq (supervised by Dr. Sharaf Khader and Dr. Fahad Al-Rukaibi) – Department of Civil Engineering – Category of Graduate Students

### Fourth: Faculty of Computer Sciences and Engineering:

**Dr. Dhari Al-Huwail** – Department of Information Sciences – Category of faculty Members

**Ms. Noura Hadi Al-Resheedi** (supervised by Dr. Hussain Al-Mahdi) – Department of Computer Sciences – Category of Graduate Students

### Fifth: Kuwait Institute for Scientific Research:

**Dr. Krishna Kumar Sukmaran** – Environment and Life Sciences Research Center – Category of Faculty Members.

**Ms. Mariam Malak** – Environment and Life Sciences Research Center – Category of Teaching Assistants

**Ms. Majeda Khalil Sulieman** – Environment and Life Sciences Research Center

Following the standard evaluation of the participating posters by the specialized committee, the names of the winners of the best scientific posters for the academic year 2018/2019 were then announced as follows:

#### First: Faculty Members Category:

**First Prize: Dr. Tasleem Thafir** – Department of Food Science and Nutrition – Faculty of Life Sciences.

**Second Prize: Dr. Krishna Kumar Sukmaran** – Environment and Life Sciences Research Center – Kuwait Institute for Scientific Research.

**Third Prize: Prof. Eisa Mohammad Al-Safwan** –



KU President, VPR and his Assistants and participating faculty members

Department of Petroleum Engineering – Faculty of Engineering and Petroleum.

#### Second: Teaching Assistants Category:

**First Prize:** Awarded equally to **Ms. Mariam Al-Asou-si** – Department of Food Science and Nutrition – Faculty of Life Sciences, and **Ms. Mariam Malak** – Environment and Life Sciences Research Center - Kuwait Institute for Scientific Research.

**Second Prize: Mr. Mitwali Mdakwar** – Department of Chemistry – Faculty of Science.

**Third Prize: Ms. Heba Al-Hulaila** – Department of Environmental Technology Management – Faculty of Life Sciences.

#### Third: Graduate students Category:

**First Prize: Ms. Majeda Khalil Sulaiman** – Environment and Life Sciences Research Center - Kuwait Institute for Scientific Research.

**Second Prize: Ms. Maha Salman** – Water Research Center - Kuwait Institute for Scientific Research.

**Third Prize: Ms. Fatimah Hussain** (supervised by Dr. Ali Bumejdad – Department of Chemistry – Faculty of Science.

The event was concluded by the honoring of Acting Dean of the Faculty of Life Sciences with an Honorarium Shield. The Faculty of Life Sciences also presented Kuwait University President with an honorarium shield in gratitude for his efforts.



# First Inventions Forum

## Under the Patronage of Kuwait University President



Attendees while playing the National Anthem

## The Research Sector Holds the First Inventions Forum: Present and Future

In a move considered a culmination of its journey since its establishment in 2005, the Patents Office at the Research Sector organized the First Inventions Forum: Present and Future, which was held on Wednesday, 13th of February 2019. The event was held under the patronage and in the presence of Kuwait University President Prof. Hussain Al-Ansari, and the presence of Vice President for Research, Prof. Jasem Al-Kandari, along with his assistants, Prof. Yousuf Al-Qarashi, Prof. Laila Marouf, and Prof. Haider Behbehani, among an elite group of researchers who received patents registered in the United States. The event was attended by Mr. Richard Litman -- the founder of the US Patent Office, and Mr. Pete Moores -- The Commercial Director at Oxentia, a company that specializes in providing consultancy services in the field of intellectual property and research marketing, adding significance to the event held for the first time at Kuwait University. The event was also attended by the Chief of Trustees of Sheikh Salem Al-Ali Informatics Award, Sheikha Aida Salem Al-Ali Al-Sabah.

The forum comes as a result of the Patents Office efforts since its establishment on 30/4/2005, as per Kuwait University President decree no. (886), tasked to take the necessary legal and administrative measures in order to grant legal protection to the inventions achieved by researchers at Kuwait University. Since then, the office has endeavored to provide legal pro-

tection to researcher's inventions at Kuwait University, and to support the country's development plans, and to encourage researchers at Kuwait University to innovate in order to contribute to the development of knowledge, economy, and industry in Kuwait.

## The Forum comes as a Culmination of The Patents Office Journey Since its Establishment

The forum mainly aims to bring together the distinguished patent holders registered by the office in one event, to facilitate the exchange of ideas and experiences, in addition to its focus on promoting public awareness of patents achieved by Kuwait University, the commercial aspects of research and inventions, and to highlight the opportunities and challenges that the inventors face in marketing their research and inventions.

In his speech on this special occasion, the President of Kuwait University, Prof. Hussain Al-Ansari, emphasized that scientific progress and sustainable economic development are the result of sound scientific research, which focuses on finding the best innovative solutions to address problems facing both public and private institutions, pointing out that scientific research is the main source for developing new products through the registration of patents and obtaining their intellectual property. He also mentioned the significant role that Kuwait University plays in sponsoring science and scientists, as it has put in place its new strategic plan 2018-2022, which was recently approved by the Kuwait University's council in keeping up with the contemporary developments and changes, in addition to its compatibility with the requirements of Kuwait's Vision



KU President's speech

## **KU President: This forum is the first of its kind at Kuwait University**

2035, by adopting main directions based on achieving quality, promoting innovation, accomplishing sustainability and achieving distinguished local, regional and international presence.

Prof. Al-Ansari also added that this forum is considered the first of its kind at Kuwait University, held to present the successfully completed scientific research

## **Prof. Al-Kandari: Our developmental steps are derived from our country's vision and the university's strategy**

that resulted in outcomes worthy of patent registration, in hopes of its continuation annually throughout the coming years to celebrate and disseminate the distinguished scientific and research achievements. KU president took the opportunity to praise the researchers at Kuwait University for their efforts and their constant endeavor to accomplish scientific research in their various fields. He also pointed out the current rate of the ongoing and completed researched accumulating to a total of (493) research projects, in addition to (49) patents registered at the United states, which is considered the outcome of the Patent Office journey in the Research Sector since its establishment.

In conclusion of his speech, Prof. Hussian Al-Ansari thanked the Research Sector and those who worked to organize this distinguished forum, especially Prof. Laila Marouf, Vice President for External Research Collaboration and Consultation, for her intensive efforts that resulted in holding this forum. He also thanked the spon-

sors and all the participants who took part in this event. On his side, Prof. Jasem Al-Kandari, Vice President for Research, explained the importance of this forum and its significant role in shedding the light on a community of distinguished researchers and presenting them to the Kuwaiti society. He also emphasized that the advancement of countries is built by the hands of its people as they effectively contribute to build its future and spur its progress. He also elaborated saying: "Developing



Oxentia commercial director's presentation

individuals has become a priority for societies that are invested in building their futures, and the development of the creative human mind is the gateway of progress that paves the way for the future. This highlights the essential role of education, which cannot be complete until its other half is realized as well, which is scientific research. Therefore, the attention given to education is only valid and effective when it is equally dedicated to scientific research". Prof. Al-Kandari also pointed out that the Research Sector seeks to provide actual care through field visits to faculties to get acquainted with their scientific and research needs, along with regular revision and continuous updating of the rules and regulations that govern scientific research, and the serious endeavor to market patents achieved by faculty members in order to accomplish the objective of building a knowledge-based economy, as well as emphasizing the legislations and laws that guarantee intellectual property rights for inventors from Kuwait University.

Prof. Al-Kandari concluded his speech by saying: "Kuwait's future vision, along with Kuwait University's strategy, require that we utilize all means to provide moral and material support for education development plans, and enhance scientific research in order to achieve the desired progress and prosperity in all fields".

On her part, Prof. Laila Marouf, Asst. Vice President for External Research Collaboration and Consultation, gave a speech on this occasion, explaining the purpose of holding this forum, which is presented through formulating specific recommendations on how to develop collaboration and coordination that facilitate the successful marketing of inventions.



Prof. Marouf's speech

## Prof. Marouf: We aim to achieve successful marketing of patents



The attendees of the forum

She elaborated saying: “we mainly aim to support the production of influential creative inventions, in addition to our dedicated focus on the practical development of those theoretical inventions which have not yet been utilized. We believe that the element of distinction between those two categories lies in the inter-institutional, interdisciplinary and multi-disciplinary collaborations that bring together its various parties to achieve a common goal”.

Prof. Marouf expressed her pride in RS network that includes various inventors, researchers and experts from distinguished institutions such as Kuwait Foundation for the Advancement of Sciences (KFAS), Kuwait Institute for Scientific Research (KISR), Supreme Council for Planning (SCP), Kuwait Oil Company (KOC), Kuwait National Petroleum Company (KNPC), Sabah Al-Ahmad Center, Equate, along with partners from the United States and the United Kingdom, as an example and not limited to. Prof. Marouf also announced the establishment of new cooperative bridges presented by a memorandum of understanding with the Science Club, emphasizing that the audience of this forum affirms and reflects the committed efforts of the Patents Office at Kuwait University aimed towards promoting innovation on a national level. It also actively contributes to the achievement of its main objective that all parties are striving to achieve, which is the creation of a knowledge based economy.

The forum included a visual presentation conducted by Mr. Pete Moores -- The Commercial Director at Oxentia, explaining the services that the company provides for researchers and institutions in the field of intellectual property management and successful marketing of research. He also discussed aspects of assessing support impact, providing market assessment technology,

facilitating obtaining permits, acquiring funding and transitional support, and establishing companies resulting from scientific research.

The presentation was followed by a panel discussion on the opportunities and challenges that the inventors face in the commercial marketing and presentation of their inventions through modern means of presentation. The discussion was directed by Prof. Laila Marouf, along with Mr. Richard Litman -- the founder of the US Patents Office, Mr. Pete Moores -- the Commercial Director at Oxentia, Mr. Ibrahim Al-Kandari -- the National Fund for Medium and Small Enterprise Development Director, and Dr. Bader Al-Enizi – an inventor from Kuwait University.

The forum included presentations by faculty members representing a number of inventions that obtained patents registered at the US Patent Office as follows:

- Dr. Ahmed Z. Al-Hashim from the Faculty of Pharmacy, Dr. Mariam H. Yousif, Dr. Ivan Edafigho, Prof. Samuel Kombian, on their invention:

### **Antitussive and Bronchodilator Uses for Enamine Ester**

- Prof. Milad Bitar from the Faculty of Medicine, and Prof. Fahad Al-Mulla, on their invention:

### **Method of Diagnosing and Treating Oxidative Stress-Impaired Wound Healing**

- Prof. Imtiyaz Ahmad, Dr. Mohammad Al-Failakawi, Ms. Areej Helmi Hamouda, on their invention:

### **Odd/ Even Invert Coding for Phase Change Memory with Thermal Crosstalk**

In conclusion of the forum, Prof. Laila Marouf thanked every person who contributed and participated in making this event a success, emphasizing the importance of joint efforts in all various fields and expertise that result in the advancement of the educational and research processes at the university, wishing for a continuous dedication aimed towards elevating Kuwait University’s status regionally and globally.



Mr. Pete Moores’s presentation

## RS News

### The Research Sector Participates in a Seminar held by the Arab Thought Foundation

Represented by Assistant Vice President for External Research Collaboration and Consultation Prof. Laila Marouf, the Research Sector took part in a seminar on the 10th Arabic cultural Development Report issued by the Arab Thought Foundation entitled: “Innovation or Extinction, Arab Scientific Research: Its Reality, Challenges and Prospects”. Kuwait University hosted the event on Monday December 10, 2018, in partnership with the Arab Thought Foundation, and was sponsored and organized by the Kuwait Foundation for the Advancement of Sciences (KFAS).



Prof. Marouf's participation

Prof. Laila Marouf participated in the seminar by explaining the importance of innovation and its effect on enhancing the knowledge economy. She also highlighted the research sector's investment in building a culture of innovation and adopting it as a cornerstone in all its initiatives and programs. Prof. Laila Marouf also spoke about patents and intellectual property and their role in promoting innovation and enhancing its role in scientific research projects produced by faculty members at Kuwait University, and the essential role that the research sector plays in this context.



The participants of the seminar

### The Research Sector takes part in GPCA Workshop

Held on 12 and 13 December, 2018, The Research Sector participated in the fourth workshop on intellectual property awareness in Kuwait, which was organized by the Gulf Petrochemicals & Chemicals Association (GPCA) in collaboration with SABIC and EQUATE Petrochemical Company.



Workshop in progress

The Research sectors participation in this dynamic event was represented by The Office of External Research Collaboration and Consultation – Patents and Intellectual Property Rights Department, which oversaw the sector's corner at the exhibition on the sidelines of the workshop, presenting the RS latest publications.

This series of workshops aims at spreading awareness about the practice and implementation of intellectual property provisions, as well as the application of their rules and standards. The workshop discussed the important aspects of the strategies that protect intellectual property rights within the region and around the globe. Intellectual property is considered an essential element of achieving innovation in every industry that aspires to evolve and develop through new practices.



RS publications corner

## The Research Sector Organizes a Training Course Entitled “From Typicality to Creativity at Work”

Under the patronage of Prof. Jasem Al-Kandari, the Office of Vice President for Research organized a training course for its employees entitled “From Typicality to Creativity at Work”, presented by Ms. Anwar Al-Kandari. The workshop was held from 13 to 17 January 2019 at the Research Sectors’ meeting room – University’s Administration building.

In the beginning, Ms. Anwar Al-Kandari welcomed the employees and praised their participation in the training course. She then initiated her talk by explaining that creativity paves the way for excellence as it is instinctive for individuals to seek excellence and distinction, whether in their daily lives or their professional endeavors.

Ms. Al-Kandari further explained this concept by saying: “Creativity consists largely of re-arranging what we know in order to find out what you don’t know.”

Ms. Al-Kandari elaborated throughout the training course on understanding the distinction between typicality and creativity, and how to formulate and determine operational and executive plans at work, as well as the use of creative thinking in solving problems. She provided practical demonstrations of the creative process in administrative work to facilitate the understanding of these concepts.

This training course comes as part of the RS mission to encourage teamwork, which is considered a key element in the university’s work environment. The Research sector aims to develop the employees’ potentials in all creative and innovative aspects in order to provide impeccable service to researchers in accordance with Kuwait University’s strategic vision.



Prof. Jasem Al-Kandari and Prof. Laila Marouf with RS staff

## RS honors previous Vice President for Research in a special ceremony



Prof. Jasem Al-Kandari honoring Prof. Taher Al-Sahhaf

The Research Sector held a special ceremony on Wednesday 19/9/2018 to honor Prof. Taher Al-Sahhaf, previous Vice President for Research. The ceremony was attended by Prof. Jasem Al-Kandari, Vice President for Research, his assistants, Prof. Haider Behbehni, Prof. Yousif Qarash and Prof. Laila Marouf, and the RS staff.

Welcoming Prof. Al-Sahhaf, Prof. Al-Kandari recalled the accomplishment achieved in the RS under Prof. Al-Sahhaf’s leadership, as well as the highlights of his academic career.

On his part, Prof. Al-Sahhaf expressed his happiness and gratitude for this tribute and the time he spent working with the team of staff at the Research Sector.

By the end of the ceremony, Prof. Al-Sahhaf was presented with an honorary memento.



Prof. Taher Al-Sahhaf, previous VPR with RS executive team

## Kuwait University (KU) and Kuwait Foundation for the Advancement of Sciences (KFAS) Collaborate to Support the National Project for Sciences, Technology and Innovation Policies in Kuwait



Meeting in progress

Under the patronage and presence of Kuwait University President, Prof. Hussain Al-Ansari, the Research Sector conducted its fourth and final meeting with the the Organization of Economic Cooperation and Development (OECD) team on Monday, 15th of April 2019, in Kuwait University's Council Hall, in collaboration with Kuwait Foundation for the Advancement of Sciences (KFAS), the Supreme Council for Planning and Development (SCPD), and the Organization of Economic Cooperation and Development (OECD) team. The meeting was also attended by KU Vice Presidents and their assistants, along with deans and vice deans of research from various faculties.

The aim of this meeting was to identify the strengths and weaknesses of the innovation system in the State of Kuwait, and to review the initial results in various subjects related to the innovation system which were developed by the OCED team based on discussions from previous visits. This meeting is an embodiment of research collaboration to support the national project between Kuwait University and Kuwait Foundation

for the Advancement of Sciences (KFAS).

KU President, Prof. Hussain Al-Ansari, explained that today's meeting is held to support the policies of the National Project for Sciences, Technology and Innovation in Kuwait in joint collaborative efforts between Kuwait University (KU) and Kuwait Foundation for the Advancement of Sciences (KFAS) through the formation of research teams composed of faculty members from Kuwait university and a group of researchers from KFAS tasked to address the subject of innovation support in Kuwait. He pointed out that Kuwait University is known for its strong basic research, while KFAS harbors strong links with the private and public sectors in order to implement applied research.

Prof. Al-Ansari wished for these collaborative efforts between the two pioneering institutions to result in outcomes that benefit the community and serve its various needs, hoping for this national project to lead to the implementation of collaborative scientific research with excellence, innovation and creativity.



Prof. Jaseem Al-Kandari with the participants

## Experts from Oxentia Visit the Research Sector

A group of experts from Oxentia, Oxford's Global Innovation Consultancy, carried out an official visit to the Research Sector at Kuwait University as part of a project funded by the Supreme Council for Planning, and administrated by the United Nations Development Program. The visit was for two days, 16th and 17th of April 2019, where Oxentia's Commercial Director, Mr. Pete Moores, and Lead Consultant for the Partnership with KU, Dr. Lauren Sosdian, met with the managers at the Research Sector in order to develop a strategy to establish a Knowledge Transfer and Commercialization Center (KTCC), and to hold workshops for the employees at the Research Sector. This collaboration with Oxentia comes under the supervision of Prof. Laila Marouf, Assistant Vice President for External Research Collaboration and Consultation, as the Research Sector sought independent consultation from the company to evaluate a list of patents currently owned by Kuwait University in order to identify priority projects that serve the needs of the global market. Within this joint collaboration, Oxentia evaluated approximately 40 projects, in addition to the development of a new approach to identify priorities and opportunities for marketing research, the revision of Intellectual Property policies and making the required updates, and the development of a training program to encourage researchers to participate in the process of research marketing.

The Patents Office team is working directly with Oxentia to provide training and development services to enhance the team's efficiency, and to ensure that the office provides quality service to researchers at Kuwait University. In order to accomplish this objective, the Research Sector organizes such workshops in collaboration with Oxentia and hosts experts from the company in order to provide the Patent Office team with the required experience in their field.



Oxentia workshop in progress

## The Research Sector at Kuwait University Participates in the Tenth Creativity Forum



Prof. Laila Marouf honored by KISR officials

As part of the Research Sector's efforts to raise awareness of Research and Development activities at Kuwait University, RS took part in the Tenth Creativity Forum, which was organized by Kuwait Institute for Scientific Research (KISR) entitled "The Face of Innovation in Kuwait", held on 27th of March 2019 under the patronage of The Director General of Kuwait Institute for Scientific Research (KISR), Dr. Samira A. S. Omar, and organized by the Science and Technology Sector at KISR. The Research Sector's participation came in the form of a visual presentation of Kuwait University's activities in the fields of creativity and innovation, presented by Prof. Laila Marouf, Assistant Vice President for External Research Collaboration and Consultation. A corner was also allocated for Research Sector to showcase latest publications. The Kuwait Foundation for the Advancement of Sciences (KFAS) and the Sabah Al -Ahmad Center for Giftedness and Creativity participated in the forum alongside Kuwait University.

The Forum aims to develop and implement the strategy put in place to promote the various aspects of creativity and innovation in line with the vision of research and its mechanisms in the State of Kuwait.



The participants of the Forum

## The External Research Collaboration Office Honors a Group of Distinguished Employees

The Office of External Research Collaboration and Consultation at Research Sector held a ceremony to honor a group of the sector's distinguished employees on Tuesday, the 2nd of April 2019. The honoring came as a recognition of the efforts of RS from various departments who made major contributions to the success of RS staff activities including the First Inventions Forum and the Scientific Poster Day for Humanities and Scientific faculties for the academic year 2018/2019.

The ceremony was attended by Prof. Jasem Al-Kandari, the Vice President for Research, along with his assistants Prof. Haider Behbehani, Prof. Yousuf Qarashi, and Prof. Laila Marouf, where Prof. Al-Kandari praised the distinguished efforts of the honorees and their dedication to the fulfillment of the sectors activities and events, in addition to their constant eagerness to provide the best services to researchers from different faculties, and their active roles in facilitating the administrative procedures required for the implementation of scientific research.

Prof. Laila Marouf, Assistant Vice President for External Research Collaboration and Consultation, expressed her pride in the competent forces at Research Sector, explaining that the cooperation and coordination between all employees of RS is the main reason to achieve the required work flow and ensure its success, wishing everyone continuous success and prosperity.

Certificates of appreciation were then awarded to the employees, followed by photographs that commemorate this occasion at the end of the ceremony.



RS officials honoring distinguished employees

## The Office of Vice President for Research Receives the Canadian Ambassador in Kuwait



Prof. Jasem Al-Kandari with the Canadian Ambassador

### The Office of Vice President for Research Receives the Canadian Ambassador in Kuwait

As part of the Research Sector's efforts to promote research collaboration with research centers and international universities, in addition to promoting scientific research, the Vice President for Research, Prof. Jasem Al-Kandari, and his assistants Prof. Yousuf Qarashi and Prof. Laila Marouf, received on Tuesday the 30th of April 2019, at 11 AM, the Canadian ambassador in Kuwait, Mr. Louis-Pierre Edmond and Ms. Lama Najia.

This visit provided an opportunity to exchange views on research matters, review the research collaboration potentials between Kuwait University and Canadian Universities, and discuss other topics of common interest.



RS officials with the Canadian delegation

# Multi-Awards Ceremony

## Under the Patronage of KU President

## Research Sector Honors a Distinguished Community of Various Scientific Re- search Awards Recipients



Distinguished Community of Research Awards Recipients

The spirit of creativity, innovation and scientific distinction dominated the annual multi-awards ceremony organized by the Office of Vice President for Research (OVPR) held to honor a community of distinguished researchers of faculty members and graduate students in recognition of their distinguished research achievements in the various fields of applied and basic sciences, as well as arts and humanities. Due recognition was accorded to US registered patent recipients and top-ranking scientific poster awardees in humanities and scientific fields. This event reflects one of the most significant goals integrated in Kuwait University's strategic plan through which the values of quality, excellence and research competitiveness are promoted to achieve institutional scientific progress. This goal is a beacon that guides the Research Sector through its mission to achieve distinguished scientific outputs in the form of innovative inventions and exceptional research published in prestigious international journals, thus elevating the status of Kuwait University globally and promoting its ranking among the best universities in the world. With this goal in mind, Kuwait University strives to identify the best researchers by urging colleges to present their nominations in the categories of Distinguished Researcher and Best Young Researcher, which are the two categories allocated to faculty members, both young and experienced, in addition to

Graduate Project Award exclusively awarded to MA and PhD students based on their outstanding theses. In that sense, Kuwait University attaches great importance to this goal due to its active role in enhancing Kuwait University's institutional standing and the quality of its research outputs.

From that perspective, the ceremony was organized under the patronage and attendance of Kuwait University President, Prof. Hussein Al-Ansari, and hosted by Prof. Jasem Al-Kandari, Vice President for Research, in the presence of his assistants Prof. Haider Behbehani, Prof. Yousuf Garashi and Prof. Laila Marouf, as well as deans and vice deans for research, in addition to Kuwait University's leaders, as well as the winners of various research awards.

## Honoring the Recipients of Distinguished Researchers Awards, Best Young Researchers Awards, Patent Recipi- ents, and Scientific Posters Winners for the Academic Year 2017/2018

The ceremony was initiated by Kuwait University President, Prof. Hussein Al-Ansari, who welcomed the honored guests, and thanked the researchers for their outstanding efforts that deserve recognition and praise, which reflect their scientific and creative abilities in the various fields of scientific research, promote research culture at Kuwait University and contribute to elevate the university's global institutional standing, as these research accomplishments and efforts are considered a great pride and honor for Kuwait University. KU President also pointed that scientific research is one of the most significant pillars of development in Kuwait University, which is evident in the history of the University as it reflects this excellence in scientific research through its scientific accomplishments achieved throughout the years. Prof. Al-Ansari, in his speech, said that "Our aim is to improve the academic and scientific standing of Kuwait University, for the ranking of universities and their international reputation is always associated with their contributions and research outcomes. Therefore, these distinctive researches and patents are valuable to our national economy."

Prof. Hussein Al-Ansari also emphasized that the number of research awards winners and patent holders is a vital indicator that reflects the research performance at Kuwait University, and reflects the efforts of Kuwait University's administration in general, and the Office of Vice President for Research and the vice deans for research in colleges in particular, directed towards providing research support for faculty members through adequate funding and creating the required infrastructure for researchers to strive. Prof. Al-Ansari also praised the role of graduate students at Kuwait University in providing research support to faculty members in order to achieve outstanding research.



Prof. Jasem Al-Kandari's speech

Prof. Hussein Al-Ansari added that "The message I would like to convey on this occasion is that achieving excellence and improving Kuwait University's performance is undoubtedly an institutional work based on synergy. No institution or faculty can singularly achieve this in isolation from others. There must be cooperation and full integration among all units and centers in order to achieve this goal". He also discussed ways to achieve the required collaboration through a research agenda that can be put in place in cooperation with the Research Sector which includes workshops that enhance research performance. It also provides multiple opportunities for research collaborations with various international universities to improve research quality and raise awareness about Kuwait University's scientific and research potential.

Researchers support is also considered one of Kuwait University's main priorities in order to enhance its research performance and raise the quality of its scientific outputs to be published in prestigious international refereed journals with impact. Kuwait University also continues to harness all possible means available to have an integrated research environment for researchers. Prof. Hussein Al-Ansari offered special thanks to Kuwait Institute for Scientific Research (KISR) for their efforts and their continued eagerness to provide scientific and research cooperation with Kuwait University.

In conclusion, Prof. Hussein Al-Ansari congratulated the awards winner and patent recipients on their outstanding success, expressing the pride and honor that Kuwait University obtained through their innovative and exceptional scientific achievements, wishing them further success in their scientific and research endeavors.

In his turn, Vice President for Research Prof. Jasem Al-Kandari, welcomed Kuwait University President Prof. Hussien Al-Ansari and the honored guests, expressing his sincere gratitude for the scientific accomplishments achieved by this community of distinguished researchers who have directed their efforts towards the improvement of their scientific careers at Kuwait University through exceptional research and patents. Prof. Al-Kandari further expressed his gratitude and pride in the efforts of the Research Sector in organizing such distinguished events.

Prof. Jasem Al-Kandari further explained that scientific research is one of the most important foundations of scientific development that directly affects the enrichment of knowledge economy at Kuwait University in particular, and Kuwait as a country in a more general sense. The provision of funding and support for education is a key factor in building our societies and preparing future generations which are considered the most important investment for the country. On this basis, Prof. Al-Kandari stressed that honoring the outstanding scientific research of faculty members, master's and doctoral students is one of Kuwait University's most important priorities.



KU President and VPR honoring distinguished Researcher

Prof. Jasem Al-Kandari also pointed that the Research Sector is constantly working towards increasing the budget for scientific research, as it is the main factor for the continuity of achieving outstanding scientific research, for the advancement of scientific research is considered the cornerstone of all academic institutions around the world. In conclusion, Al-Kandari praised the efforts of faculty members and graduate students, wishing them further progress in their scientific and academic endeavors, he also thanked Kuwait University Pres-

ident, Prof. Hussein Al-Ansari, for his generous sponsorship of the ceremony.

The various awards were then announced and honored. Following is a list of winners:

### **Researchers Awards Winners 2017/2018**

#### **A. Distinguished Researcher Award: Basic and Applied Sciences:**

##### **Prof. Ali Rakshani**

Department of Physics – Faculty of Science

##### **Prof. Manuel J. Albert**

Department of Microbiology – Faculty of Medicine

#### **B. Best Young Researcher Award: Basic and Applied Sciences:**

##### **Dr. Fawaz Al-Zubi**

Department of Dentistry - Faculty of Dentistry

#### **Arts and Humanities:**

##### **Dr. Abdullah Al-Dousari**

Department of Management and Marketing – College of Business Administration

##### **Dr. Hussain Buroki**

Department of Penal Law – Faculty of Law

#### **C. Graduate Students Project Award: Basic and Applied Sciences – Masters Degree:**

##### **Alaa Abdulali**

Department of Anatomy – Faculty of Medicine

##### **Jumana Al-Qarna**

Department of Computer Science – Faculty of Computing Sciences and Engineering

#### **Arts and Humanities – Masters Degree:**

##### **Ghadeer Baqir**

Department of Psychology – Faculty of Social Sciences

##### **Ohoud Al-Jadi**

Department of Educational Planning and Administration - Faculty of Education

##### **Khadeeja Al-Risheedi**

Department of Educational Planning and Administration Faculty of Education

#### **D. Patents Recipients**

##### **Dr. Khaled Al-Hazzaa**

Eng. Abdullah Al-Enizi

Eng. Abduljalil Khaled

Eng. Mohmoud Ahmed Hussein

Eng. Alhussein Ali Othman

Department of Mechanical Engineering – Faculty of Engineering and Petroleum

For their invention “*Moving Towing Ball*”

##### **Prof. Imtiyaz Ahmad**

Dr. Mohammed Al-Failakawi

Eng. Areej Helmy Hamouda

Department of Computer Science – Faculty of Computing Sciences and Engineering

For their invention “*Odd/Even Invert Coding for Phase Change Memory with thermal*”

##### **Eng. Ghufraan Abdullah Al-Shiridah**

Prof. Maytham Safar

Dr. Khaled Mahdi

Department of Computer Engineering – Faculty of Engineering and Petroleum

For their invention “*System and Method for Determining the Feedback Capacity of Information Distributed in a Complex Network*”

##### **Dr. Bader Shafaqa Al-Enizi**

Department of Environmental Technology – Faculty of Life Sciences

For his invention “*Cooling System for Patient with Fever*”

##### **Dr. Osamah Al-Hawwaj**

Department of Mechanical Engineering – Faculty of Engineering and Science

For his invention “*Belt Drive Mechanism*”

##### **Prof. Fawaz Al-Anzi**

Computer Engineering Department – Faculty of Engineering and Petroleum

For his invention “*Planter System Using Waster Materials*”

##### **Dr. Waleed Al-Herz**

Dr. Fawzi A. Babiker

Pediatrics Department – Faculty of Medicine

For their invention “*Method of preventing myocardial reperfusion injury in reperfusion therapy by administering intravenous immunoglobulin*”

##### **Prof. Fahad Al-Mulla**

Prof. Milad Bitar

Prof. Jean-paul Thiery

Physiology Department – Faculty of Medicine

For their invention “*A -40gene-based panel for the identification of patients with early stage (stage I and II) colorectal cancer at risk of metastatic recurrence (Prognostic panel)*”

## E. Scientific Poster Day Winners 2017/2018

### \* Winners of Scientific faculties:

#### First: Faculty Members Category:

**Prof. Saad Makhseed**

Department of Chemistry – Faculty of Science

**Dr. Ali Abdulrasoul Hasan**

Department of Chemistry – Faculty of Science

**Dr. Wafaa Al-Kandari**

Department of Biological Sciences – Faculty of Science

#### Second: Academic Support Members Category:

**Nour Al-Ruwaih** -Environment and Life Sciences  
Research Center –Kuwait Institution for Scientific  
Research

**Asmaa M. Saleh**

Department of Food Science and Nutrition – Faculty  
of Life Sciences

**Altaf Al-Farhan**

Department of Information Science – College of  
Computing Sciences and Engineering

**Abdullah Al-Kandari**

Energy and Building Research Center - Kuwait  
Institution for Scientific Research

**Benson M. Thomas**

Environment and Life Sciences Research Center –  
Kuwait Institution for Scientific Research

#### Third: Graduate Studies Category:

**Rehab Al-Masmoudy**

Department of Chemistry – Faculty of Science

**Ahmad Hejazy**

Department of Physics – Faculty of Science

**Ali Saleh**

Department of Civil Engineering – Faculty of  
Engineering and Petroleum

**Fahad Aseeri**

Environment and Life Sciences Research Center –  
Kuwait Institution for Scientific Research

#### F. Winners of the Humanities Colleges:

##### First: Faculty Members Category:

**Dr. Abbas A. Al-Mijren**

Department of Economics – College of Business  
Administration

**Dr. Turkey Al-Shammari**

Department of Finance and Financial Institutions –  
College of Business Administration

**Dr. Naif Al-Shammari**

Department of Economics – College of Business  
Administration

##### Second: Teaching Assistants Category:

**Hashim Al-Mahmeed**

Department of Finance and Financial Institutions –  
College of Business Administration

**Haifaa Al-Sarraf**

English Language Unit – Faculty of Education

**Dhari Al-Zahameel**

Department of Belief, Invocation and Preaching  
Islam – Faculty of Sharia and Islamic Studies

##### Third: Graduate Studies Category:

**Student / Sarah Al-Fouzan**

Department of Economics – College of Business  
Administration

**Student / Hasan Al-Sayegh**

Department of Economics – College of Business Ad-  
ministration

**Student / Rana Al-Jallal**

Department of Economics – College of Business  
Administration

**Student / Alaa Bader Al-Enezi**

Department of Psychology – College of Social Sciences



KU President and RS officials honoring the winners

# RIG Workshop

## Research Sector organizes an orientation session for new faculty members

Under the Patronage of Prof. Jasim Al-Kandari, Vice President for Research, and amidst the presence of his assistants Prof. Haider Behbehani, Prof. Yousuf Qarashi and Prof. Laila Marouf, the Research Sector (RS) organized an orientation session for new faculty members on the Research Initiation Grants (RIG) on Wednesday, Oct. 10th, 2018. Essentially, the session aims at introducing newly appointed faculty members on the threshold of their academic and scientific journey to the prevailing scientific environment at KU and the RS research grant system, with RIG grants marking a step towards achieving their scientific and research aspirations.

## Vice President for Research emphasizes on the significance of scientific research and its critical role in building nations scientific development

Addressing the RIG session, Prof. Al-Kandari welcomed the participants and shared his thoughts on the significance of research as a fundamental pillar of the scientific development of nations. Following these words, Prof. Behbehani, Assistant Vice President for Research Analysis and Development, outlined the mission and policy of scientific research at KU through a comprehensive presentation, explaining the types of grants available to faculty members, procedures and conditions, with a special focus on the RIG grants offered as an incentive for enabling new faculty members to launch their research initiatives and register their participation in KU research program.

Prof. Behbehani also highlighted the process and various stages of carrying out research starting from the funding and refereeing process, different aspects of manpower and scientific missions, details of which are available in the RS manual of Research Support Rules and Regulations, in addition to the research incentive awards offered by the RS. Continuing further, Prof. Behbehani highlighted RS joint research collaboration with external scientific and research institutions, annual events, specialized workshops and scientific forums offering wide-ranging opportunities to faculty members for displaying their ongoing

## Session aimed at introducing new faculty members at KU to research grants policy, programs and procedures



The Q&A session

and accomplished research, such as the Scientific Poster Day events for the Humanities and Sciences faculties.

Prof. Behbehani also emphasized on high quality research that could generate outputs of international credibility, with RS efforts continually aimed at encouraging faculty members to aspire for scientific excellence in their research endeavors. All granted projects must adhere to standard requirements, including submission of periodic progress reports, followed by final report on project completion, with expectations of at least one published paper in a high-ranking JCR-listed journal with an impact factor. RS also offers a series of awards and incentives to researchers and graduate students in recognition of their distinguished and meritorious research, as well as inventions and patents achieved.

The RIG session culminated with an interactive question-answer session, with Prof. Al-Kandari, Prof. Qarashi, Prof. Behbehani and Prof. Marouf responding to participants' queries and concerns on various aspects of the grant support system, the privileges, services and facilities for research awards, RIG grants and associated mechanism and facilities.



VPR and his Assistant's answering questions

# Faculty Visits

## Research Sector initiated visits to six faculties during the first semester of academic year 2018/2019

### visits aim at strengthening ties of cooperation and trust between RS and the research community

Within the framework of its ongoing efforts to enhance the research process in Kuwait University, the Research Sector initiated site visits to various KU faculties during the first semester of the academic year 2018/2019. The series of visits started with the faculty of Life Sciences, then the faculty of Engineering and Petroleum (October 17th), followed by the faculty of Arts (October 29th), then the faculty of Architecture (November 7th), and the faculty of Medicine (November 19th), and concluded with the faculty of Sciences (December 3rd). The visiting delegation was headed by Prof. Jasem Al-Kandari, Vice president for Research, and included his assistants Prof. Haider Behbehani, Assistant Vice President for Research Analysis and Development, Prof. Yousuf Garashi, Assistant Vice President for Research Implementation and Finance, and Prof. Laila Marouf, Assistant Vice President for External Research Collaboration and Consultation.

Essentially, the visits aimed at strengthening ties of cooperation and trust between RS and the research community at Kuwait University, which falls within RS's top priorities, given its significant impact on boosting faculties participation in high quality research that lead to exceptional outputs.

The visits were basically in the form of open discussions with faculty members, where each Assistant Vice President for Research gave a brief presentation on the key aspects of their respective field, followed by interactive question-answer sessions to respond to faculty members queries and concerns on various aspects of the Research Support System. Such discussions effectively contribute to orienting researchers, providing them with information and assistance they need

## RS executive team conducted site visits to KU faculties



RS executive team

to confidently embark on their research journey in Kuwait University, as well as introducing them to the rules and regulations that facilitate the research process at KU, and help them accomplish their research projects smoothly and easily. In addition, such meetings ought to maintain mutual trust between researchers and RS executives, encouraging open dialogue and shared opinions with utmost openness and freedom.

As for the Research Sector, the visits are considered a vital source for closely collecting researcher's suggestions and recommendations, and identifying the obstacles and impediments to their research journey. The RS executives assured researchers on the seamless regulations that govern the Research Support System, and provided them with a clear understanding of research procedures, different types of research grants, budgetary allocations and benefits, as well as the available resources, services, awards and incentives. By this initiative, RS seeks to enhance faculty members' participation in funded research, and promote high quality research that will eventually result in raising Kuwait University's international profile and standing among distinguished universities around the world.

With the culmination of the first round of visits during the first semester of the academic year 2018/2019, the Research Sector is currently compiling all suggestions and comments resulted from the visits, conducting a thorough study in order to take necessary steps to overcome any obstacles, and apply recommendations in the interest of the research process at Kuwait University.

The Research Sector plans to continue its visits to the rest of the faculties during the upcoming period, which include a visit to the College of Business Administration, the Faculty of Social Sciences, and the faculties of Health Sciences.

# OVPR Publications

## OVPR Continues to Produce its Publications for the Academic Year 2018/2019

## OVPR Publications are a Stable and Reliable Channel Used to Highlight Institutional Scientific Developments Nationally and Globally

The Office of Vice President for Research continues to produce its publications for the academic year 2018/2019, aiming to reserve, document and disseminate Kuwait University's mission and its scientific and research policies on a global level. The Publications Department at the Research Sector is committed to the implementation of an integrated agenda of required new publications for various events, programs scientific and research activities planned throughout the year. The Publications Department governs the production of pamphlets, brochures and posters for the various activities that the sector organizes, in addition to issuing the main periodical publications such as Guide to Research Subject Areas, Research Abstracts, Research Support System Rules and Regulations, in addition to other publications. One of the most significant annual events that the Research Sector organizes during the academic year is "The Scientific Poster Day". The preparations for the event activities begin early, which are organized by RS for the Scientific and Humanities faculties to be held in March. The Publications Department was responsible of printing and distributing the events posters and invitation cards to all faculties, in addition to printing the participating posters, which amounted to a total of 207 posters (92 posters from humanities faculties and 115 from scientific faculties and Kuwait Institute for Scientific Research), the department was also responsible of printing the booklets containing the participating posters abstracts to document the various research areas addressed by faculty research and presenting them as reference for researchers and interested parties.

On the other hand, the OVPR website is undergoing a continuous process of content update and development, in addition to the continuous work of compiling the upcoming issue of the OVPR Research Newsletter, updating the various research programs booklets, and following-up on the various requirements of the latest programs and events at the Research Sector throughout the year. These publications require great preparation and multiplied effort, for the process of preparing and issuing them present a challenge for the Publications department in order to fully meet the requirements of various research activities and pro-



A collection of RS publications

## OVPR Publications Aim to Document and Disseminate Kuwait University's Mission and Policies, and Raise Awareness of its Programs Globally

grams throughout the year, and to meet preparation and delivery deadlines. Research priorities, new initiatives and multidisciplinary collaborative projects come together to provide a diverse source for information that are collected, designed and produced as new publications. The publication activity is considered a vital part of the Research Sector strategy to disseminate important research information through its various publications to keep the academic community informed of its diverse research activities, to spread awareness, and to globalize the variety of institutional programs, activities and achievements. With these requirements in mind, the Research Sector's publications

will remain the primary source for reliable and authentic information concerning the institutional scientific and research programs, and are responsible for presenting the global image of Kuwait University.

In addition to the Research Sector's diverse agenda, its centers operate with the same vigor on their own publications programs. The Academic Publication Council continues to produce a series of scientific journals regularly, while the Center of the Gulf and Arabic Peninsula Studies publishes various scientific and cultural documents. The three centers of the Office of Vice President for Research (RS, APC and CGAPS) form the basis of the sectors publications program, which bases its work around the dissemination of authentic information in order to achieve the required global presence. Achieving this aim demands the proper preparation and production of various publications related to research policy, information analysis, media materials, research reports and newsletters in order to place institutional programs, activities and achievements in the local and global circle of attention. These requirements necessitate the continuous production of a variety of publications that the OVPR produces within the framework of its three centers throughout the year. A descriptive account of these publications generated by the RS, APC and CGAPS from November 2018 to May 2019 is summarized below:

### 1. Research Sector's (RS) Publications:

- **OVPR Research Newsletter, October 2018:** Released by the OVPR in October 2018, the Research Newsletter featured the most significant RS research achievements that took place during the academic year 2017/2018. The bulletin featured a comprehensive coverage of the Scientific Posters events for Humanities and Scientific faculties, SPSS workshops, RIG orientation session, RS multi-awards ceremony, The Future of Oil Countries seminar, a feature on recipients of US registered patents, Desalination seminar, in addition to a number of specialized workshops. The Newsletter also featured the 14th Distinguished Series, OVPR's latest publications, and statistics on faculty research. Research Newsletter, October 2018 edition, can be accessed online on OVPR website ([www.ovpr.kuniv.edu](http://www.ovpr.kuniv.edu)) in Arabic and English.



- **Kuwait University at a Glance 2017/2018:** Released at the end of 2018, the document is one of KU's vital publications, presenting a distinct dimension of institutional vision and ideology, as well as academ-



ic, administrative and research processes in different sectors of Kuwait University, in an exclusive document that dynamically reflects KU's strategic development and distinguished profile for

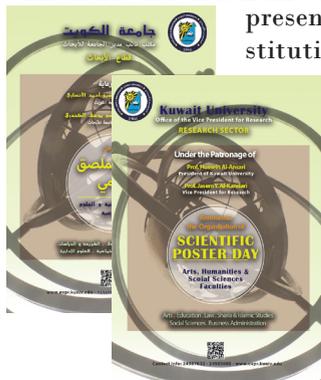
global outreach. *Glance 2017/2018* unfolds an empirical outlook of the programs quality and competence, and procedural mechanism efficiency, forming a dynamic and distinguished academic entity. The documents periodic responsibility is constantly being delegated to RS with the President's approval since the launching of the premier issue of *glance* in 2005, followed by the second issue in 2009 and the third issue in 2014. The fourth edition has captured the attention of RS as it mobilized its resources for an intense information gathering for this issue, seeking critical information directly from all faculties and institutional sectors, units and centers to complete the tremendous process of updating KU's information and procedures, producing a comprehensive strategic document encompassing the entire ramifications of institutional programs, sources, facilities, activities, achievements and future aspirations within the scope of a single document. This publication is produced in Arabic and English.

- **Inventions from Kuwait University Booklet, 2018:** Released in October 2018, the booklet featured 8 new inventions by researchers from Kuwait University, which have been registered by the US Patents Office. The inventions were distributed over the Faculty of Engineering and Petroleum (5 inventions), Faculty of Medicine (two inventions), the Faculty of Life Sciences (one invention). The booklet contained information on each project, which included its title, research team, patent number, and a description of the research project. The publication was issued in Arabic and English.



- **Scientific Posters Booklets, 2019 (Humanities and Sciences):** RS has directed its efforts into documenting the scientific posters displayed at its annual Scientific Posters Day events for Humanities and Sciences faculties, which was held on March 13th, 2019, for humanities faculties, and on March 20th, 2019, for sciences faculties. The displayed posters reflected the latest research and scientific creativity of faculties based on their ongoing and accomplished research, which resulted in generating two separate booklets. The first booklet featured 92 posters displayed at

the Humanities Posters event from six faculties (Arts, Education, Business Administration, Law, Sharia and Islamic Studies, and social sciences), while the second featured 115 posters displayed at the Sciences Posters event from four faculties (Computing Sciences and Engineering, Engineering and Petroleum, Life Sciences, Science) in addition to KISR (Kuwait Institute for Scientific Research). The document presented posters abstracts constituting a record of vital information on the latest research activity of faculty members, teaching assistants and graduate students. The Scientific Posters Booklets, 2019 can be accessed online on OVPR website in Arabic and English.



• **Miscellaneous RS Publications:**

Advanced preparations for the upcoming Scientific Posters events (Humanities and Sciences) were initiated, including the generation of publicity materials such as ads, invitations and booklets, as well as the printing of all posters received from the participating faculties. Also being prepared are the publicity materials required for the upcoming SPSS workshop, RIG orientation session, as well as the preparations for RS annual multi-awards ceremony for honoring distinguished researchers, US registered patent recipients and Scientific Posters events winners, in addition to the preparations for the upcoming OVPR Research Newsletter and other RS activities, programs and events.

**2. Academic Publication Council (APC) Publications:**

The Academic Publication Council (APC) continued to produce the latest editions of a whole range of journals, as it presents to researchers the latest research studies and articles included in 10 scientific journals published by the Academic Publication Council as follows:

- **Annals of Arts and Social Sciences**, Vol. 39 – September 2018.
- **Annals of Arts and Social Sciences**, Vol. 39 – December 2018.
- **Journal of Gulf and Arabian Peninsula Studies**, Vol.

44 – No. 170, October 2018.

- **Journal of Gulf and Arabian Peninsula Studies**, Vol. 44 – No. 171, January 2019.
- **Journal of Sharia and Islamic Studies**, Vol. 33 – No. 113, June 2018.
- **Journal of Sharia and Islamic Studies**, Vol. 33 – No. 114, September 2018.
- **Journal of sharia and Islamic Studies**, Vol. 33 – No. 115, December 2018.
- **Arab Journal of Humanities**, Vol. 36 – No. 144, Autumn 2018.
- **Arab Journal of Humanities**, Vol. 37 – No. 145, Winter 2019.
- **Journal of Engineering Research**, Year 6, No. 2, June 2018.
- **Journal of Engineering Research**, Year 6, No. 3, September 2018.
- **Journal of Engineering Research**, Year 6, No. 4, December 2018.
- **Journal of Law**, Vol. 42, No. 3, September 2018.
- **The Educational Journal**, Vol. 32, September 2018.
- **Arab Journal of Administrative Sciences**, Vol. 25, No. 3, September 2018.
- **Kuwait Journal of Science**, Vol. 45, No. 4, October 2018.



APC publications

**3.Center of Gulf and Arabian Peninsula Studies (CGAPS) Publications:**

The Center of Gulf and Arabian Peninsula Studies (CGAPS) released and published the latest studies and

reports on issues of significance to the Arabian Peninsula region, in addition to the latest editions of books, reports, abstracts and documents including the following:

• **Registry of Current Events in the Gulf and Arabian Peninsula Region:**

The document monitors and registers current events in the Gulf and Arabian Peninsula region, and two editions have been recently released in continuation of the series, which are No. 86 (April- May- June 2018) and No. 87 (July- August- September 2018). The Registry of Current Events in the Gulf and Arabian Peninsula Region is a periodical, published four times a year by CGAPS.



CGAPS publications

• **Strategic Reports Series:**

The latest documents in the Strategic Report series are based on specialized research studies used to bridge the gap between knowledge and decision-makers. The series has recently released a report entitled: “Limitations of the Components of Integrated Construction”, a comparative study between GCC and the Arab Maghreb Union on the level of participation in the integration of parliaments. The report is authored by Dr. Imad Sadok Marzouki. Released in 2018.

• **Special Scientific Series:**

A refereed scientific series, the document is based on specialized research, with CGAPS releasing the outcomes of a study on “The Local Administration in the GCC Countries,” by Dr. Fuad Al-Deeb. Released in 2018.

• **Abstracts Series on M.A. and Ph.D. Dissertations:**

The Abstracts Series documents summaries on Master’s and Ph.D. Dissertations, with CGAPS releasing 2 abstracts issues as follows:

A. Ph.D. Dissertation Abstract entitled: “*The Effects of (RISK) and “Master Thinker” Programs on Critical and Creative Thinking*”

*among Intermediate and Secondary High Achieving Female Students*”, prepared by Dr. Ma’ali N.F. Al-Ajmi, released in 2018.

B. M.A. Dissertation Abstract entitled: “*The Level of Religious, Intellectual, Political and Social Tolerance Values of Kuwait University Students from their Own Point of View*”, Prepared by Layla Solaiman Mohamad, released in 2018.

OVPR’s publication are considered an integral part of RS strategy for globalizing institutional research, which relies on the rapid production of multiple documents and publications to meet the extensive needs of the research community, and transmit critical information on KU’s scientific advances and attainments.

Publications form an essential resource used to document the latest developments in the domain of scientific research at KU, and promote and enhance external communication to facilitate the exchange of strategic information related to institutional research, and to participate in university programs. OVPR’s Publications also provide the opportunity to build bridges for research and scientific collaborations, in addition to the provision of information and reports needed by decision-makers. Therefore, the Publications program essentially aims to enhance the institutional vision and focus on the dynamics of the field of institutional research at Kuwait University, in addition to providing opportunities for research and development in the field of innovative research of high scientific value and quality, which leads to the production of exceptional and internationally credible research outcomes that contribute to enhance KU’s international profile. RS publications are widely distributed, while hardcopies can be provided upon request. Publications are also accessible electronically on OVPR website.

(<http://www.ovpr.kuniv.edu>)

(<http://www.ovpr.kuniv.edu/research>)



# Distinguished Research Series-15

## Distinguished Series-15

### Research Reward Recipients

The fifteenth (XV) consignment of the Distinguished Research Series is attributed to wide coverage and dissemination of the outstanding attainments of winners of Research Reward Incentive, for having achieved international recognition and scientific acclaim for their published research, appearing in high ranking, JCR listed journals with an impact factor, as well as for excellence in project final report. The reward incentive marks RS sustained efforts towards promoting the culture of quality and credibility in faculty research, as a step towards elevating Kuwait University's international profile and standing through distinguished research. This purpose underlies RS efforts towards motivating faculty members to strive for innovation and originality in their research endeavors, and find scientific solutions to contemporary global, national and human concerns. The launching of the research rewards stimulus was directed at promoting value added research, the quality of which was measurable through the universal JCR assessment model, which is being applied by RS in rating the quality, impact and integrity of KU published research. The research rewards incentive is, therefore, an encouraging opportunity for faculty members to vie for international recognition and attention through sheer merit and quality of their research.

As part of its ongoing quest for providing wider dissemination of research achievements, RS is publishing 8 distinguished research starting from this issue of RS newsletter, two under each category, to provide greater opportunities for presenting more distinguished research achievements to the academic and public community.

A steady increase in KU published research, appearing in prestigious international JCR indexed journals, amply demonstrates the effectiveness of incentives stimulus, with statistics showing an increase in the number of published research papers in JCR listed Q1 to Q4 journals, and a significant decline of published research papers in unrefereed or "no impact" journals. This decline exhibits faculty members increased diversion towards high impact JCR journals, boosting the quality index in KU's published research.

This dynamic shift in faculty members preference for high impact journals is attributable to the key role of rewards stimulus, as the total number of the in-

centives recipients since the initiation of the rewards shows their effectiveness in elevating the quality factor in faculty research.

The Distinguished Research Series brings forth the scientific attainments of KU's research reward winners, spreading awareness on their outstanding research findings generated through funded or unfunded research, as well as for excellence in project final report. For readers information, RS Research Support regulations outlines Research Rewards requirements, earmarking a reward of KD 1000/- for funded research to author(s) of distinguished research, published in top 25% of the international journals with impact factor evaluated as per the Journal Citation Report (JCR) in the concerned scientific field. For unfunded research, a KD 1000/- reward is given to the researcher or all researchers (in multi-authorship paper) for each published research in top 25% of the international journals with impact factor evaluated as per the JCR in the concerned scientific field. In addition, a KD 500/- reward is granted to the PI for each project Final Report of funded research that achieves "excellent" rating from external referee for scientific and humanities faculties. A financial reward of KD 4000/- is awarded to a faculty member once per project, provided the project's scientific output is published in top 25% (Q1) journals, rated as per the JCR in the scientific field of the candidate. Given the regulations and reward benefits, Distinguished series XV presents summary reports of the following eight research reward recipients, outlining key findings of their distinguished research, as follows :

(For readers information: the inclusion of research summaries is presented here exactly the way it was received from the reward winning researchers, highlighting their research objectives and key findings).

1. **Prof. Kaldoun Rahal** (Funded Project EV01/13), Department of Civil Engineering, Faculty of Engineering & Petroleum. Reward awarded for the paper entitled, "Shear Strength of Recycled Aggregate Concrete Beams Containing Stirrups," Construction and Building Materials" Published in Engineering Structure Journal, 191(2018), 866-876.
2. **Dr. Tassos Dimitriou** (Funded Project QE02/15), Department of Computer Engineering, Faculty of Computing Sciences & Engineering. Reward awarded for the paper entitled, "Secure and scalable aggregation in the smart grid resilient against malicious entities". Published in Ad Hoc Networks Journal, 2016,50,58-67.
3. **Prof. Sami Asfar** (Unfunded Project), Department of Surgery, Faculty of Medicine. Reward awarded for the

paper entitled, “Anoplasty for Post-hemorrhoidectomy Anal Stenosis : A New Technique “. Published in The World Journal of Surgery,2018.

4. **Dr. Abdullah Al-Bassam** (Unfunded Project), Department of Pharmacy Practice, Faculty of Pharmacy. Reward awarded for the paper entitled, “Knowledge Perceptions and Confidence of Physicians and pharmacists towards pharmacogenetics Practice in Kuwait”. Published in PloS One Journal,13(9)2018,1-16.
5. **Prof. Kamal Tawfeeq Hattab** (Project Final Report – HC02/16), Department of Comparative Jurisprudence & legitimate Policy, Faculty of Sharia & Islamic Studies. Reward awarded for the Project Final Report entitled, “Money Value Fluctuations through Islamic Perspective, the GCC Case”.
6. **Prof. Abdus Sattar Chaudhry** (Project Final Report – OI01/16), Department of Library & Information Sciences, Faculty of Social Sciences. Reward awarded for the Project Final Report entitled, “ Access and Management of Information in Businesses: A Study of Information Support Services in Kuwaiti Companies”.
7. **Prof. Esam Al-Awadhi** (Research Project – EM01/16), Department of Mechanical Engineering, Faculty of Engineering & Petroleum. Reward awarded as Research Project Incentive Reward for the paper entitled, “Double solar screens for window to control sunlight in Kuwait”.
8. **Dr. Hussain Al-Muhri** (Research Project – RQ02/15), Department of Computer science, Faculty of Computer Sciences and Engineering. Reward awarded as Research Project Incentive Reward for the paper entitled, “ Methodologies and Algorithms for Developing a high Performance System for Security Risk Mitigation in Large Corporate Networks”.

## FUNDED RESEARCH

### “ Shear Strength of Recycled Aggregate Concrete Beams Containing Stirrups,” Construction and Building Materials, 191(2018), 866–876.

**Prof. Kaldoun Rahal**

(Funded Project EV01/13)

Department of Civil Engineering, Faculty of Engineering & Petroleum, Kuwait University

Concrete is the second most consumed material in the world after water. The production of concrete requires the use of large quantities of cement, sand and coarse

aggregates. Typically, the coarse aggregates constitute more than 50% of the mass of the concrete.

Sustainability of construction materials is at the forefront of society, and the search for alternatives from renewable sources has been the focus of significant research. One of the most promising sources of recycled coarse aggregates is waste concrete. The use of waste concrete to produce recycled aggregates for use in new concrete reduces the demand on natural resources, reduces the use of landfills of waste and reduces the energy used in the production. The concrete produced using recycled aggregates is referred to as recycled aggregates concrete (RAC).

The safe structural use of RAC in buildings, bridges, infrastructure projects etc. requires a proper understanding of the effects of the use of recycled aggregates on the structural properties of reinforced concrete. This is especially valid since it has been shown that recycled concrete aggregates have generally inferior engineering properties in comparison with virgin aggregates. Assessing the effects on the shear strength of beams is of particular interest because of two main reasons. First, failures caused by shear are brittle and sudden and do not provide warning to users. Second, the shear strength depends directly on the strength of the coarse aggregates, and can be affected by the inferior properties of recycled concrete aggregates.

This research aimed at gaining a better understanding of the effects of using recycled concrete aggregates on the shear strength of reinforced concrete beams containing stirrups. Beams were cast using three types of concrete, which differed by the percentage of replacement (PR) of natural virgin aggregates with recycled aggregates. The percentages PR used were 0%, 20% and 100%. Beams with PR=0 are conventional concrete while those with PR=100% are fully recycled aggregates concrete beams. The partial replacement with 20% was selected to investigate the effects of using a relative small percentage of replacement on the behavior.

The beams were tested to investigate their structural behavior under shear forces. In total, eighteen beam test results were reported. It was shown that the use of PR=20% in the making of concrete had negligible effects on the deflections of the beams under load and caused only a 3% average reduction in the ultimate shear strength. On the other hand, replacing all natural coarse aggregates with recycled ones (PR=100%) caused an average reduction of 9% in the shearing strength and increased the vertical deflections in the beams. The cracking patterns under loading was similar in the beams with different types of concrete.

In addition, the shear strength observed in the tests was compared with the shear strength calculations of two well-known building codes. It was shown that for the case of PR=100%, the decrease in the shearing strength caused the calculations of the code equations to be slightly less conservative than for the case of conventional concrete.

Overall, the research showed that a 20% replacement of natural aggregates with recycled concrete aggregates had a negligible effect on the shear behavior of concrete beams containing stirrups.

## FUNDED RESEARCH

### Secure and scalable aggregation in the smart grid resilient against malicious entities

**Dr. Tassos Dimitriou**

(Funded Project QE02/15)

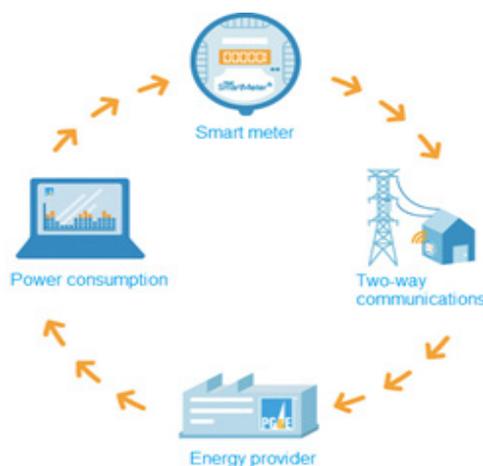
*Computer Engineering Department, Faculty of Computing Sciences & Engineering, Kuwait University*

The smart electricity grid introduces new opportunities for fine-grained consumption monitoring. By integrating devices that provide electricity consumption data, utility providers can benefit from a balanced utilization of energy in an attempt to achieve a higher level of efficiency. At the same time, consumers can benefit directly from the use of smart grid technologies by having access to cheaper sources of electricity with increased reliability and security.

Core to smart grid deployment is the use of intelligent metering devices, called “smart meters”. These devices provide fine-grained electricity consumption values that can be used in consumption forecasting and profiling, thus contributing to better load balancing and prevention of power shortages but also assisting users in achieving a more efficient energy use. However, the widespread deployment of smart meters introduces serious privacy risks since the frequent collection of power data may reveal considerable information about residential appliance usage and hence consumer’s daily activities. For example, the intelligent monitoring and control enabled by smart grid technologies can directly or indirectly be used to infer the lifestyle and behavior of consumers including home presence, eating and sleeping schedule, type of home appliances, and so on.

**Contribution:** In this work we developed security solutions that focus on preventing untrustworthy entities, the utility provider included, from associating specific consumption patterns with specific households, thus avoiding profiling consumer behavior but at the same time providing the tools to process smart meter measurements in a trustworthy manner. We achieve this goal by developing secure aggregation techniques that allow the utility provider to receive encrypted measurements from smart meters in a way that total consumption values can be computed without compromising the privacy of individual households.

As the utility provider cannot learn anything specific about the individual measurements, our protocols permit an even more accurate reporting of data which can then be used by the provider to obtain an exact picture of consumption in the grid. However for this to be of any value, the resources of the meters must be taken into account at design time. This includes both the limited computational capabilities of meters as well as the vulnerability of wireless communications to security compromises. Hence our focus is on the development of scalable, computation- and memory- efficient aggregation protocols.



**Acknowledgements:** This line of research work has been awarded by the Research Sector of Kuwait University for unfunded research. More details about the work described here can be found in the paper “Secure and scalable aggregation in the smart grid resilient against malicious entities” that has appeared in the journal of *Ad Hoc Networks*, Elsevier, 50 (2016), pp. 58–67 <http://dx.doi.org/10.1016/j.adhoc.2016.06.014>

## UNFUNDED PROJECT

### Anoplasty for post-hemorrhoidectomy anal stenosis: A new technique

**Prof. Sami Asfar**

*Department of Surgery,  
Faculty of Medicine*

Benign stenosis of the anal canal affects 1.5-3.8% of patients after surgical treatment of haemorrhoids (piles). It is a disabling condition causing the patient a lot of discomfort in the form of anal pain, difficult defecation and incomplete evacuation with narrow stools caliber. Most patients will become habitual users of laxatives and enemas. It has been reported that hemorrhoidectomy accounts for about 90% of anal stenosis cases.

The author describes a new innovative and simple surgical

technique which would greatly improve this condition. It would widen the anal orifice allowing the patient to have comfortable painless defecation. The procedure was performed on 65 patients. They were followed-up for 5 years after the operation. They were able to have normal defecation process with no pain and have discontinued the use of laxatives and enemas. Only one patient had recurrence after two years of the procedure, this patient was treated by a second operation with good results.

This work was published in the World Journal of Surgery (March 2018) under the section of: “*Innovative Surgical Techniques Around the World*”.

## UNFUNDED PROJECT

### Knowledge Perceptions and Confidence of Physicians and pharmacists towards pharmacogenetics Practice in Kuwait

**Dr. Abdullah Al-Bassam**

*Department of Pharmacy Practice,  
Faculty of Pharmacy*

**Background:** Pharmacogenetics practice has been successfully implemented in many developed countries to enhance personalized medicine and improve clinical and economic outcomes. An understanding of healthcare providers’ knowledge, perceptions, confidence towards pharmacogenetics, and their active enrollment with pharmacogenetic testing is essential for test acceptance and utilization. This study was designed to assess physicians’ and pharmacists’ knowledge, perceptions, and confidence towards pharmacogenetics, determine the preferred learning format for their future education in pharmacogenetics, and identify the barriers to its application in their practice settings.

**Methods:** A cross-sectional survey was conducted using a pretested self-administered questionnaire on a sample of 629 randomly selected physicians and pharmacists. Descriptive and comparative analyses were used in data analysis.

**Results:** The response rate was 98.1%. Less than one-tenth of respondents were exposed to pharmacogenetics education or training (8.9%), applied pharmacogenetics testing in their practice (9.4%), or provided patient counselling on the results of the pharmacogenetic testing (9.1%), and over 90% of them were physicians. The overall respondents’ mean (SD) total knowledge score percentage was

low [45.0% (24)] and there was no significant difference between the physicians and pharmacists scores ( $p>0.05$ ). Only 16.0% of participants indicated that they felt confident in applying pharmacogenetics in their practice settings. Despite these low levels of knowledge and self-confidence, 70.2% of participants expressed overall positive perceptions towards pharmacogenetics and its clinical implications. These positive overall perceptions were found to be significantly more common among pharmacists compared to physicians ( $p<0.05$ ). The top two perceived barriers facing the implementation of pharmacogenetics in Kuwait were lack of education or training and clinical guidelines.

**Conclusions:** These findings highlight important concerns and will aid in the assessment of current pharmacogenetics practice. Also, they will provide further insight in designing future targeted multifaceted interventions to promote the adoption and utilization of pharmacogenetics testing in Kuwait.

## FINAL REPORT

### Money Value Fluctuation Through Islamic Perspective The GCC Case

**Prof. Kamal Tawfeeq Hattab**

*(Project Final Report – HC02/16)  
Department of Comparative Jurisprudence &  
Legitimate Policy,  
Faculty of Sharia & Islamic Studies*

This study aims to reveal the tools and the policies of the Islamic monetary system related to fluctuations in the value of money, and the appropriateness of these policies to the nature of the Gulf Cooperation Council (GCC) states. The fluctuations that are taking place in the internal and external value of money, is considered to be the most prominent economical problem of the GCC states. which cause economic chaos and hindrances in business transactions, in addition to the huge loses that the reserves of the GCC states are exposed to.

The study has concluded that the Islamic Monetary system contains self restrictions and factors that lead to stability in price levels as a whole, as well as stability in exchange rates. further more, the Islamic monetary system policies are very appropriate to the GCC states economies.

\*The Author extend his appreciation to Research Sector at Kuwait University for funding this work through the research project No HC02/16”.

# Access and Management of Information in Businesses: A Study of Information Support Services in Kuwaiti Companies

**Prof. Abdus Sattar Chaudhry**

*Department of Information Studies,  
College of Sciences*

**Introduction:** Information is of tremendous value to business organizations in problem solving, evaluating the marketplace, developing new products and improving operational performance. Businesses use information from inside as well as from outside their own organizations. Successful businesses operate some sort of information utilities to support access to internal information and manage internal information.

This research project investigated information management practices of top Kuwaiti businesses focusing on information support services set up to facilitate access to external information and management of internal information generated as a by-product of transactions. Seventy-five companies from seven major business sectors participated in the study, which was conducted using a web-based questionnaire survey.

**Findings:** The three main approaches used by Kuwaiti businesses to arrange access to external information included links through websites; in-house information centers; and partnerships with other companies. The most preferred sources of information in businesses included company and industry reports, government information, investment reports, and reference sources.

The findings provided insights in the ways in which Kuwaiti companies could potentially benefit from their information support functions. These included adding value to social media content, procuring information material or arranging access to information, building portals of information on news, industries, and companies as well as streaming media to facilitate use of current awareness services and building discovery systems to navigate information resources available outside the company.

The most important functions for managing internal information included records and document management. Records focused on keeping documents for long time use while document management was being used for storage of aggregate data with ability to extract information selectively. Archiving was considered important for saving and keeping content for preservation. Web sites were being used for creation, review, and pub-

lishing of content. Enterprise portals were used as online sites for a single gateway to company information.

Most businesses prefer to manage internal information in relevant units using database management systems and specialized software applications. The second choice is to set up an integrated system that makes information available to relevant units as and when needed. Information management work was handled by professionals, included IT specialists, records managers, archivists, content managers, and web developers.

### **Practical Implications**

This study helped gather best practices for arranging access to external information sources and managing internal information. These can be translated into guidelines that Kuwaiti companies can use to improve their information support services. A set of guidelines can also be developed for information managers in companies on how to enhance access to external information based on the areas identified in the study.

The methodology and the findings of this study have the potential to contribute to several courses on information and knowledge management, records management as well as courses on organization and dissemination of information. The following two papers drawn from this study can be used as readings for various courses on business information:

- Information Support Services in Business Organizations in Kuwait. *International Journal of Innovative Business Strategies (IJIBS)*, 3(1).
- How companies manage external information sources: Lessons for educators of businesses information. *Canada International Conference on Education*, 26-29 June 2017, Mississauga, Ontario, Canada.

### **Future Research**

The results of this study can also be used to develop a basis for a new study that would examine how Kuwaiti companies representing various business sectors such as petroleum, banking and finance, retail trading, investment, telecommunication, construction and engineering, and real estate will enhance their information support services that would help business success, productivity and competitive edge.

The findings from this project may also be used to generate interest in the region and conduct larger scale studies that encompass not only Kuwait but within the region to gain an international perspective of information services within companies.

It is suggested that future studies use a mixed-method approach using not only surveys but also interviews and focus group discussions. This approach offers more nuanced and comprehensive perspective of current practic-

es and how they can be improved or expanded into new territories.

## INCENTIVE REWARD

### Double solar screens for window to control sunlight in Kuwait

**Prof. Esam Al-Awadhi**

(Research Project – EM01/16)

Department of Mechanical Engineering,  
Faculty of Engineering & Petroleum

This research experimentally investigates the concept of double solar screens installed on the external side of a window. The aim of the double solar screens is to control the amount of sunlight entering the indoor space to tackle the negative side effect of sunlight. Two identical perforated screens with square holes are considered, and the perforation ratio of each screen is 25%. Different installation arrangements of the two screens with respect to their holes' misalignment are considered. For comparison purposes, a window without a solar screen and with a single solar screen is considered in the study. The measurements are conducted in mid-June, and screens are installed on the West facing façade window. Without the solar screens, there is significant illuminance level diversity in the indoor space, and it varies between 200 and 13,810 Lux. With a single solar, the indoor illuminance level is decreased by 90%, and the heat flow through the window is decreased by 27.1%. If a second solar screen is installed, the illuminance level varies between 175 and 200 Lux, and the heat flow is reduced between 36.1% to 52.5%, depending on the misalignment of the screens holes. In term of illuminance, solar screens with down misaligned holes show the best performance, while the solar screens with right misaligned holes provide the highest heat flow reduction. The overall performance of double solar screens with down misaligned holes is the optimum in term of the illuminance and heat flow reduction through the window.

**Key words:**

window, solar screen, an illuminance level, heat flow, solar energy

## INCENTIVE REWARD

### Methodologies and Algorithms for Developing a High Performance System for Security Risk Mitigation in

## Large Corporate Networks

**Dr. Hussain Almohri**

(Research Project – RQ02/15)

*Department of Computer Science,*

*Faculty of Computer Sciences and Engineering*

This work explores an important problem facing many growing companies that wish to offload their workload to cloud and use the specific features of cloud computing providers to achieve higher levels of security against breathtaking security attacks. One such attack is the problem of intrusive network requests that arrive at servers that host web applications. These servers should serve all clients regardless of the origin of the request or the type of service requested. Often, web servers are not designed to guard against specific intrusions. Thus, there are numerous vulnerabilities that can lead to disastrous effects and considerable gains for attackers.

The main assumption of our work is to consider that an intrusion is inevitable. That means once a system administrator sets up a web application on the cloud, the servers will eventually be exploited by potential powerful remote attackers. We assume that attackers cannot directly manipulate servers or cannot control a system administrator's cloud computing platform. However, they can craft requests that aim to exploit a target server and propagate through an internal network that enables the web application to query a protected database in the cloud. According to this assumption, the web servers are under a high threat and must find new ways to mitigate intrusions.

The idea behind our work is to utilize mathematical structures for representing the topology of a network in a cloud. The topology is then fed into dynamic processes that utilize the cloud's elastic features: dynamic IP address assignments, modification of firewall rules, and creating or destroying virtual machines. The dynamic process expands the start topology of the network into a network of redundant virtual machines that act as decoys. Decoys confuse the attacker about the location of the target database. Then, the dynamic process evolves the expanded topology over time. The evolution is through modifying the location virtual machines (in terms of network addresses and firewall access rules) as well as randomly selecting victim machines to destroy and replace with new ones. The resulting effect is that if a selected virtual machine is on current attacker's path to target, all the work by the attacker is lost and a new attack attempt must be started.

Our simulation results demonstrated that 91% of the time, attackers require at least 1,000 attack attempts to exploit a network of six machines (expanded with decoy nodes). These results show that under extreme attack scenarios, the network can automatically cause a significant delay on the attacker's progress, leaving enough reaction time for system administrators.

# SPSS Workshop

## Research Sector Organizes a Workshop on Statistical Analysis (SPSS) for Faculty Members and Graduate Students of Humanities Faculties



Prof. Laila Marouf honoring Prof. Hisham Gadalarab

Under the patronage of the Assistant Vice President for External Research Collaboration and Consultation, Prof. Laila Marouf, the Research Sector organized a workshop on Statistical Analysis (SPSS) for faculty members and graduate students of Humanities Faculties. The workshop was held on Wednesday, October 31, 2018, at Abdullah Al-Jabir Al-Sabah Hall, Shuweikh Campus at Kuwait University. The workshop demonstrated the versatile applications of the SPSS program in data analysis, and the proper use of its results in scientific research when collected and analyzed correctly, for statistics is considered

one of the most important scientific methods used in data analysis and extraction of scientific content. On that basis, SPSS is considered one of the most widely used programs in data analysis to promote scientific research and enhance its quality, which is a goal that the research sector seeks to promote in the field of scientific research.

The workshop addressed the multiple possibilities of using the SPSS program in the various fields of scientific research and testing research hypotheses, as well as training researchers on the basic skills for using SPSS in the fields of humanities and social sciences. A comprehensive overview was presented through the workshop on the uses of the program, and the par-

## Prof. Hisham Gadalarab Sheds the Light on the Various Application of SPSS Program in Scientific Research

ticipants were introduced to the techniques of data organization and variable analysis to extract their results in tabular and graphical formats.

The workshop was presented by Prof. Hisham Gadalarab from the Department of Psychology in the Faculty of Social Sciences, who gave a compact and simplified overview on the various uses of SPSS, followed by an explanation of the skills and basics of graphic analysis and the methodology of using the program in scientific research. The workshop was attended by a group of faculty members and graduate students from various humanities faculties.

Outlining the significance of the workshop, Prof. Laila Marouf said that holding the SPSS workshop is one of the Research Sector's priorities, which falls within the framework of RS mission of developing and enhancing faculty members and graduate students skills and abilities in the field of scientific research and enhancing its quality, as well as achieving outputs of scientific value and significance. Prof. Marouf thanked Prof. Hisham Gadalarab for his efforts in presenting the workshop, and honored him with a memento.



Workshop in progress

# SPSS Workshop

## Research Sector Organizes a Workshop on Statistical Analysis (SPSS) for Faculty Members and Graduate Students of Sciences



Workshop in progress

## Dr. Fatima Al-Qallaf Demonstrates the Importance of SPSS in Data Management, Model Application and Research Results Analysis

Under the patronage of the Assistant Vice President for External Research Collaboration and Consultation, Prof. Laila Marouf, the Research Sector organized a workshop on Statistical Analysis (SPSS) on Tuesday, November 27, 2018, for Faculty members and graduate students of faculties. The workshop was presented by Dr. Fatima Al-Qallaf and Assistant Professor Seham Ahmad from the Department of Statistics and Operations Research in the Faculty of Sciences. Dr. Fatima Al-Qallaf explained the importance of Statistical Analysis (SPSS) in effective data management and organization, In addition to its role in analyzing research results, applying results, completing statistical tests, and writing sound scientific reports and research to be accepted for publication in refereed international journals.



Dr. Fatima and Assistant Professor Seham explained the program by applying its use on questionnaires to demonstrate how the program can be used to facilitate the completion of any research study that relies on data collection, analysis and utilization in scientific research. The audience was given the opportunity to practically apply steps in order to get the most out of the information presented throughout the workshop.

The workshop was attended by a large audience of faculty members and graduate students from various sciences faculties, which the main motivation for the research sector to continue organizing such events that directly address the needs of the academic and research community. Research Sector's strategy is based on the promotion of high quality standards in scientific research at Kuwait University, therefore, the Research Sector continuously strives to develop the abilities of faculty members and graduate students through seminars and workshops that enhance their scientific and research capabilities in order to achieve outstanding, high quality scientific research.

At the conclusion of the workshop, Prof. Laila Marouf honored Dr. Fatima Al-Qallaf and Assistant Prof. Seham Ahmed, thanking them for their efforts in presenting the workshop.



Prof. Marouf with the participants

# Coordination meeting with KOC

## RS hosts a coordination meeting with KOC

Within the framework of its strategic mission to enhance institutional strength through advanced research, the Research Sector hosted a high-profile coordination meeting with Kuwait Oil Company (KOC) on Sunday, September 20<sup>th</sup>, 2018. Held with the presence of Kuwait University President, Prof. Hussein Al-Ansari, the meeting was attended by KU's top executives including Dr. Muthana Al-Rifae, Secretary General, Prof. Jasem Al-Kandari, Vice President for Research, his assistants Prof. Haider Behbehani, Prof. Yousif Qarashi and Prof. Laila Marouf, and the Dean of Faculty of Engineering and Petroleum, Prof. Abdullatif Al-Khulaifi. The KOC delegation included Mr. Ahmed Al-Jasmi, Research and Development Group Manager, Mr. Ibrahim Al-Khariji, Contracts Group Manager, and Mr. Abdullah Al-Otaibi, Planning and Support Team Leader. The meeting aimed to discuss the long-time scientific and research partnership between the two leading institutions in the field of R & D of petroleum and natural gas.

## Meeting aims to discuss scientific and research partnership between the two leading institutions

Signifying an effective strategic step to establish a direct link between KU and the industrial sector, the KU-KOC partnership is based on the coordination between KU's scientific and research competence and KOC's advanced resources and technology expertise, providing a congenial environment for conducting high-quality scientific research for redressing industrial complexities and finding practical solutions through shared expertise and effective collaboration. Such agreements are bound to open new collaborative corridors to promote joint applied research, enhance R & D competences, and foster national capabilities, essentially falling within the sphere of KOC's aspirations as well as KU's top priorities.



KU President with the officials of both institutions

# Google Workshop

## Research Sector Organizes a Workshop entitled “Google Applications for Academics” For Scientific and Humanities Faculties



Workshop in progress

## The Workshop is organized for Faculty members and Graduate Students from Scientific and Humanities Faculties

In continuation of its ongoing dedication towards developing the skills of faculty members and students at Kuwait University, the Research Sector organized a workshop under the patronage of Prof. Laila Marouf, Assistant Vice President for External Research Collaboration and Consultation, entitled “Google Applications for Academics”. The workshop, held on Tuesday, November 20, 2018, was presented by Dr. Hisham Al-Sarhan from Department of Information Studies at the Faculty of Social Sciences. The workshop aimed to demonstrate how to best use Google applications in research projects in order to achieve the best results and outputs. Dr. Hisham presented 8 effective methods related to various aspects such as organizing and storing project files, ways to communicate with the research

team members, the management of work schedules and meetings, and the collection of required data, in addition to other relevant matters.

The Workshop attracted a large audience that included faculty members and graduate students from various scientific and humanities faculties. Dr. Hisham Al-Sarhan relied on group work in order to establish practical practice at the workshop. He also focused on applications that enhance collaborative work, streamline reporting, and facilitate the process of data collection and analysis through exercises and models that have been addressed in group work.

The Workshop falls within the Research Sector framework based on the development of Faculty members and graduate students skills and enhancing their abilities in order to achieve high quality research in order to produce exceptional scientific and research outputs. The Research Sector constantly aims to hold and organize such events to benefit the academic community and keep pace with the latest technological developments to achieve the desired scientific and research excellence.

Prof. Laila Marouf expressed the significance of organizing workshops for faculty members and graduate students as it is an essential part of RS strategy to establish excellence and quality in faculty members and graduate students research projects, whose development will no doubt be reflected on the enhancement of Kuwait University’s global standing based on the quality and excellence of its scientific research.



Prof. Laila Marouf with the participants

# Digital Environment Workshop

## Research Sector Organized a workshop on: “Information Search Skills in a Digital Environment”



Workshop in progress

The Research Sector (RS) organized a workshop on “Information Search Skills in a Digital Environment” dedicated to faculty members and graduate students at the humanities faculties. The workshop, held on December 4th, 2018, at Abdullah Al-Jaber Auditorium, Shwaikh Campus, was presented by Dr. Elham Al-Dosari, from the department of Information Studies, Faculty of Social Sciences. Dr. Al-Doseri started the workshop by demonstrating the basic concepts of the digital information resources, their evaluation methods, and the search skills and techniques in the field, as well as illustrating how to develop a search approach for the required information.

The workshop primarily aimed at enriching participants with the essential skills for analyzing their research topics, identifying key terms to use while searching relevant databases. The workshop also ad-

ressed several ways of combining search terms and logical operating factors to form a “search phrase” to use in search operations of various databases.

Emphasizing on the importance of acquiring search skills, Dr. Al-Doseri explored the general primary skills essential for all internet users in order to find topics that fall within their basic interests, as well as the required advanced skills specific to their specialized research topics. Dr. Al-Doseri further highlighted the fundamentals of information science essentially based on how to search for an information resource, in addition to retrieval and saving techniques that collectively contribute to achieving the e-government concept and enhancing its application in all fields.

The workshop was based on worksheets involving all participants in practical exercises on searching electronic information resources, identifying their types and scopes, and the type of information they provide, in addition to exploring popular search engines and their search methods. The worksheets also provided the initial steps to develop a sound research strategy that is based on evaluation criteria, accuracy, specialization and objectivity.

Outlining the workshop’s significance, Prof. Laila Marouf, Assistant Vice President for External Research Collaboration and Consultation, said that organizing such workshops is a top priority for Research Sector, for the RS strategy is mainly based on continuously providing faculty members and graduate students with training opportunities to develop and enhance their research capabilities, which will lead them to produce high quality research, and achieve outputs of scientific value and significance, that will reflect on elevating Kuwait University status and profile internationally.

At the end of the workshop, Prof. Marouf presented a memento to Dr. Al-Doseri, honoring her efforts to make this workshop a success. She also thanked the faculty members and graduate students of humanities faculties for their attendance and active participation.



Prof. Marouf with the participants