



# RESEARCH

Quarterly Newsletter

May/June 2014



Office of the Vice President for Research

## Strengthening the foundations of research at KU

May/June 2014 Highlights

*Events, Activities, Happenings...*

### *Inside...*

- Humanities & Social Sciences Posters Day .....2
- Sciences Poster day.....3
- KU-UK Universities Session.....4
- Kuwait University at a Glance, 2013/14.....5
- RS roundtable Session.....8
- Multi-awards Ceremony.....9
- RS hosts SPSS 2-Day Workshop.....10
- Distinguished Research Series - 6.....14
- Latest OVPR Publications.....18
- Research Sector Achievements (Summary Report) 2012/13.....22
- Joint Project (KU-KNPC-PIC) Closure Ceremony.....27
- Statistics on Faculty Research (Sept. 2013 to Feb., 2014).....32
- Dr. Ayman visits OVPR.....34
- UK Delegation visits OVPR.....34
- RS announces Call for Research Proposals (KFAS).....35
- Thomson Reuters workshop.....35



**Sciences & Humanities Posters Event**

Page...2/3

**KU at a Glance 2013/14**

Page...5



**KU-KNPC- PIC Joint Project Ceremony**

Page...27



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K u w a i t U n i v e r s i t y

The Core group of *five* faculties, jointly display 33 posters at the *fifth* season of the humanities & social sciences Posters event

**KU President inaugurates the *Scientific Poster Day* for Humanities & Social Sciences faculties, hosted by RS in collaboration & sponsorship of KFAS**

Event marked by *two lectures* by invited speaker, Prof. Ayman Fuad Sayid, winner of KFAS prize for "*Plans & Topographic Recording of Cities,*" in 2009



▲ A view of Humanities & Social Sciences faculties Posters Display

Under the distinguished presence and Patronage of Kuwait University President, Prof. Abdullatif Al-Bader, the Research Sector hosted year 2013/14 Scientific Poster Day event for Humanities and Social Sciences faculties on Tuesday, March 18, 2014, amidst a gathering of top executives, faculty members, researchers, participants and viewers. This year's event was marked with the Research Sector taking an additional step of organizing two lectures in collaboration and sponsorship with the *Kuwait Foundation for the Advancement of Sciences (KFAS)*, enhancing the value of the scientific posters activity, with the lectures delivered by invited speaker, Prof. Ayman Fuad Sayid, winner of KFAS prize for "*Plans and Topographic Recording of Cities,*" in 2009.

The first lecture entitled, "*Development of Composition in Plans from Literary to Visual Description,*" in collaboration with the Center for Gulf & Peninsula Studies, was held on March 18, 2014, at the International Hall,

*RS increases total number of awards from three to five, for top-ranking posters in the categories of faculty members, teaching assistants & graduate students*

faculty of Social Sciences, while the second lecture entitled, "*Bookstores in Egypt until the establishment of Khedive Library,*" was held on March 19, 2014, at the seminar room of Dr. Abdullah Al-Otaibi Building, faculty of Arts. The addition of these lectures opened further doors for wider exchange of scientific thoughts and empirical research beyond institutional confines, benefitting the faculties and scientific community.

Inaugurating the event, Prof. Abdullatif Al-Bader, appreciated the commendable efforts of faculty researchers and graduate students,

encouraging them to acquire higher levels of scientific sophistication through advanced and innovative research. Sharing his views, the Vice President for Research, Prof. Hasan Al-Sanad, said that RS doors are always open for facilitating researchers in realizing their research objectives and ambitions, and the scientific posters event would remain an enduring platform and opportunity for researchers in bolstering their scientific creativity and quality, as well as in pursuing interdisciplinary research that could yield new knowledge for the benefit of society and mankind.

The event, held at the Sports Hall, faculty of Arts, Keifan campus, provided a significant platform for the humanities & social sciences sector, bringing together the core group of five faculties, collectively displaying 33 posters on a broad range of themes, currently being researched across the humanities sector, during 2013/14. The participating faculties jointly displayed latest scientific accomplishments of research-

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*Unprecedented display of 99 Posters reflects the prevailing scientific dynamism across sciences faculties*

**KU President inaugurates RS annual Poster Day for Scientific faculties, with 2013/14 event scaling new bridges in enlisting the participation of Health sciences faculties and KISR, alongside mainstream sciences faculties**

Keynote speaker from Nanotechnology & Nanoscience Center, Nottingham University, UK, outlines "Development of Advanced Semiconductor Materials & Devices for Next Generation Photovoltaics: Opportunities & Challenges"



▲ Poster Day Inauguration, Keynote session, and faculties Displayed Research

The Research Sector (RS) scaled new bridges in the annual hosting of the Scientific Poster Day during 2013/14, enlisting the participation of *Health Sciences* faculties, as well as inducting the presence of *Kuwait Institute for Scientific Research (KISR)*, alongside mainstream *sciences faculties*, marking a strategic beginning of involving external participation in Kuwait University's scientific posters activity, hitherto confined to KU faculties. Consequently, this year's Posters event for sciences faculties, sponsored by Kuwait Foundation for the Advancement of Sciences (KFAS), and held in joint collaboration with the British Council, was significant on several grounds, and marked by an opening address by keynote speaker, Prof. Mohamed Henini, Professor of Applied Physics, Nanotechnology and Nanoscience Center, Nottingham University, UK, outlining "*Development of Advanced Semiconductor Materials and Devices for Next Generation Photovoltaics: Opportunities and Challenges.*" In addition, a seminar on "*The Future of Renewable Energy & Collaboration Opportunities with Kuwait University,*" presenting a series of lectures by speakers from Brit-

**A series of lectures mark the sciences posters event**

*Event sponsored by KFAS and held in joint collaboration with the British Council*

ain and Kuwait University on March 26, 2014, added a significant new dimension to the posters event. The event registered a far wider coverage in posters presentation, bringing together diverse creative minds from across *five* scientific faculties, *three* health sciences faculties, *KISR's participants*, as well as a distinguished community of external and internal speakers, in an unprecedented display of scientific research, registering 87% (97) growth in posters displayed this year, over last year's (2012/13) 52 posters. The event significantly exhibited expanding realms and faculties increased

diversion towards joint research, as observed in the posters' credit-line, with multi-researchers involved in coauthoring research outputs. This indeed was a promising development, complementing RS strategy of encouraging researchers to cross disciplinary confines, in the larger interest of advanced and innovative research. Given this development, year 2013/14 Scientific Poster Day, went beyond the strategic objective of organizing the Posters event for faculties, by enlisting the presence and participation of external institutions in delivering lectures on issues of immense scientific interest and value, and sensitizing faculties to those critical areas that needed to be explored through collaborative and cross disciplinary research. It is within this developmental frame that this year's scientific poster day brought together the researchers, graduate students and external participants from wide-ranging disciplinary streams onto the posters platform, held Under the distinguished Patronage of Kuwait University President, Prof. Abdullatif Al-Bader, and inaugurated by Dr. Jawad Behbehani, the acting President, opening the *Sixth* Season of the Scientific

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Scientific Session opens the door for *cultivating collaborative bridges* in areas of strategic significance

Research Sector hosts a joint RS-British Council Scientific Session on “*Opportunities for Research Collaboration between KU and UK Universities*”

*Delegates exhibit immense interest in carrying forward the preliminary scientific interaction towards sharing knowledge and developing university-to-university collaboration*

The Research Sector hosted a joint KU-British Council scientific session entitled, “*Opportunities for research collaboration between Kuwait University and UK universities*,” on Wednesday, Nov. 27, 2013, as a basis towards sharing knowledge, exploring opportunities for scientific exchange and possibilities of collaboration. On behalf of the Vice President for Research, Prof. Haitham Lababidi, Assistant Vice President for Research, welcomed the visiting delegation from UK Universities, and outlined the significance of the session as a move towards identifying inter-institutional scientific strengths, and cultivating collaborative bridges in areas of priority significance, and emerging issues of relevance to Kuwait.

The Key Speakers, outlining the dimensions of their respective research, included Dr. Ahmed Elmarakbi, from the University of Sunderland, who highlighted the significance of currently ongoing research towards achieving “zero emission transportation, and its impact on environment, energy and automotive research.” Speaking on the concept of ZET (*Zero Emission Transportation*), Dr. Ahmed, explained that the current thrust of research is on clean and energy efficient, low carbon safe vehicles. Experiments were also ongoing on the use of ultra-light material and composites for ensuring

vehicles carbon-worthiness, and safety through dynamics control system, the areas that hold immense potential for collaboration.

Dr. Jasper Graham-Jones, from the School of Marine Science & Engineering, Plymouth University, demonstrated the significance of marine and offshore engineering in energy generation, an area where enormous scope existed for national and international partnerships. He also laid emphasis on “*research strategy for impact*” that necessitated working with industrialists and collaborative partners. Dr. Therese Sheehan, from the University of Bradford, focused on *structural engineering*, especially concrete filled tubular structures, with concentrically braced frames, and their resilience in earthquakes, a potentially significant area for collaborative research. Dr. Sudhir Jain, Associate Dean Postgraduate Program and International Relations at Aston University, presented postgraduate research opportunities at Aston, outlining their Engineering and Applied Sciences research program, that offered ample opportunities for collaboration in the key areas of *bioengineering, knowledge*



A view of participants at KU and UK Universities meeting

*engineering, photomics, sustainable environment, non-linearity & complexity, as well as biomedical engineering.*

Dr. Nick Bennet, Prof. of Engineering Manufacture and Innovation, Faculty of Technology, University of Portsmouth, highlighted the role of research in *economy, knowledge generation and new products*. He also highlighted the significance of mechanical manufacturing and product engineering, leading to *product development, innovation, time compression and new designs*. His prime focus was on *application of research in economic development*. Dr. Stuart Holmes, from the University of Manchester, outlined the significance of *membrane dependent processes, especially Zeolite A membranes*.

Following the presentation round, Prof. Haitham thanked the speakers,

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*Glance 2014 outlines KU President's aspirations and views on developing the institution as a hub of scientific creativity and excellence*

*Glance 2014 unfolds Kuwait University's vision, ideology and developmental strategy towards acquiring an elite status & competitive world ranking*

Released in March 2014, *Kuwait University at a Glance* is widely accessible on KU and OVPR websites

The Research Sector's consistent efforts towards dynamic portrayal of Kuwait University for global readership, crystallized into a compelling document, *Kuwait University at a Glance, 2013/14*, unfolding the institutional vision for achieving competitive world standing on grounds of quality and excellence of its academic and research programs, distinguished faculty, and graduates caliber. Presenting an explicit outlook of KU President's aspirations and views on developing the institution as a hub of scientific creativity and excellence, the document provides analytical insights into the dynamics of higher education at Kuwait University, with opportunities for growth and scientific advancement. The document, widely accessible on KU and OVPR websites, was released in March 2014, presenting a concise, analytical, and empirical outlook of the institution in the cross-currents

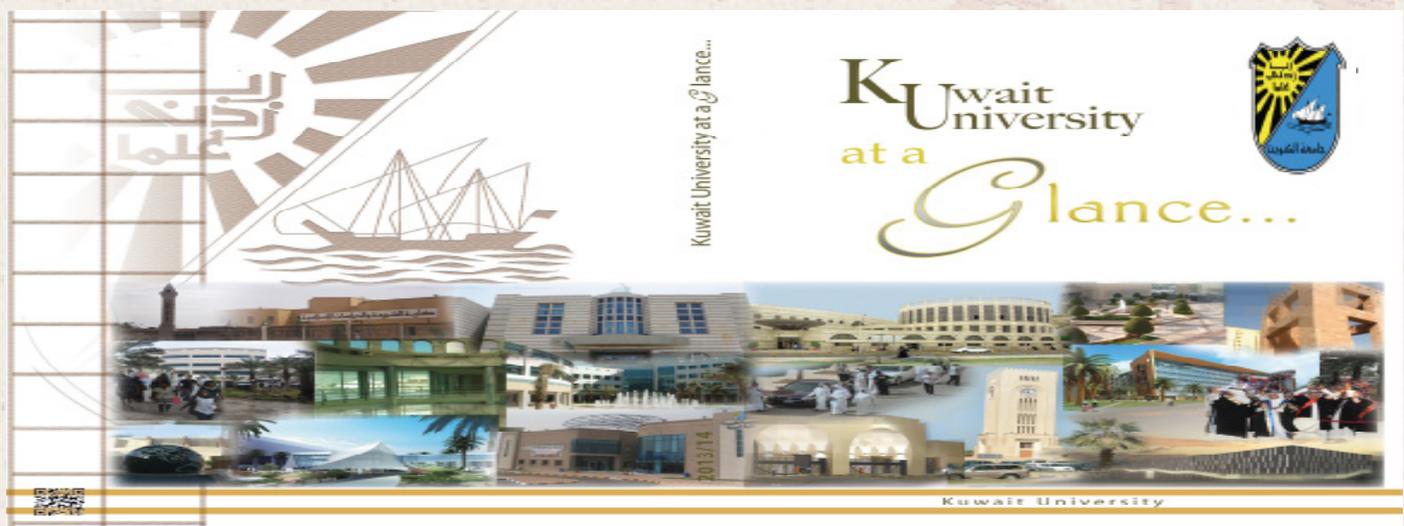


*Glance, a vision document, outlines KU's commitment and ideological moves towards acquiring global dimensions*

of scientific evolution, with its strong academics, distinguished research, and a driven community of

postgraduate students, strengthening its *internal foundations*, expanding its *external horizons*, and nurturing its *global aspirations*. The entire institutional framework is centered on the ideology of this strategic mission, presented throughout the entire scope of *Glance 2013/14*, traversing the institutional 48 years journey of growth and advancement, highlighting key milestones and accomplishments over periods and developmental phases.

Conceptualized as the *vision* document, *Glance 2013/14*, initiative was backed by KU President's approval for an inclusive document, bringing together key elements within the framework of institutional priorities, developmental strategy, and goals ahead. This responsibility led RS to mobilize its efforts and energies towards gathering source information directly from all institutional sectors, faculty Deans, Vice Presidents, General Secretary, Graduate Affairs, **(Contd. on ... P.13)**



► *RS host Humanities & Social Sciences Posters event...(From P.2)*

ers, an active community of faculty members, teaching assistants and graduate students, from the faculties of Arts (3), Business Administration (5), Education (7), Sharia & Islamic Studies (10), and Social Sciences (5), highlighting emerging trends in faculty research, and addressing issues of strategic significance to contemporary life and society, with displayed posters presenting ongoing and accomplished research of 19 faculty members and 8 graduate students. All posters displayed at the scientific posters event, were aggregated in image format, providing critical substance for generating year 2013/14 Scientific Poster Day publication, as a vital reference on posters displayed at humanities & social sciences posters event.

Underlying the event was the enduring efforts of the Asst. Vice President for Research, Prof. Obaid Al-Otaibi, overseeing the humanities and social sciences posters activity, successfully marking its *fifth* season, amidst the presence of Asst. Vice President for Research, Prof. Nejib Smaoui, and distinguished gathering of faculty Deans of Education, Arts, Business Administration, Sharia & Islamic Studies, Social Sciences and Law,



▲ *Interactive environment at Humanities Posters Session*

the Vice Deans, faculty members, researchers, students and faculty participants, taking keen interest in the scientific diversity displayed in posters. The event, apart from creating an encouraging environment for scientific interaction, was a key driver in bringing together researchers from diverse disciplinary streams, providing a stimulating platform for faculties to envision new ideas and concepts that require multidisciplinary focus for empirical solutions, enriching the prevailing scientific culture at KU, and uplifting institutional scientific standing through competitive and credible research. The annual holding of the posters event is a significant step in that direction, enlisting faculties increased participation in the Posters event, and providing opportunities for researchers to pursue scientific complexities that need collaborative input, for internationally credible outputs.

Given this mission, the Research Sec-

tor is increasingly committed to an incentives-based system to encourage faculties participation in advanced and innovative research, with a series of awards provided to researchers who exhibit scientific excellence in their

research accomplishments, displayed at the posters event. All posters were reviewed by a specially constituted Technical Committee, responsible for identifying top *five* winning posters in the categories of faculty members, teaching assistants and graduate



▲ *A group of participating researchers*

students, selected on grounds of scientific merit and outstanding research. For researchers information, the top-ranking posters are singled out for best posters awards, which were increased this year from *three to five*, and awarded in the categories of faculty members, teaching assistants and graduate students, bringing recognition to concerned researchers, the ultimate beneficiaries of the posters awards. These incentives would remain the dominant factor in RS endeavor to instill the norms of quality, excellence and distinction in faculty research.



▲ *A Participant explaining displayed research*

► *RS host Sciences Faculties Scientific Poster Day event ...(From...P.3)*

Posters Day for sciences, hosted by the Vice President for Research, amidst the presence of Mr. Andrew Glass, *Director, British Council in Kuwait*, accompanied by Dr. Stuart Holmes, from the *School of Engineering & Analytical Science, University of Manchester, UK*, and Prof. Elias Siores, *Director of Research & Provost, Bolton University*, along with a widely representative gathering of KU's top dignitaries, faculty researchers and key personalities from KISR, significantly enhancing the scientific merit and value of the event. The participating researchers formed an active community of *faculty members, teaching assistants, graduate students, and KISR's researchers*, jointly displaying **99 posters**, based on their ongoing and accomplished research, unveiling a broad canvas of researchers' creativity, providing encouraging opportunities for scientific interaction and exchange.

The event, held on March 25, 2015, at the ground floor lobby of the Administration Building, Khaldiya campus, was preceded by a welcome address delivered by Prof. Hasan Al-Sanad, Vice President for Research, followed by keynote address by Prof. Henini, who presented an overview of energy, while dwelling on the area of photovoltaics and its propensity in transforming solar energy in the generation of electrical energy. Re-



▲ *A view of Scientific Faculties Posters Session*

search in this area is vital, especially for enhancing efficiency of energy generation, for which the best way is to begin with basic research, and eventually move on to applied research, with the current thrust of research being on generating low cost solar cells, concluded Prof. Henini.

Thanking Prof. Henini for his enlightening address, Prof. Obaid Al-Otaibi, Asst. Vice President for Research, invited questions from the floor, followed by inauguration of the scientific posters event, cumulatively displaying the scientific accomplishments of eight faculties, as well as KISR, based on research activity of 64 faculty members, 6 engineers and 16 graduate students. The displayed posters were distributed over the faculties of *Engineering & Petroleum (10), Science (43), Life Sciences (15), Computing Sciences & Engineering (6), Architecture (3), Medicine (2), Pharmacy (2), Allied Health Sciences (2), and KISR (16) posters*, and the concerned researchers explained the key points of their respective research to the viewers, invariably leading to discussions and dialogue. RS believes that such interactions are vital

for energizing the institutional research process, creating scientific vibes across disciplines for joint studies in the areas of priority significance, and finding practical solutions to outstand-

ing concerns that continue to challenge science and society. RS current policy is geared to advancing joint and collaborative studies through original, advanced and innovative research, setting the path for high quality research that achieves international recognition, and strengthens the global outlook of institutional research.

The annual holding of Scientific Posters Day event marks RS intent towards achieving this purpose through the posters platform, in recognition and tribute to researchers scientific attainments, as well as in enhancing the faculties creative and competitive spirit, while providing ideological grounds for new ideas and spinoffs, laying the future course of research at KU. All poster, displayed at the sciences posters event, were reviewed by an experts committee, especially constituted for the purpose, to shortlist distinguished research and top ranking posters for the key awards, which increased from *three to five* this year, in recognition of outstanding research in the three categories -- *faculty members, teaching assistants and graduate students*. The awards are instituted by RS to encourage faculties to innovate and excel, and aspire for outstanding, internationally credible outputs, through comprehensive proposals that address dominant concerns, contemporary challenges and realities of modern life. □



▲ *A Participating researcher explaining his displayed research*

Research Sector holds a roundtable session with the recipient of 2012 KFAS prize for distinguished research in applied sciences in the field of energy

OVPR hopes for a door of opportunity opening between KU and North Carolina State University for joint research and studies

KU's advanced general facilities and resources as good as any other universities in the world ...Prof. Salah Bidair

The Research Sector received Prof. Salah Bidair, from North Carolina State University, USA, on Dec. 4, 2013, for a roundtable session, hosted by the Vice President for Research, Prof. Hasan Al-Sanad, amid the presence of his Assistants, Prof. Haitham Lababidi, Prof. Nejib Smaoui and Prof. Obaid Al-Otaibi. The specially organized session was aimed at having the benefit of Prof. Salah's impressions, observations and views concerning the facilities available at KU, and existing environment and opportunity for advanced and innovative research. Prof. Salah, who was visiting Kuwait on an invitation from KFAS, is the recipient of 2012 KFAS prize for his distinguished research in applied sciences in the field of energy, and actively participated in KU's scientific Symposium on "New Trends in Photovoltaic Technologies," where he gave an impressive talk on energy generation and saving, presenting an insight into effective utilization of semiconductor technology in the context of energy generation & energy saving, and solar power.

Attending the RS roundtable, in the aftermath of having visited KU general facilities at the Science and Engineering & Petroleum faculties, Prof. Salah gave an explicit outlook of the advanced facilities and opportunities of research available at KU. A summary of his views, and shared thoughts and discussions at RS roundtable, are presented below:

**Prof. Salah's Observations/views**

1. KU has up-to-date and advanced re-

search equipment and facilities. Quite significantly all equipment and resources are in working state, which is a good sign. The Engineering and Science labs have well equipped facilities for characterization, which are



▲ RS Roundtable session with Prof. Salah Bidair

as good as any other universities in the world. In addition, KU has first class Lithography facilities and is in a situation for doing good and high quality research. The missing factor, however, is the fabrication facilities, for which you have to rely on getting samples, such as PV cells and wafers from another lab for characterization.

2. Though not aware of the level of KU-KISR agreement, his impression was, it is not very active, or at least not visible.
3. KU lacks such equipment as the Molecular Beam Epitaxy (MBE) for growing III-V devices and building layered structures. These machines are very expensive, but it can make a quantum jump in the field of semiconductors. Multilayered junctions cannot be made without having these machines, and perhaps there should be a joint project concerning this between KU-KISR.

**Overview of KU research mission**

The meeting then shifted to KU research mission, and the extent of faculty research activity, with Prof. Hasan giving a brief

overview of the OVPR's research mission, in line with KU's vision. The grants are awarded to faculties through the Research Support System, setting the principles, procedures and modalities of grant support at KU, with RS annually handling more than 500 projects per year. The projects are subject to a standard review process, and funding decisions are taken at Funding Committee Meetings held monthly, and Implementation Committee meetings held weekly. The review process is carried through national and international experts, specialized in their fields, for which RS maintains a huge database of expert reviewers. The grant support is awarded under three funding levels (up to KD 4000/-, between KD 4001-10,000/- and above KD 10,000/-).

Continuing further, Prof. Hasan said that the grants system is periodically reviewed, enhanced and strengthened, and the latest edition of Rules & Regulations, 2013, introduces several new elements, such as Postdoctoral Research Fellowship, to encourage graduate students to be appointed on

(Contd. on ... P.31)

*Multi-awards ceremony held under the Patronage of KU President*

**Research Sector felicitates *Distinguished* and *Young Best Researchers, Graduate Project Prize winners, Scientific Posters* awardees, and recipients of *US registered Patents* in a joint honoring event**

*Awards a befitting tribute for nurturing scientific interests and accelerating advancement*

In an exclusive ceremonial event, held under the Patronage of KU President, Prof. Abdullatif Al-Bader, and hosted by the Office of the Vice President for Research, the Research Sector honored a distinguished community of researchers, and innovators for having achieved scientific distinction and international recognition for their outstanding research. The event, held at the University Conference Hall (119), on May 26, 2014, brought together Distinguished and Young Best Researchers, Graduate Project Prize winners, Scientific Posters events awardees, and recipients of US registered Patents for the academic year 2013/14, in a joint multi-awards honoring ceremony, amidst a widely representative gathering of faculty members, researchers and graduate students, for felicitating the winners in recognition of their outstanding research accomplishments in basic and applied sciences, and in arts & humanities. While, recipients of

US registered patents, and winners of best posters in the recently held humanities and scientific posters events, significantly reflected on the quality and impact of institutional scientific research, it also reflected the cumulative effect of RS persistence in encouraging faculties to pursue original and high quality research for generating outputs that are scientifically significant and hold measurable impact. The purpose is to encourage and involve faculties in innovative pursuits, and spread the culture of credibility and excellence in their research performance, as part of RS strategy towards elevating institutional scientific caliber and competence, and globalizing research.



▲ *Distinguished Researchers at the multi-awards ceremony*

of Kuwait University President, Prof. Abdullatif Al-Bader, and hosted by the Vice President for Research, Prof. Hasan Al-Sanad, amid the participation of his assistants, Prof. Obaid Al-Otaibi, Prof. Haitham Lababidi, Prof. Nejb Smaoui, and Legal Advisor Prof. Ibrahim AbuEllail, provided a strategic platform for honoring the distinguished awardees and winners in various awards categories, including *first-time* external participants from Kuwait Institution for Scientific Research (KISR) in Kuwait University's Scientific Poster event for sciences faculties, held on March 25, 2014. Speaking on the occasion, Prof. Al-Bader, welcomed the distinguished gathering, and appreciated the outstanding accomplishments of researchers and graduate students, for achieving international acclaim and recognition for their scientific research, and exhibiting excellence in their innovative endeavors. "These efforts are vital in elevating the institutional global profile

It is largely within the framework of these aspirations that the event, held under the distinguished presence and patronage



▲ *A line-up of recipients of distinguished research awards...!*

(Contd. on ... P.12)

RS hosts its *third* round of two-day workshop on SPSS for the academic year 2013/14

OVPR organizes a workshop on “*Methods of Scientific Research Writing & Statistical Analysis (SPSS)*” for new faculty members & graduate students of Humanities and Social Sciences Colleges

Key speakers demonstrate applications and implications of SPSS and scientific research methods for achieving high quality outputs



▲ A view of the two-day SPSS Workshop Session for Humanities & Social Sciences Faculties...!

Under the patronage of Kuwait University President, Prof. Abdullatif Al-Bader, and in the presence of Asst. Vice President for External Research Collaboration & Consultation, Prof. Obaid Al-Otaibi, the Office of Vice President for Research organized its *third* round of workshop entitled, “*Methods of Scientific Research Writing and Statistical Analysis (SPSS)*” for new faculty members and graduate students of humanities and social sciences colleges. The two-day workshop, held on November 26-27, 2013, at the (Lt) Dr. Abdullatif Al-Awadhi Hall, Faculty of Education, Keifan campus, Kuwait University, was primarily aimed at presenting the methods and applications of scientific research writing and *Statistical Package for Social Sciences (SPSS)* in achieving high quality research. The workshop also demonstrated the implications of data management, analysis and interpreting results in preparing scientific research papers for publication.

Essentially, the workshop aimed at orienting the participants to the techniques of scientific writing, and utilizing methods of scientific research for generating high quality outputs, for



inclusion in distinguished journals of international repute, a standard which RS is endeavoring to promote across all faculties, including humanities and social sciences colleges.

The workshop’s key speakers included Dr. Othman Al-Khider, Head, Dept. of Psychology, *Faculty of Social Sciences*, and Dr. Abdul Mohsin Al-Qahtani, Dept. of Educational Administration, *Faculty of Education*, both seasoned professionals and experts in their respective fields, whose presentations critically demonstrated the significance, value and applications of SPSS in social sciences research, as well as effective utilization of scientific methodologies in basic and applied research. The workshop attracted a total of 24 participants, and generated immense interest among the participating humanities and social

sciences colleges.

The workshop was inaugurated by Prof. Obaid, who welcomed the participants and underlined the significance of SPSS in statistical analysis and scientific research methods for preparing proposals, and achieving high quality research outputs. The holding of SPSS workshop essentially falls within the framework of the Research Sector’s mission of promoting high quality research at KU, and encouraging faculties to achieve distinguished, internationally credible outputs, by pursuing original, advance and innovative research through grants, provided under the RS system of grant support, along with the facility of flexible procedures and services for developing researchers potential and capabilities towards high quality research endeavors. This objective necessitates adopting and applying international standards and system that could lead to distinguished research outputs, and elevate the status of faculty research at KU. The workshop concluded with the honoring of participating faculty members and graduate students. □

► *RS British Council Joint Session...(From...P.4)*

drawing their attention to KU's key priorities and innovation focus areas that concerned the strategic domains of *services & computing systems, diagnostics & therapeutics, renewable energy & environment, and advanced materials*, where enormous scope exists for research collaboration. He also gave an overview of KU's Grant Support System, with feasibility of external participation in research, and joint research possibilities. The participants' attention was also drawn to KU's world-class facilities and infrastructure, as well as current thrust on establishing *specialized research units & labs* for developing institutional capacity and capabilities for high quality, internationally credible research, offering

tremendous scope for scientific collaboration in pursuing advanced and innovative research.

The session generated immense interest among the participating UK universities' delegates, exhibiting keen interest in carrying forward the preliminary scientific interaction forward, and building bridges between universities, through identifying ways of *university-to-university* collaboration, and exploring coordinated studies in pursuing Kuwait national projects, joint and industry funded projects, graduate and post-doctoral research. The session concluded with Prof. Haitham emphasizing the importance of follow-up and continuing the collaboration initiatives, while thanking the UK delegates for their interest in joint re-



▲ *Visiting delegates presenting their research*

search activity with KU. He also acknowledged the coordination of the British Council's office, especially the efforts of Mr. Imran and Ms. Mariam, towards organizing the event.

The session participants included Prof. Lakdere Benkherouf, Acting Dean, *Faculty of Science*, and the Vice Deans for Research: Dr. Eisa Al-Safran, *Faculty of Engineering & Petroleum*, Prof. Muhammad Sarfraz, *Faculty of Computing Sciences & Engineering*, and Dr. Abdulrashid Elmi (VDR), *Faculty of Life Sciences*, as well as interested researchers. Enlisted below are the Key Speakers from UK Universities, and their research presentations, with potential areas of research collaboration. □



▲ *Joint KU-UK Universities Session in Progress...!*

Name	University	Topic
1. Prof. Sudhir Jain	Dean School of Engineering, Aston University	Research opportunities at Aston University
2. Prof. Nick Bennett	University of Portsmouth	Materials Engineering, Rapid Manufacture & Interfacing with Industry
3. Prof. Stuart Holmes	University of Manchester	Membrane Applications in Chemical Processes
4. Prof. Therese Sheehan	University of Bradford	Concrete-filled tubular braces in earthquake-resisting buildings
5. Prof. Jasper Graham Jones	Plymouth University Queens Award for Marine Education in 2012	Marine Sciences and Education, opportunities for joint work
6. Prof. Ahmed Elmarakbi	University of Sunderland	Towards Zero Emission Transportation: Impact on Environment, Energy and Safety

► **Multi-Awards Ceremony...(From ...P.9)**

and scientific standing, and honoring distinguished researchers is a befitting tribute to the winning researchers, for having achieved distinction in their respective scientific domains, an effort which is commendable, and hopefully lead to opening further doors for carrying forward their scientific interests through advanced and innovative research.”

Complimenting the winners on their scientific accomplishments, Prof.

Hasan reaffirmed RS commitment towards providing an encouraging climate, resources and services in promoting high quality research at KU, through supportive and flexible procedures. Appropriate facilities and measures are also being developed and widely extended to faculties for promoting faculties increased participation in research, addressing priorities, and encouraging interdisciplinary research in areas of national significance and

social relevance. The purpose is to find tangible solutions to contemporary scientific concerns and problems, critically establishing the value of scientific research in providing answers, enriching knowledge, improving institutional caliber and contributing to advancement. With these words, the winners in various categories were announced, honored, and awarded merit certificates. Listed below are the award recipients in various categories:

**Recipients of Distinguished Research Awards**

**A. Distinguished Researcher Awards**

Engineering, Faculty of Computing Sciences & Engineering

**Basic & Applied Sciences**

- Prof. Mohamed Zribi -- Dept. of Electrical Engineering, Faculty of Engineering & Petroleum

**B. Best Young Researcher Awards**

**Basic & Applied Sciences**

- Dr. Maitham Abbas Khajah -- Dept. of Pharmacology, Faculty of Pharmacy

**Arts & Humanities**

- Dr. Ali Rashed Al-Mutairi -- Dept. of Accounting, Faculty of Business Administration

**C. Graduate Students Project Prize**

**A. Scientific Colleges**

**a) Ph.D. Degree**

- Dr. Fadi Ibrahim Ahmed -- Dept. of Chemistry, Faculty of Science

**b) Master's Degree**

- Aisha Yousef A. Mohammed -- Dept. of Chemistry, Faculty of Science
- Ghufran Abdullah Al-Shiredah -- Dept. of Computer

**B. Humanities Colleges**

**a) Ph.D. Degree -- withheld**

**b) Master's Degree**

- Fatima Naser Ben Rajab -- Dept. of Foundations of Education, Faculty of Education
- Laila Faisal Faleh Al-Naser—Dept. of Arabic Language & Literature, Faculty of Arts

**D. Scientific Posters Winners**

**I. Humanities Posters Winners**

**Category I**

**Faculty Members**

1. Prof. Bader M. Al-Ansari, Dept. of Psychology, Faculty of Social Sciences
2. Dr. Kamal Ruweibh, Dept. of Quantitative Method, Faculty of Business Administration
3. Dr. Fayez Al-Thafiri, Dept. of Curriculum & Teaching Methods, Faculty of Education
4. Prof. Fahad S. Al-Rashidi, Dept. of Comparative Jurisprudence & Legitimate Policy, Faculty of Sharia & Islamic Studies

**(Contd. on ... P.26)**



► *RS releases Kuwait University at a Glance 2013/14 ... (From ...P.5)*

Centers and Unit Heads, providing latest scientific developments and update on their respective domains, an activity initiated and continued throughout the academic year 2012/13. By the close of the year, while fundamental information from several faculties, centers and units was received, inherent information gaps necessitated second round of communication for having a consolidated baseline to generate a comprehensive document that reflects institutional scientific vibrancy, key assets and identity for global outreach. The document took final shape in 2013/14, as a scientifically and visually compelling publication, presenting latest view and vision of “*Kuwait University at a Glance*,” a challenge and commitment that RS accomplished in January 2014, with the draft documents readied both in Arabic and English, for KU President’s review, observations and endorsement, following which *Glance 2013/14* was finalized in its present form and format.

Prepared as two distinct Arabic/English documents, *Glance*

2013/14 outlines KU’s mission, aspirations, developmental plan, and expanding realms of academic and scientific processes, nurturing future generations of well informed, knowledgeable and intellectually driven graduates, scholars and leaders of tomorrow, effectively registering their presence and space in the competitive world, and bringing recognition and laurels to Kuwait University. These aspirations are setting the strategic directions for the institution to acquire global dimensions, attain international credibility and find placement among the league of world-class institutions, known for their distinguished scientific and scholarly programs, quality standards, and reputable ranking. These aspirations are precisely reflected in *Glance 2013/14*, presenting an empirical outlook of Kuwait University’s *vision, ideology, and developmental strategy*, the ground realities of institutional *academic and scientific processes, growth and expansions,*



▲ *A view of Distinguished Students Graduation Ceremony*

*assets and acquisitions, faculty, students and scholars, opportunities and challenges, partnerships and collaborations, accreditation and visibility, and achievements and ambitions.*

Encompassing the entire institutional universe within the confines of a single document, *Glance 2013/14* is intended as a prime reference resource on Kuwait University’s 17 faculties, scholarly programs, research priorities, strategic plan (2013-17), the shaping of KU’s new campus site at Shadadiya as *Sabah Al-Salem University City*, including institutional governance, resources, centers and units, widely relaying institutional message and mission, for the scientific community, institutions, scholars and global readership.

The visually compelling document, released at a strategic juncture when the institution is headed towards its golden jubilee phase, explicitly outlines KU’s commitment and ideological moves towards acquiring global dimensions. The document reveals institutional scientific strengths, and its drive towards acquiring an elite status, and ranking among world renowned institutions, known for their

(Contd. on ... P.34)



▲ *The Sprawling new Campus site of Sabah Al-Salem University*

## Research Reward Recipients

The Distinguished Research Series enters Sixth consignment with this edition of the OVPR Bulletin, presenting summary of the next four accomplishments of researchers, gaining recognition for their high quality outputs, based on their funded and unfunded research, published in internationally accredited journals of repute with impact factor, as per JCR rankings, significantly reflecting on the quality and excellence of research at Kuwait University. Included in this series is also the successfully completed project final report, rated meritoriously for covering the 'excellence' milestone. Such studies invariably qualify the concerned researchers for Research Incentive Rewards, instituted by the Research Sector four years ago, in April 2010, to promote the quality dynamics in institutional research, as a befitting attribute for their distinguished research on quality grounds. These are the distinguished researchers, the beneficiaries of the research rewards stimulus, whose research figures in this series as RS committed move towards wider outreach of institutional research accomplishments, and bringing them to the forefront of public attention. Although, rewards incentive is just one such initiative taken by the RS to encourage and inspire faculties for high quality research endeavors, in fact, the entire fundamentals of the research support system are geared to quality assurance in institutional research, transpiring faculties to pursue, target, and achieve distinction in their scientific research that is recognized worldwide, and compliments the credibility and impact of their published research. Quality is thus the critical factor in institutional research, determining excellence and impact of faculties outputs, published in JCR ranked journals, regardless of the outputs generated from *funded* or *unfunded* research, or the project *final report* receiving 'excellent' rating, qualifying the concerned researchers for the incentive rewards, and boosting their confidence and caliber for continuing their committed efforts towards attaining higher levels of scientific sophistication through their innovative and high quality research.

It is worth recalling here that RS instituted the incentives rewards in 2010, to encourage faculties to pursue high quality research, as an experimental endeavor to assess its effectiveness in improving the quality of research at KU within a span of two years. This period significantly demonstrated the role of incentives in improving the quality of faculty research, with a clear spurt observed in the volume of high quality published outputs, providing a legitimate basis for the continuity of rewards from March 2012 onwards, as approved by the University Council. Indeed, the continuity of rewards is creating a *high performing researchers community* at Kuwait University, driven towards generating outstanding outputs that are internationally accredited, acknowledged and published in high quality journals of impact. The current series marks RS efforts in providing a legitimate platform for highlighting the attainments of this distinguished community of faculty researchers, who achieved international acclaim and recognition for their outstanding research, with their publications finding placement in well-reputed and renowned journals with impact factor. As RS incentives stimulus continues to enlist new beneficiaries of research rewards, the distinguished researchers community is rapidly growing, which according to available statistics for the last four calendar years (2010-2014) totals 272 distinguished research rewardees. These include 91 (33.5%) incentive recipients for *funded research*, 124 (45.6%) for *unfunded research*, published in JCR ranked journals, and an additional 57 (20.9%) researchers having won the incentives reward for excellence in *project final report*. This series is dedicated to relaying the distinguished scientific achievements of the reward winners, with each issue of the OVPR Research Quarterly Newsletter focusing on research accomplishments of a new consignment of reward winners, for sensitizing the wider public and society on institutional scientific caliber and attainments, while spreading awareness on the standard, quality and excellence of KU research. Given this purpose, **Distinguished Series – 6** presents research summaries of next four incentive winners on the RS list, which include two research reward beneficiaries for *funded research*, the third for *unfunded research*, and the fourth for excellence in *project final report*. The research summaries are directly provided by the reward winners, and presented here for wider exposure, awareness and dispersal of their distinguished research. This Series presents the research accomplishments of Prof. Faiza Al-Kharafi (Funded Project SC01/05), Chemistry Department, Faculty of Science; Prof. Ahmet S. Yigit (Funded Project EM03/07), Mechanical Engineering Department, Faculty of Engineering & Petroleum, Dr. Faruk Ahmed (Unfunded Research), Dept. of Family Science, Faculty of Life Sciences, and Dr. Wafa Y.A. Al-Khandari (Project Final Report – SL08/08), Dept. of Biological Sciences, Faculty of Science. The inclusion of research summaries follows the principle of *first-come, first-served*. (Kindly Note: The summaries, findings and views expressed herein are entirely those of the researchers).

### Effect of Chlorine Gas Bubbling on the Dezincification of Brass in Acidified Sodium Sulfate Solution

• **F.M. Al-Kharafi, I. M. Ghayad and R. M. Abdullah**

Chemistry Department, Faculty of Science

(Project No. SC01/05)

Copper and copper alloys are widely used in industrial equipment. These alloys offer a particularly beneficial combination of electrical and/or thermal conductivity, corrosion resistance, strength and wear resistance. They are

widely used for water cooling systems, shipboard condensers, power plant condensers and petrochemical heat exchangers.

Dezincification of brass occurs when

the active component zinc tends to dissolve selectively out of the alloy, leaving its surface enriched in copper. Dezincification harmfully affects the surface and mechanical properties of

(Contd. P.15... ►)

## A Nonlinear Visco-Elastoplastic Impact Model and the Coefficient of Restitution

**Prof. Ahmet S. Yigit, Andreas P. Christoforou, and  
Majed A. Majeed**

*Dept. of Mechanical Engineering,  
Faculty of Engineering & Petroleum*

(Project No. EM 03/07)

Despite the presence of extensive literature in impact dynamics, the choice of an adequate model for a given problem is still an important issue to be addressed. Even when a model appears to be adequate for a given situation, often times, determining the model parameters is not straightforward. The main objective of this work was to present a nonlinear visco-elastoplastic impact model where both the elastic-plastic stiffness and the damping behavior are derived based on well defined elastoplastic contact and impact of a compact body with an infinite structure.

A nonlinear impact model that incorporates energy losses due to plastic deformation, viscoelastic material behavior,

and wave propagation was developed and used to study impacts of a compact body and a composite target. The governing equations of motion were linearized enabling analytical solutions with excellent agreement with the numerical solutions at moderate to high impact velocities. The model predictions were compared to those of the well-known Hunt-Crossley model. The analytical solutions facilitated by the linearization are helpful in identifying the effects of the various impact parameters, such as impactor mass and velocity, and material properties such as plasticity and damping on the impact response and coefficient of restitution. It was that the coefficient of restitution is a function of both the damping ratio and

the impact velocity.

Unlike some models that require tuning of parameters to match a certain impact response, the parameters of the proposed model are will defined and can easily be calculated or measured a priori. The model can be used for a wide range of impact situations involving rigid body dynamics, wave propagation, viscoelasticity and plasticity. Furthermore, using the model a consistent coefficient of restitution can be predicted, which is a function of impact velocity and damping as confirmed by published experimental data. It is expected that the proposed model can be useful in parametric and experimental studies and in validating computational (FE) models. □

### ► *Effect of Chlorine Gas Bubbling...(From P.14)*

of brass. The premature failure in heat exchanger tubes in power stations in Spain and Turkey was proven to be due to dezincification.

*The objective of this paper was to study the effect of chlorine gas bubbling and temperature on the dezincification of brass under free corrosion conditions.*

The dezincification of brass in acidified sodium sulfate solution under the effect of chlorine gas bubbling and temperature was investigated. The testing solution was analyzed for zinc and copper ions using the Inductively Coupled Plasma

technique (ICP). Surface characterization of the brass surface was performed after each experiment. The extent of brass dezincification was expressed in the form of a dezincification factor which correlates the concentrations of zinc and copper ions in solution to their original content in the alloy.

$$\text{Dezincification factor}(Z) = \frac{[C_{Zn}/C_{Cu}]_{\text{solution}}}{[C_{Zn}/C_{Cu}]_{\text{alloy}}}$$

where  $C_{Zn}$  and  $C_{Cu}$  represent the contents of zinc and copper, respectively, in a designated phase. A value of  $Z=1$  indicates that the concentrations of  $Zn^{+2}$  and  $Cu^{+2}$  ions in the electrolyte are directly proportional to their re-

spective mole fractions in the alloy. This corresponds to simultaneous dissolution of both components of the alloy without enrichment of copper on the alloy surface. On the other hand, a value of  $Z>1$  indicates that zinc dissolves selectively, or preferentially while copper might also be dissolving to an extent lower than that indicated by its mole fraction in the alloy.

ICP analysis shows that bubbling of chlorine in the testing solution leads to a large increase in the concentration of zinc and copper ions compared to negligible values obtained in its absence.

(Contd. P.29... ►)

*Effect of long-term supplementation with once and twice-weekly multiple micronutrients, and twice-weekly iron-folic acid on hemoglobin and micronutrient status of anemic adolescent girls in rural Bangladesh*

**Faruk Ahmed<sup>1,2</sup>, Moududur Rahman Khan<sup>3</sup>, Mohammad Akhtaruzzaman<sup>3</sup>,  
Rezaul Karim<sup>3</sup>, Gail Williams<sup>2</sup>, Harriet Torlesse<sup>4</sup>, Ian Darnton-Hill<sup>5</sup>,  
Nita Dalmiya<sup>6</sup>, Cadi Parvin Banu<sup>3</sup> and Badrun Nahar<sup>3</sup>**

<sup>1</sup>Department of Family Sciences, College for Women, Kuwait University, Kuwait;  
<sup>2</sup>School of Population Health, University of Queensland, Australia; <sup>3</sup>Institute of Nutrition  
and Food Science, University of Dhaka, Dhaka, Bangladesh, <sup>4</sup>UNICEF, Dar es Salaam,  
<sup>5</sup>Friedman School of Food Science and Policy, Tufts University, USA (with UNICEF at  
time of study) and <sup>6</sup>UNICEF, New York, USA.

**(Unfunded Project)**

**Background:**

Anemia is one of the world's most widespread health problems, affecting more than 1.6 billion people worldwide. Although the most common cause of nutritional anemia is iron deficiency, other possible causes include deficiencies of folate, vitamins B2, B6, B12, A and C. Non-nutritional causes of anemia, such as malaria, worm infestation, infection, chronic disease and genetic disorders may also be important in some populations.

Anemia is a significant public health problem in low and middle income countries as well as being associated with serious health consequences, especially in preschool age children and women of reproductive age. Because iron deficiency is often accompanied by other micronutrient deficiencies, the case has increasingly been made in recent years for providing Multiple micronutrient (MMN) supplements, instead of iron-folic acid (IFA) alone, for pregnant and lactating women in

developing countries. A MMN tablet formulation, known as United Nations Multiple Micronutrient Preparation (UNIMMAP), was developed by UNICEF, WHO and UNU in 1999 for studies of efficacy and effectiveness. It was suggested that the supplement given intermittently should be tested for possible promotion for use by adolescent girls in developing countries to prevent anemia and micronutrient deficiency.

As daily IFA supplementation programs in pregnant women in developing countries have often been reported to be relatively ineffective due to poor compliance and various logistical issues, the hypothesis was that intermittent supplementation with higher doses may be an alternative option to improve pre-pregnancy micronutrient status among adolescent girls.

**Objective of the Study:**

Therefore the present study was designed to examine relative ef-

ficacy of long-term (52 wk) once-weekly and twice-weekly multiple micronutrient supplementation, using a double dose of UNIMMAP formulation, in relation to twice-weekly iron and folic acid supplementation in improving Hb concentration and micronutrient status in adolescent girls in Bangladesh. Furthermore, we sought to compare the effect of 26 wk versus 52 wk of supplementation within treatment groups.

**Major Results:**

Anemic girls (n=324) aged 11-17 y from rural schools were given twice-weekly IFA and once- or twice-weekly MMN containing 60 mg of iron for 52 wk in a randomized double blind trial. Blood samples were collected at baseline, 26 and 52 wk. Intent to treat analysis showed no significant differences between treatment groups in Hb concentration either after 26 or 52 wk of

*(Contd. P.17... ►)*

## Characterization Of Microphallids From Different Intermediate Host Species And Geographical Localities In Kuwait Bay By Sequences Of Internal Transcribed Spacers Of rDNA

**Dr. Wafa Y.A. Al-Khandari**

Department of Biological Sciences,  
Faculty of Science, Kuwait University

(Final Report of Project No. SL08/08)

The trematode flukes of the family Microphallidae (Travasso, 1920) are parasites found in the intestine of vertebrates particularly birds and mammals. There are a few reported cases of human infections with microphallids due to the lack of good tools distinguishing microphallids from other morphologically similar digeneans. Two microphallid species have been reported from their snail intermediate host at Kuwait Bay, *Probolocoryphe uca* and *Maritrema eroliae*. Their identification was based on the morphological characteristics of the larval stages as well as the adult stage. Therefore, the main objective of the project

was to establish a molecular technique for reliable and accurate identification of the co-occurring microphallids, *P. uca* and *M. eroliae* at Kuwait Bay using the internal transcribed spacer (ITS1 and ITS2) sequence of the ribosomal DNA (rDNA). These sequences were further used to clarify the snail-crab link in their life cycle. Once the sequences were known, restriction mapping of the ITS1 and ITS2 rDNA using restriction fragment length polymorphism (RFLP) analysis was performed as a simple method for species assignment without the need of the more time consuming and costly sequences. In addition, species

specific primers were designed for quick and less expensive identification of these parasites in future studies at Kuwait Bay. Furthermore, a DNA Bank for the trematodes has been established which will be a baseline for future genetic studies and future reference for the identification of different parasitic trematodes in various intermediate and definitive hosts found at Kuwait Bay. The protocols established and results obtained are a valuable addition that can be used for the identification and studying the life cycle of different trematodes in the Gulf Cooperation Council countries, specially since there are no similar studies conducted in these countries. □

### ► Effect of long-term supplementation...(From P.16)

supplementation. However, after excluding subjects with hemoglobinopathy and adjustment for baseline Hb, a significantly greater increase in Hb was found in the twice-weekly MMN group at 26 wk only ( $p=0.045$ ). While all three treatments reduced iron deficiency effectively, once weekly MMN group had significantly lower serum ferritin concentration than other treatment groups. Compared with the girls in the IFA group both once- and twice-weekly MMN group

showed a significant improvement in vitamins A, B<sub>2</sub> and C status. Overall, once-weekly MMN was found less efficacious than twice-weekly MMN in improving iron, vitamins A, B<sub>2</sub> and folic acid levels. The MMN supplementation beyond 26 wk was important in maintaining earlier micronutrient status gains.

#### Conclusion:

Therefore, the findings of the present

study highlight the potential usefulness of multiple micronutrient interventions in reducing anemia and micronutrient deficiencies among anemic adolescent girls in low and poor income countries. Further, the finding of the present study has important implications for the study population which is typical of other South Asian settings where a significant proportion of the adolescent girls get married and becomes pregnant before the age of 19 years. □

OVPR publications add a significant dimension in registering Kuwait University's world presence

OVPR publications prime mode of information awareness and dispersal, as an enduring strategy for globalizing institutional scientific *strengths, quality and culture*

*A packed production schedule, and an extensive line-up of upcoming documents, reflect the sustained vibrancy of RS publications domain*

*Strategic priorities, new initiatives and ongoing programs, perpetually spell additional requirements, for generating a whole series of new documents*

While onset of the current academic year 2013/14 was marked with the Research Sector (RS) releasing such key documents as *Research Support Rules and Regulations, 2013*, *RS Annual Report 2011/12*, *RIG Information Guide, 2013*, and the OVPR Research Newsletter (October/November 2013), the publications heat had already mounted towards a critical line-up of RS upcoming documents. These included the OVPR's most strategic commitment of generating a progressive, and advanced profile of *Kuwait University at a Glance, 2013/14*, a *vision* document providing a concise and dynamic portrayal of the institution, rapidly evolving into an elite world-class university, with its 17 colleges, a driven faculty, academic and research programs, postgraduate and scholarly studies, faculty and students, careers and professions, support system, facilities and management, shaping of an all-inclusive new university campus, and strategic priorities, together outlining the worldview of an institution in the throes of scientific advancement with its reputable academic quality, scientific culture and research excellence.

While *Glance* claimed prime attention, the *October/November 2013*, edition of the *OVPR Research Newsletter*, focusing on RS major events and happenings, was simul-



▲ A line up of recently released RS publications, 2013/14

taneously rushed into production, clearing the deck for fast approaching scientific poster day events for humanities and scientific faculties. These events involved documentation of all displayed posters in two *Scientific Posters Publications (2013/14)*, marking the Humanities and Scientific posters day events, scheduled for March 18 and 25, 2014, respectively, with simultaneous thrust on monumental preparation and printing of nearly 130 scientific posters, keeping RS publications channel in a spirited state of production. Grounds were also laid for the gross updating and production of *Guide to Subject Areas, 2013/14* in twin formats, as an *excel file for RS database*, and as *faculty-users reference guide in print format* with an expanded scope, duly incorporating the needs of newly established faculties and departments, providing an extensive coverage of new and emerging areas of research interests across faculties.

While the *first six months* of the academic cycle 2013/14, kept the publications domain in an unprecedented heat, strategic priorities,

new initiatives and ongoing programs, spelt additional requirements, providing the scope and substance for generating a series of new documents, including *RS Annual Report 2012/13*, a summarized version of which was already prepared, while the comprehensive analytical report was in the pipeline. Preparations were also underway for the next, *May/June 2014* edition of the *OVPR's Research Newsletter*, featuring key developments, activities and events in the domain of scientific research at KU, as well as the *21<sup>st</sup> edition of Sponsored Research, 2011/12 - 2012/13*, providing an extensive documentation of all ongoing, completed, external and graduate projects across faculties, in a historic continuum of the sponsored series. While these documents would keep the production channels in full swing, requiring *gross planning, assembling and authoring* of upcoming RS publications, the core objective would remain the dynamic outflow of scientific information on institutional research activities and accomplishments for the wider society and scientific community,

(Contd. P.19... ▶)

**RS Publications released ... (From.... P.18)**

with key documents providing vital information and insights on KU's research mission, priorities, programs and accomplishments. This purpose defines the urgency and requirements of publications, as a prime mode of information transmission as RS key strategy for spreading awareness on institutional scientific developments through programs, policy and promotional documents, marking a strategic step towards globalizing institutional *scientific strengths, quality and culture*.

While, a packed production schedule, and an extensive line-up of upcoming publications, reflect the sustained vibrancy of RS publications domain, it also spells RS immediate priorities for a series of descriptive and analytical documents, earmarked for the next six months of the academic cycle 2013/14, and beyond. An equally packed production schedule also prevails across OVPR's other constituent offices, the *Academic Publication Council (APC)*, and *Center for Gulf & Arabian Peninsula Studies (CGAPS)*, responsible for the sustenance and release of KU's scientific journals, information and research reports, and magazines, periodically released, and widely distributed through extensive networking and database-linkages. Presented below is a summarized view of the latest documents and publications released by each of these constituent offices (*RS, APC and CGAPS*), during the period September 2013 through March 2014:

**1. Research Sector (RS) Publications (September 2013 to March 2014)**

**• OVPR Research Quarterly Newsletter, October/November 2013**



-- Released in December 2013, *OVPR's Research Quarterly Newsletter* was a comprehensive issue, highlighting RS major activities, events and happenings, during the period May through October 2013. The issue outlined the *Vice President's message*, defining new policy dimensions, and *remodeling RS strategy* in line with Kuwait University's vision and mission statement, setting key goals and priorities for developing institutional *internal strengths and external profile*. The highlight was also on new agreements signed between *KU-KISR on Oct. 23, 2013*, for advancing research and sharing expertise, and *RS-AMandumah agreement on Oct. 24, 2013*, opening the door for enlisting KU scientific journals in the *AMandumah* database for international exposure of Arabic scientific research. The first outlook of *e-manual, 2013*, was featured providing researchers with the electronic interface for accessing current *Research Support Rules & Regulations, 2013*, governing the grant awards system, and wide coverage given to KURP's key elements outlining *Kuwait University Research Park (KURP's) implementation roadmap*. An exclusive feature on *Shagaya renewable energy multi-technology park*, outlined KISR's project on Kuwait's growing energy demands and effectiveness of *solar cell technology*. The first *postdoctoral research* featured an empirical study on *mammalian teeth* at the TAI National Park, and the potential risk of environmental

exigencies on sea-levels highlighted. Also, included was the 5<sup>th</sup> consignment of *Distinguished Research Series*, based on summary reports of research rewards recipients, and an extensive feature outlined *RIG Session, 2013*, including the ceremonial felicitation of *KU distinguished researchers, graduate project prize winners, humanities and scientific posters winners, and recipients of US registered patents*. Analytical coverage of *annual statistical outlook* of faculty research during the academic year 2012/13 was presented, and an exclusive feature outlined OVPR's latest publications released during May to October 2013, including APC journals, and CGAPS scientific productions. For readers information, the *Research Quarterly Newsletter, October/November 2013*, edition was widely distributed and displayed on OVPR's website (<http://www.ovpr.kuniv.edu>). Published & Released (*in English and Arabic*).

**• Scientific Posters Booklets for Humanities and Scientific faculties, 2014-**



Released as *two documents* marking Humanities and Sciences Posters events, hosted by RS on March 18, and 25, 2014, respectively, these publications provided a comprehensive listing of all posters displayed at the two events in image format, reflecting the contemporary scientific interests and themes in faculties ongoing and accomplished research. The *Humanities and Social Sciences Posters booklet, 2014*, dedicated to the participating group of 5-faculty humanities sector, involving joint dis-

( Contd. P.20... ► )

### ► *RS Publications released ... (From...P.19)*

play of research activity of faculty members, teaching assistants and graduate students from the *faculties of Arts (3), Business Administration (5), Education (7), Sharia & Islamic Studies (10), and Social Sciences (5)*, collectively presented a documentation of *30 posters*, focused on contemporary humanities and social sciences research being currently pursued or accomplished across the humanities sector's faculties. However, this year's *Scientific faculties posters booklet, 2014*, covered a wide spectrum, reaching beyond the sciences faculties by enlisting the participation of *Health Sciences* faculties, as well as *Kuwait Institute for Scientific Research (KISR)*, alongside mainstream sciences faculties, bringing together diverse creative minds from across *five scientific faculties, three health sciences faculties*, as well as *KISR's participants*, in an unprecedented display of 97 posters, presenting the creative aspirations and activity of *faculty researchers, graduate students and external participants* from wide-ranging disciplinary streams and scientific interests. The document provides a collective view of all posters displayed at the Sciences posters event, aggregating the scientific creativity of the faculties of *Engineering & Petroleum (10), Science (41), Life Sciences (15), Computing Science & Engineering (6), Architecture (3), Medicine (2), Pharmacy (2), Allied Health Sciences (2), and KISR (16)* posters, highlighting latest developments in the sphere of scientific research across sciences faculties during the year 2013/14. Both documents, providing a comprehensive and compelling view of the dynamics of research at Kuwait University, were generated in-house, and aimed at recording, preserving and providing an empirical outlook of contemporary is-

ssues and scientific themes researched, and presented at the *Fifth season of Humanities & Social Sciences Posters event*, and *Sixth season of the Sciences posters event* during the academic year 2013/14. Both posters documents were aimed at serving vital information and reference needs of researchers, external institutions and multi-users community, and were widely released across faculties, KU executives and decision-makers, and displayed on OVPR website. Prepared, printed & released (*in English and Arabic*).

- **Kuwait University at a Glance, 2013/14** -- *Kuwait University at a Glance, 2013/14*, released in e-format



on Kuwait University and OVPR websites in March 2014, profiles a dynamic view of state's sole institution of higher education, dedicated to preparing well-educated, knowledgeable and competitive cadres of professionals, grounded in high quality education and scientific research, that is internationally accredited, and professionally sought. The document provides a concise and explicit view of the entire ramifications of Kuwait University, since its establishment in 1966, traversing a progressive journey of growth, development and expansion in faculties, academic and research programs, international and culturally diverse scientific community, student population, postgraduate studies, infrastructure, resources and facilities, functioning within the framework of effective management and system of advanced governance. Outlining the President's vision and aspirations for developing Kuwait University into an elite institution,

known for its scientific excellence, research culture, competitive graduates and scholars, *Glance 2013/14*, outlines institutional strategic mission, objectives, emerging outlook of the new campus, fast developing as a world-class hub of advanced education and research. The document provides a summary view of all 17 faculties, including undergraduate and graduate programs, faculty, students, research activity, centers, units, facilities, and priorities ahead, interspersed with visually compelling images throughout the document, complimenting the global outlook of Kuwait University, for the vast international scientific and students community, interested in seeking empirical information on institutional academic and research programs, logistics and activities. An exclusive outlook of the institutional scientific dynamism is presented within the framework of Research Sector's policy, programs, activities, accomplishments, collaborations and partnerships, for steering the institutional research process towards global dimensions through quality, excellence and credibility of research. The document also unfolds ample opportunities for growth and development, in a vibrant scientific environment that spurs innovation and creativity, and mobilizes the scientific community towards capitalizing on their scientific potential to be internationally competitive, and driven towards achieving scientific excellence. Overall, *e-Glance, 2013/14*, provides an explicit and empirical view of Kuwait University, its scientific strengths and expanding research culture for the vast readership worldwide, with the e-document dominantly displayed on

(Contd. P.21... ►)

**RS Publications released ...(From...P.20)**

Kuwait University and OVPR websites, and accessible at the links below:

- [http://www.kuniv.edu/cons/groups/ku/documents/ku\\_content/ku\\_012772.pdf](http://www.kuniv.edu/cons/groups/ku/documents/ku_content/ku_012772.pdf) (at Kuwait University website)
- [https://www.ovpr.kuniv.edu/research/publications/glance14\\_en.pdf](https://www.ovpr.kuniv.edu/research/publications/glance14_en.pdf) (at OVPR website).

For readers information, e-Glance, 2013/14 is readily available on KU and OVPR websites, and the print-version of the document is under procedural clearance and ready for *print, delivery* and early *release*. Presently, e-Glance 2013/14 is already released (in English and Arabic).

**II. Academic Publication Council (APC) Publications (September 2013- February 2014)**

The Academic Publications Council (APC) maintained its production momentum, with a regular release of latest editions of Kuwait University scientific journals, providing the researchers a whole new series of articles and studies accomplished in diverse scientific fields. The following new issues and editions were released by the Academic Publication Council during the period September 2013 through February 2014:

**A. Journals released (Latest Issues released during the period September 2013 until February 2014):**

- *Journal of Gulf & Arabian Peninsula Studies*, Vol. 39, No. 149, April 2013.
- *Journal of Gulf & Arabian Peninsula Studies*, Vol. 39, No. 150, July 2013.
- *Journal of Gulf & Arabian Peninsula Studies*, Vol. 39, No. 151, October 2013.



**Recent APC Journal Issues released...**

- *Journal of Social Sciences*, Vol. 41, No. 3, 2013.
- *Journal of Social Sciences*, Vol. 41, No.4, 2013.
- *Annals of Arts and Social Sciences*, Vol. 33, June 2013.
- *Annals of Arts and Social Sciences*, Vol. 34, September 2013.
- *Annals of Arts and Social Sciences*, Vol. 34, December 2013.
- *Arab Journal of Administrative Sciences*, Vol. 20, No. 3, September 2013.
- *Arab Journal of Administrative Sciences*, Vol. 21, No. 1, January 2014.
- *Journal of Sharia and Islamic Studies*, Vol. 28, Issue 94, September 2013.
- *Journal of Sharia and Islamic Studies*, Vol. 28, Issue 95, December 2013.
- *Arab Journal for the Humanities*, Vol. 31, No. 124, Autumn 2013.
- *Kuwait Journal of Science*, Vol. 41(1), January 2014.

**III. Center for Gulf & Arabian Peninsula Studies (CGAPS) Publications**

The Center for Gulf and Arabian Peninsula Studies (CGAPS) continued to carry forward its programs and information resources, releasing latest source documents and publications in sustained periodicity, as follows:

**A. Registry of Current Events in the Gulf & Arabian Peninsula Region:**

The document monitors and registers current events in the Gulf and Arabian Peninsula region, and released periodically.

**B. Special Issues Series:**

A refereed scientific series, the document is based on specialized research, with CGAPS already releasing the outcomes of a study on “Challenges of National Identity based on a sample of Kuwait University students,” while its latest release documents recommendations of the recently held seminar on “Childhood Issues in contemporary society,” as follows:

- CGAPS latest release includes a report highlighting several recommendations from its recent “Childhood Issues in Contemporary Society” seminar, as the first seminar of the cultural season 2013/14. The two-day seminar, sponsored and attended by the President, Kuwait University, included 10 presentations, addressing societal, cultural, psychological, educational, and health related aspects of childhood in contemporary society. The seminar’s program was scheduled over four sessions, with the first session presenting dimensions of health and social services for the child, the second session highlighting effect of media and other psychological issues, the third ses-

(Contd. P.28... ▶)

# Research Sectors Achievements 2012/13 Summary Report

The Research Sector's major accomplishments during the academic year 2012/13 are briefly summarized below:

1. The Research Sector remodeled its strategy in line with Kuwait University's *vision and mission statement*, which accorded parallel significance to *scientific research* alongside academics, as key pillars for addressing national *developmental goals and realities of modern times*, through a system of *higher education and scientific research* that enhances scientific *quality and excellence*, promotes *community service* and responds to the needs of *society*.
2. Given this vision, RS strategic *action-plan* during 2012/13, aimed at strengthening the institutional scientific foundations, through encouraging research in addressing critical issues and priorities of national, social and industrial significance, through utilization of KU's *scientific strengths, expertise and resources*, for finding long-lasting *scientific solutions to problems, spur economic development, create job opportunities, nurture graduates talent, and expedite* institutional drive towards global recognition, reputable ranking and world standing.

3. RS identified *four key goals* for accomplishing this objective:

- Enhancing Scientific Research at KU -- through *priorities, performance, productivity, quality, and research outputs*.
- Investing research outputs --



through applied and value-added research, channelizing KU expertise in addressing national, economic, social and industrial concerns, and offering practical solutions.

- Globalizing KU research -- through high quality publications, patents, conferences, and uplifting KU's status in international scientific rankings.
  - Developing scientific research culture -- through collaboration and partnerships with local and external institutions, industrial, economic and social sectors, promoting awareness through scientific sessions, conferences, and seminars.
4. These goals critically define RS strategy for realizing the institutional vision of a global platform for Kuwait University, recognized for its scientific achievements, and acquiring a befitting ranking among elite universities on the quality of its research, and credibility of its academic programs, by developing its *internal research strengths, and external presence and profile*.
  5. During 2012/13 RS pursued the policy of *high quality research*, aimed at monitoring faculties

research outputs, and the ranking status of their published papers, as per the JCR index. Efforts were also aimed at *enlisting KU's presence among prestigious world renowned databases*, such as *ISI Web of Knowledge, Scopus*, etc., towards elevating KU world rankings (*Times Higher Education, QS ranking*), overseeing institutional strategic presence and placement among world-class institutions.

6. A *three-fold action plan* was devised for this purpose:

- *Continuous support to faculties* for original, high quality research in *basic and applied sciences*, and in *arts and humanities*.
- *Enhancing collaborative research* through new alliances, agreements and partnerships with external institutions, and
- *Promoting research culture* that boosts scientific creativity and leads to significant outputs of scientific, social and economic value.



7. During 2012/13, *research priorities* were identified, and **15 priority areas** of national and contemporary relevance were announced. Faculties proposals were invited for redressal of priorities through original, *collaborative and multidisciplinary* (Contd. P.23...)

► **Research Sectors Achievements..(From .... P.22)**

research, for finding *practical solutions* to significant problems and concerns, affecting State, society and industry.

8. Faculties were also encouraged to develop new ideas and utilize their expertise and creative potential in pursuing *complex and interdisciplinary studies*, as well as harnessing and *deploying graduates talent* in pursuing strategic and breakthrough research.



9. Progress was made in the domain of newly launched programs -- *Research Chair* and *Postdoctoral Fellowship*. The Research Chair program involved appointing international experts in the Research Chair positions, while doors were opened for *appointing graduate students* as *Postdoctoral fellows* on approved projects, as co-investigators. During 2012/13, *10 applications* were under process in these domains, with *2 Research Chair*, and *8 Postdoctoral fellowships*. The *Shell Professorial Chair in natural gas* was announced, and a *seasoned applicant in Dentistry* was pending clearance, while *three Postdoctoral candidacies* were approved, and *fourth* was being considered.

10. In the sphere of *funded research*, RS recorded an unprecedented growth in faculty research during 2012/13, with 606 projects in various stages of progress/consideration.

In statistical terms, faculty research showed:

- A clear **6.3% growth in faculty research** during 2012/13.
- The Total research activity during 2012/13 included:

- **393(64.9%) ongoing projects,**
- **125(20.6%) completed projects, and**
- **88 (14.5%) under-process projects.**

11. The volume of big-budgeted projects significantly increased during 2012/13, with:

- **43.9% (266) projects** accounting for KD 10,000/- and above grants, and
- **40.3%(244) projects** having medium range budget (KD 4001-10,000/-).
- Together, both these (*Big + Medium*) budgetary categories were responsible for a massive **84.2% (510) projects** during 2012/13.
- *Low budgeted projects* declined to **15.8% (96)** of total grants under less than KD 4001/-.

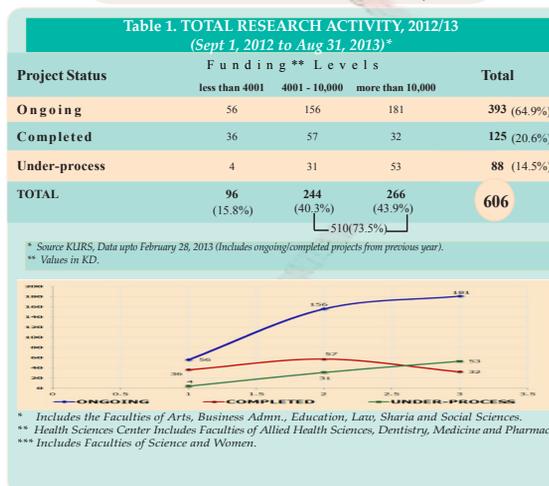
increasing interest towards well-designed, multidisciplinary studies, that invariably required substantial resources and support for implementing and achieving comprehensive objectives, with possibilities of breakthrough results, providing scientific solutions to issues addressed, as well as yielding potentially significant new knowledge.

13. During 2012/13, *all colleges actively participated in RS funded research activity*, with the welcome entry of the newly established *College of Computing Sciences & Engineering* in mainstream research, with one project.



14. Another significant development was the extensive updating and reformation of the *third edition* of the **Research Support Manual, 2013**, which included *additional chapters, new clauses* and *bye-laws, regulating the grants system*, and offering researchers a *facilitative and flexible procedural framework*, with *opportunities for incentives and awards*, as significant measures towards encouraging faculties participation in funded research. The e-manual was posted on RS website, and is accessible at:

([http://www.ovpr.kuniv.edu/rr/RSYRL\\_EN.htm](http://www.ovpr.kuniv.edu/rr/RSYRL_EN.htm))



12. The *faculties increasing preference for big-budgeted projects* was a *promising development*, showing faculties

(Contd. P.24...►)

► *Research Sectors Achievements..(From .... P.23)*



▲ *Recent Collaborative Agreements signed with external Institutions*

15. The university Council approved the continuity of **Incentives stimulus** for high quality research of significant scientific impact. Given this approval, RS incentives stimulus continued to enlist new beneficiaries of the incentives reward, with **246 researchers** winning the incentives rewards for high quality outputs from **funded (81, 33%)** and **unfunded (115, 46.7%)** research, published in JCR ranked journals, during the last four calendar years (2010, 2011, 2012 and 2013). In addition, **50(20.3%)** won the incentives reward for achieving **excellence in project final report**.

16. On the **collaborative front**, **52 projects** were actively being pursued in

partnership with **11 external institutions** during 2012/13. These included -- *KFAS, KPC, UNESCO, KOC, KNPC, KNG, UNEP, AstraZeneca, IMEC, Shofu Company and 3M.*

17. In addition, RS signed several strategic partnership agreements for collaborative research during 2012/13, as follows:

A. **New agreements signed:**

- **KU-IMEC agreement signed** on Dec. 19, 2012 for collaborative research in the field of *advanced solar-cell technology* in Kuwait.
- **KU-Shofu agreement signed** on Dec. 26, 2012 for collaboration in advancing research in the sphere of *Minimal Intervention Dentistry*.
- **RS-KFAS agreement signed** on Feb. 20, 2013, setting the basis for *stem cell* research, strengthening KU's long-standing partnership with KFAS.
- **RS-KNPC agreement signed** on April 11, 2013 for strategic partnership for collaboration in the sphere of *Research & Development*.

**ment** for wide exposure of Arabic scientific research, and enlisting KU research published in APC journals in the AIMandoumah database.

These agreements were indicative of institutional expanding collaborative horizons, through tie-ups with local, regional and external institutions worldwide, and this activity would remain RS priority in the interest of encouraging and pursuing large-scale multidisciplinary studies that require diverse expertise and input for resolving emerging issues and scientific complexities facing mankind, and need competitive, credible and globally relevant research.

18. On the *infrastructural front*, RS established a new grant support category within its existing research support system, with the inclusion of **Specialized Research Units & Laboratories (SRUL)** category. RS now offers **10 Types of Grants** to faculties, and already granted approval to two projects under SRUL, one each for Science and Medicine. This grant is aimed at facilitating faculties in developing their research facilities, new labs or units, through SRUL grants, and build their capacity for high quality research, acquiring world-class infrastructure, technology and assets, that could spur innovation and creative excellence.

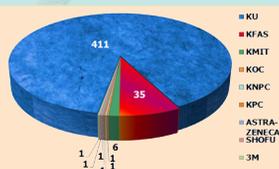
(Contd. P.25...►)

Table 4. TOTAL ONGOING & COMPLETED RESEARCH PROJECTS by FUNDING SOURCE, 2012/13 (Sept 1, 2012 to Aug 31, 2013)\*

FACULTY	KU	KFAS	UNS	KOC	KNPC	KPC	KNG	UNEP	ASTRA-ZENECA	SHOFU	3M	TOTAL
Allied Health Sciences	16	2	-	-	-	-	-	-	-	-	-	18
Arts	16	2	-	-	-	-	-	-	-	-	-	18
Business Admn.	16	-	-	-	-	-	-	-	-	-	-	16
Dentistry	20	1	-	-	-	-	-	-	-	1	1	23
Education	14	1	-	-	-	-	-	-	-	-	-	15
Engineering & Petroleum	70	8	-	1	2	1	1	-	-	-	-	83
Law	3	-	-	-	-	-	-	-	-	-	-	3
Medicine	91	9	1	-	-	-	-	-	1	-	-	101
Pharmacy	19	-	-	-	-	-	-	-	-	-	-	19
Science	134	16	-	-	-	-	-	-	-	-	-	151
Sharia	15	-	-	-	-	-	-	-	-	-	-	15
Social Sciences	24	3	-	-	-	-	-	-	-	-	-	27
Women	28	-	1	-	-	-	-	-	-	-	-	29
<b>TOTAL</b>	<b>466</b>	<b>42</b>	<b>1</b>	<b>1</b>	<b>1</b>	<b>2</b>	<b>1</b>	<b>1</b>	<b>1</b>	<b>1</b>	<b>1</b>	<b>518</b>

\* Source KURA, Data upto August 31, 2012. (Include ongoing/completed projects from previous year).

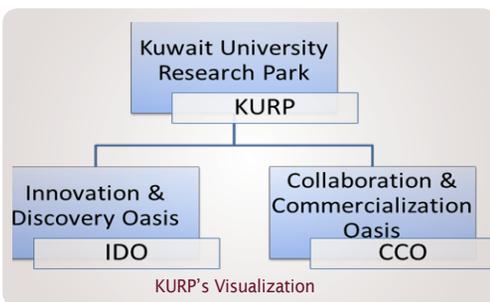
KU Kuwait University  
 EPA Environmental Public Authority  
 NNC Novo Nordisk Company  
 KPC Kuwait Petroleum Corporation  
 KFAS Kuwait Foundation for the Advancement of Sciences  
 UNS UNESCO  
 KOC Kuwait Oil Company  
 KNG Kuwait National Guards  
 ASTRAZENECA



► *Research Sectors Achievements..(From .... P.24)*



19.RS intense efforts towards outlining the *conceptual framework* for establishing **Kuwait University Research Park (KURP)**, moved beyond the KURP workshop, and the mission formed the core of a research project, aimed at scientifically determining the *concept, mission, objectives, and key performance indicators (KPIs)*. The project was completed, and an extensive report *submitted, discussed and approved* during 2012/13. KURP's objectives were in line with the government approved strategic plan, and the study's findings explicitly stated the park's idea, ideology and vision, setting the detailed *implementation roadmap*, with suggested moves towards a virtual park, as a strategy to begin with, prior to park's phased implementation.



20.A *real-time action* has already started on the Park's planned implementation, with RS working on *identifying faculties expertise and research strengths*, and gearing up for *moving mature areas of scientific and commercial propensity* to the park's environment, to be developed

▲ *A view of some scientific sessions & events organized by RS*

as *hubs of scientific innovation and creativity* that harness *young faculty and graduate talent*, and effectively builds institutional capacity for world class research and spinoffs. Already, work has been initiated on the *Virtual Park* phase.



21.RS is also encouraging a climate of *scientific openness* in faculty research, and organized *its annual scientific poster day* for the scientific and humanities faculties, which was held on March 10, 2013 for the Humanities faculties and involved the participation of faculty members, teaching assistants and graduate students, collectively displaying *35 posters*. The Sciences posters event was held on March 18, 2013, and led to the display of *53 posters*. In all, *88 posters* presented the latest scientific research activity of the sciences and humanities faculty researchers, the posters were reviewed and winning posters announced. During 2012/13, In the *Humanities posters* event, top posters awards were won by *3 faculty members, 2 teaching assistants and 2 graduate students*. In *Sciences posters* event, the winners included *3 faculty*

*members, 1 teaching assistant and 3 graduate students.*



22.In addition, Distinguished and Best Young researchers, Graduate Students, and Patent Recipients are annually being awarded and honored for their distinguished scientific attainments. During 2012/13, there were two winners of the Distinguished Researcher award -- from Medicine, and Engineering faculties respectively, for distinguished basic & applied sciences research. Two winners were awarded Best Young researcher award -- from Medicine in basic and applied sciences, and from Business administration in arts & humanities. There were three winners of the graduate students project prize – one for Ph.D. Research, and two for Master's research. As regards Patents, during 2012/13, there were eight recipients of the US registered patents.

23.*Sessions, Seminars, Workshops and Events* – RS organized following sessions, seminars, workshops and events during 2012/13:

- *RIG Session* for orienting new  
(Contd. P.28. ►)

## ► Multi-awards ceremony...(From .... P.12)

### 5. Prize Withheld

#### Category II

##### Teaching Assistants

1. Mr. Ibrahim Naseer, Asst. Director, Teaching at Language Center, Faculty of Arts, and Yaqoub Yousef Yacoub, Supervisor Arabic Language Unit at Teaching Language Center, affiliated to College of Arts
2. Dr. Hamad M. Al Qahtani, Dept. of History, Faculty of Arts

##### Three remaining Awards withheld

#### Category III

##### Graduate Students

1. Sulaiman Khalid Al Obaid, Dept. of Jurisprudence & Origins of Jurisprudence, Faculty of Sharia & Islamic Studies
2. Ghalia Sinhat AlHarbi, Dept. of Curriculum & Teaching Methods, Faculty of Education
3. Aisha Ahmed Al Azmi, Dept. of Educational Management, Faculty of Education

##### Two remaining awards withheld

## II. Sciences Posters Winners

#### Category I

##### Faculty members

1. Dr. Jayasiri Jakamayalayath, KISR, and Eng. Mohammed Abdulsalam
2. Dr. Adel AbdulMajeed Hussain, KISR
3. Prof. Mohammed Fikri al Aqqad, Dept. of Physics, Faculty of Science, and Dr. Yaser Abdulraheem, Dept. of Electrical Engineering, Faculty of Engineering & Petroleum
4. Dr. Majdi Shaaban Muntasser, Dept. of Biological Sciences, Faculty of Science, and Afrah Mishary Al Ajmi
5. Dr. Ayman Al Zayed, Dept. of Electrical Engineering, Faculty of Engineering & Petroleum, and Mohammed A. Kourah & Sameer F. Mahamoud

#### Category II

##### Teaching Assistants

1. Eng. Suad Al Bahar, KISR
2. Eng. Hashim Al Qallaf, Dept. of Mechanical Engineering, Faculty of Engineering & Petroleum
3. Eng. Amani Al Yaqout, KISR, and Azad Ismail, Musaed Al Roumi & Mohammed Al Kanderi

4. Dr. Hanadi Mubarak, Dept. of Civil Engineering, Faculty of Engineering & Petroleum
5. Engineer Fatma Al Fahad, KISR

#### Category III

##### Graduate Students

1. Jarah Al Qanai, Dept. of Earth & Environmental Sciences, Faculty of Science, and Dr. Rao Devi
2. Eman Al Hassan, Dept. of Chemistry, Faculty of Science, and Dr. Ali Abu Mijdad
3. Mariam Al Asoussi, Dept. of Nutrition & Nutritional Sciences, Faculty of Life Sciences, and Dr. Abdul Hadi Abu Alayan, Dept. of Chemistry, Faculty of Science
4. Afrah Mishary Al Ajmi, Dept. of Biological Sciences, Faculty of Science, and Dr. Majdi Shaaban Montasser
5. Reem Al Dawai, Dept. of Botany, Faculty of Science, and Dr. Suad Al Mazroui

## E. Recipients of US Registered Patents

1. Dr. Jassim M. Al-Hassan – Dept. of Biological Sciences, Faculty of Science  
Patent awarded for the invention “*Method of making an anti-inflammatory composition.*” (**Patent No.: US 8,55,532 B2 dated October 8, 2013**)
2. Prof. Fahd Rashid Al-Mulla, Dept. of Pathology, Faculty of Medicine; with Prof. Milad Sami Bitar, Dept. of Pharmacology, Faculty of Medicine  
Patent awarded for the invention “*Method of diagnosing and treating oxidative stress-impaired wound healing.*” (**Patent No.: US 8,637,461 B2 dated January 28, 2014**)
3. Dr. Tariq Abduljalil Al-Bahri, Dept. of Chemical Engineering, Faculty of Engineering & Petroleum  
Patent awarded for the invention “*Method for Measuring the Properties of Petroleum Fuels by Distillation.*” (**Patent No.: US 8,645,079 B2 dated February 4, 2014**)
4. Dr. Bader Shafaqa Al-Anzi, Dept. of Environmental Management & Technology, Faculty of Life Sciences  
Patent awarded for the invention: “*Integrated Aeration System.*” (**Patent No.: US 8,668,187 B2 dated March 11, 2014**)
5. Dr. Fatma Jassab F. M. Al-Saedi, Dept. of Nuclear Medicine, Faculty of Medicine  
Patent awarded for the invention “*Cancer-Imaging Agent and Method of Radioimaging Using the same.*” (**Patent No.: US 8,668,900 B2 dated March 11, 2014**)

*“Project signifies KU’s expanding sphere of scientific collaboration across external institutions within and outside Kuwait,” Prof. Al-Bader*

**Research Sector successfully marks ceremonial closure of KU-KNPC-PIC joint research project involving researchers from Korean Company BNF**

*“Project’s positive outcomes demonstrate the effectiveness of collaborative studies in finding practical solutions to dominant scientific concerns by engaging KU and oil sector’s joint expertise in the benefit of society,” VPR*

**Project outcomes hold potentially significant applications in reducing accidents in petroleum refineries and avoiding breakdowns**

Under the patronage and presence of KU President Prof. Abdullatif Al Bader, the Research Sector organized ceremonial closure of the joint research project, involving scientific caliber and expertise of researchers from Kuwait University (KU), Kuwait National Petroleum Company (KNPC), Petrochemicals Industries Company (PIC), and the Korean Company BNF. The immensely significant event was hosted by the Vice President for Research, Prof. Hasan Al-Sanad, and held at Kuwait University Council Hall on May 20, 2014, amidst the presence of his Assistants, Prof. Haitham Lababidi, Prof. Nejib Smaoui, Prof. Obaid Al-Otaibi, as well as an elite gathering of researchers and experts from KU, KNPC, PIC, and BNF.

Opening the ceremonial event, Prof. Al Bader welcomed the distinguished gathering, stating that the project exemplifies KU’s expanding sphere of scientific collaborations across external institutions both within and outside Kuwait, and the research outcomes demonstrate the effectiveness of academic and industrial sectors joining hands in resolving outstanding scientific, national and human concerns through joint studies and research. He also mentioned that most leadership cadres at K N P C and other Kuwaiti companies are held by graduates of Kuwait



▲ *Joint KU-KNPC-PIC Project Closure session...!*



▲ *Joint Project Session. in progress..!*

University, and KU is committed to continue serving external institutions and private sector’s human resource needs by providing qualified engineers, graduates and employees in future. Laying emphasis on the significance of cooperation between the private sector and the university in addressing scientific and social concerns, he said that such partnership is vital in advancing research, generating new knowledge, and developing national skills by involving post-graduate students and scholars, and benefiting from their talent and energies in the field of scientific research. Prof. Al-Bader also stressed the need for consistent efforts towards establishing graduate studies programs, and globalizing KU’s scientific competitiveness, through strengthening and supporting KU graduates and

**(Contd. P.29. ▶)**

## ► Research Sectors Achievements...(From ... P.25)

Kuwaiti Faculty members to RS research support system and opportunities for scientific research at KU. The session was held on Oct. 1, 2012.

- **SPSS Workshop** for Humanities Colleges on “Methods of scientific research writing & statistical analysis (SPSS) for faculty members and graduate students of humanities colleges. The two-days workshop

was held on Nov. 6-7, 2012.

- **National Seminar on Climate Change**, marking *KU-UNEP* national initiative on assessing impact of climate change on climate, water resources and coastal zone, as a prelude to developing the climate action plan for the State of Kuwait. The seminar marked culmination of climate change final report on Oct. 1, 2012.



- **SCOPUS-Spotlight Workshop** -- organized on Oct. 3, 2012, in association with Elsevier, aimed at keeping the faculty scientific community informed about the benefits of latest technology in access-

(Contd. P.30. ►)

## RS Publications released...(From.... P.21)

sion addressing educational aspects for children, and the fourth session discussing violence, drugs, and child abuse.

- “*The Challenges of National Identity and Sense of National Belonging in a sample of Kuwait University Students*,” a study that discussed various political and social issues related to national identity, and samples students from globalization and media influence, as well as post modernism.

**C. Series of Conference & Symposia Proceedings:** This series documents CGAPS seminars and conferences.

**D. Volumes of Selected Documents of the Gulf & Arabian Peninsula Region and its Vicinity:** These volumes aggregate important documents issued by formal bodies in the Gulf Region, and highlight the region's current political, economic, social and cultural events.

**E. M.A. and Ph.D. Dissertation Abstracts:** This document

presents abstracts of Master's and Ph.D. dissertations.

**F. Guide to M.A. and Ph.D. Dissertations in the Gulf and Arabian Peninsula Region:** This guide outlines essential information on M.A. and Ph.D. dissertations and authors, with a focus on Gulf and Arabian Peninsula region, authored by either Kuwait University staff members or GCC universities. The guide is intended to assist researchers interested in the region, and is released in two volumes, documenting M.A. and Ph.D. Dissertations.

These publications provide the worldview of institutional scientific dynamism, and serve as essential via-media for the dispersal of precise and reliable information on Kuwait University scientific strengths and research culture for the global community. Essentially, OVPR's publications program is centered on this strategic mission of creating an enduring reservoir of scientific information, with policy and procedural documents ensuring continuous exposure of institu-

tional scientific vitality and research attainments worldwide. Providing analytical insights into KU's policy, programs, activities, and opportunities for scientific innovation, creativity, and professional growth, these documents are the essential lifeline for driving world attention on the expanding realms of institutional scientific horizons, while registering KU's international presence, and uplifting its global profile and presence on grounds of its scientific strengths, and impact of its published research, increasingly enlisted in international refereed journals, and reflecting competitive world standards. Given this purpose, the range and diversity of OVPR's publications, released by its constituent offices-- RS, APC and CGAPS -- continuously and effectively add on to the ongoing process of information dissemination, providing latest insights into institutional growth, development and visibility. It is precisely in this context, the recently released documents, enlisted above, add a further dimension in registering Kuwait University's world presence, and dispersing institutional scientific attainments in an enduring journey of growth and advancement. ◻

► *Joint Project Closure Ceremony...(From ....P.27)*



▲ *Honoring Ceremony for Joint Project Participants..!*

scholars, encouraging them to obtain their Ph.Ds. through advanced studies overseas, and gaining the needed exposure and experience in a competitive environment, adding a significant dimension to their professional outlook and growth. With these words, he expressed his gratitude and appreciation to the distinguished gathering, and called for accelerating the progress and completion of Graduate Studies projects at KU, hoping that the numerical strength of graduate students continues to grow, outnumbering the university students, and raises their efficiency level.

Echoing similar sentiments, Prof. Hasan said that the project's closing ceremony is aimed at highlighting the importance of research outputs that the project generated, which hold significant implications in technology transfer, apart from

providing practical solution to industrial problem, and preparing national cadres who are capable of conducting scientific research, addressing research priorities of national significance. In this regard, Kuwait University is already coordinating with consultants from South Korea and the oil sector, who are currently working on advanced technology. Continuing further, Prof. Hasan added that the project's positive outcomes hold potentially significant applications in reducing accidents in petroleum refineries in Kuwait, and in avoiding breakdowns due to various reasons that may occur in the manufacturing processes.

In addition to human capacity development, technology transfer, development of the oil sector, what is significant is the pursuit of scientific research of potential benefit to the community through joint

studies that effectively utilize oil industry's expertise and the enormous scientific talent and competence of Kuwait University.

With these words, the project participants from KNPC, PIC and BNF were honored. These included Eng. Ahmad Al-Jimaz, Executive Vice President of Mina Abdullah Refinery, Dr. Souad Al-Radwan, Director, Department of Research and Technology, Eng. Asaad Al-Saad, CEO, Petrochemical Industries Company, Eng. Ahmad Abbas, Head of the project team and Petrochemical Industries Company, and a group of researchers and employees from the participating companies.

An honorary plaque was presented to the KU President during the ceremony, and Dr. Ghanima Al-Sharah, and Eng. Mostafa Najim from KU were honored. □

► *Effect of Chlorine Gas Bubbling ...(From ...(P.15)*

ICP results show that there is no appreciable dezincification at temperatures 25 and 40°C. Z values shown at these temperatures are almost one. At 60°C, Z values reached values as high as 5.5 indicating strong dezincification of brass. At 80°C, severe dezincification is observed as shown by quite

large Z values reaching 12.7.

Scanning electron microscope (SEM) investigations revealed the occurrence of severe corrosion (i.e. strong dezincification) attack at high temperatures (60-80°C). EDS analysis also revealed strong dezincification at

these temperatures. At 60°C, the EDS spectra show a very weak zinc peak and a very strong copper peak. The EDS analysis shows that the composition of the brass surface is 99.19% Cu and 0.89% Zn. At 80°C, no zinc peak is obtained and the EDS analysis of brass surface shows 100 % Cu. □

► *Research Sectors Achievements ... (From ... P.28)*

ing vast international databases for their scientific needs, performance, and standing vis-à-vis worldwide institutions.

- A **two-day Seminar** on “*Publication in the scientific refereed journals in the Arab World countries,*” held on Dec. 18-19, 2012. The seminar aimed at promoting the culture of high quality research outputs, published in international journals of impact, for the benefit of the scientific community.
- A **seminar on Knowledge management and technology transfer,** was held on Feb. 17, 2013, and focused on managing knowledge for sustainable development in the Arab countries.
- A **seminar** on the “*Art of writing scientific papers,*” held in association with Elsevier on Feb. 18, 2013, was aimed at encouraging faculties to author and publish high quality, world-class papers.
- A **seminar** on “*Risks of extreme sea-level and weather conditions due to a changing climate,*” held on May 14, 2013, which drew attention to life-threatening scenarios caused by natural calamities, with emphasis on the need for *disaster preparedness fund* as a long term vision for climatic exigencies.



24. **RS key publications and websites** -- RS continued to relay its latest scientific information, research developments and accomplishments through a whole series of RS publications. During 2012/13, a total of **19 publications** were printed and released, in addition to **88 scientific posters** printed and displayed at Posters events, workshops and seminars publicity material, and news features, in addition to continuous updating of OVPR/RS websites. Already a line-up of **31 under-production documents** are earmarked for 2013/14.



25. **Visiting Delegations:**

- **IBM – 3-member delegation** for a

presentation on design and innovation center at KU, as well as on cyber security.

- **Student delegation** from Germany
- **Korean delegation** on collaboration possibilities, and presenting a lecture on “*Advanced material – Carbon, next generation product for oil producing countries.*”
- **Scopus delegation** for accessing international databases.

26. **Special accomplishments:**

- For the first time, RS presented an exhaustive and analytical outlook of **KU funded and unfunded published research by impact (JCR) and no-impact factor,** profiling faculty-wise outlook of publications in Q1, Q2, Q3 & Q4 journals, as well as no impact factor journals. The analysis covered a five-year period (2008-2012), and presented faculties average published research vis-à-vis total faculty members. The analytical report was extensively circulated, and published in OVPR Research Bulletin, March/April 2013, issue. For detailed information, see RS website at the following link: (<http://www.ovpr.kuniv.edu/PoBox/ResearchPublications/search.aspx>)
- An international team of KU researchers achieved breakthrough findings in dental abrasions, the research was published in the Journal of Royal Society Interface, and was the cross-country multidisciplinary research that identified the culprit behind mammalian



▲ *Scientific events, Seminars, and Visiting Delegations*

(Contd. P.31...►)

► *RS holds a roundtable session ... (From ... P.8)*

funded projects. A new position of Research Chair has also been introduced for elite international experts to be appointed for strengthening faculty research in specific scientific and priority areas. Faculty researchers are also being encouraged for publishing their research outputs in high impact journals of international standing as per JCR ranking index, and graduate students research is being encouraged and rewarded. Incentives are also given for high quality, distinguished research, generated from both funded and unfunded research.

KU's general facilities are part of RS infrastructural drive to create world-class lab culture to facilitate high quality research, and recently a new grants category has been instituted for encouraging faculties to establish specialized research units and laboratories, built around specific areas of research strength, to facilitate pursuit of distinguished, competitive and internationally credible research. KU is also moving ahead with establishing Kuwait University Research Park (KURP), for which an empirical study was conducted for developing the

conceptual framework, and laying the principles, structure and roadmap for establishing the Park. The study's findings were approved by the University Council, and work has started towards the implementation of the *virtual park*, which will have two oases -- *Innovation & Discovery Oasis* (IDO), and *Collaboration & Commercialization Oasis* (CCO). We are identifying KU research strengths, and moving mature areas into the park environment for innovation, creativity and spinoffs. In addition, we already have an IP office, and faculties patentable discoveries are being processed for US registered patents. However, we have more distinguished research outputs in scientific fields, than in humanities, and we are trying to encourage humanities colleges to enhance the quality and status of their research.

Prof. Salah expressed his appreciation at the level, facilities and mechanism of research at KU, and said that researchers do have the environment for high quality research activity here, as one could find anywhere in the world, however,

there needs to be more collaboration, and areas of national interest should be in focus for example, petroleum and chemical industry. As far as humanities research is concerned, the outputs are crucially linked to the nature of profession, for instance, law, and this scenario is true elsewhere. As regards energy, especially lighting, LEDs promise huge economic potential up to the tune of 1GB energy saving. Perhaps somebody could sit down and do an economical study for subsidizing the equipment (LED) for solar cells. There is certainly a need for strong decisions, and it is an idea to be discussed between KU-KFAS, and decisions taken to implement it within the next 4 to 5 years, I can certainly see that you can make LED yourself, he concluded.

Prof. Hasan thanked Prof. Salah for giving his valuable time, frank views, and suggestions on several aspects of research, and hoping the door of opportunity opening between KU and North Carolina State University for joint research and studies. He then presented the visiting delegate a package of RS latest publications. □

► *Research Sectors Achievements ... (From ... P.30)*

teeth wearout. The research was featured in RS March/April 2013, Bulletin.

- Breakthrough findings in KU-KPC collaborative research were presented in a joint session where KU researchers achieved "zero emission" levels for their KU-PIC research on *Design of a dedicated flaring system for the ammonia storage tanks*, the findings of immense significance for the oil industry.

& 4 – RS presented the summary findings of research accomplishments of 8 faculty members, who achieved research rewards for their distinguished research outputs. These research studies were featured in RS quarterly news bulletins -- Oct./Nov. 2012, and March/April 2013, respectively.

While the above accomplishments significantly reflect on the extent of scientific dynamism at RS, the Research Sector is continuously developing a system of *effective governance* in grants management, and

matters of *quality, performance and productivity* are being given attention for high quality research that gets listed in *international databases*, figures on *competencies listings*, and is effective in improving KU's *scientific standing and ranking*. These priorities form the *core of RS mission* ahead, laying the future roadmap for developing institutional research towards realizing Kuwait University's *global aspirations*, and elevating its *world presence and profile*, as RS heads for the new academic cycle 2013/14, carrying forward the scientific momentum, for profound activities outlined ahead...! □

27. *Distinguished Research Series 3*

RS in a state of dynamic move, encouraging faculties to capitalize on their creative potential in addressing issues that are complex, challenging and strategic to advancement

RS records a total of 570 projects defining the spectrum of funded research across faculties, enlisting growth and scientific vibrancy in KU research during the first six months of the current academic year 2013/14

RS current policy and support system geared to inculcating the values of quality and credibility in research, while encouraging faculties to innovate, discover and excel..!

High quality outputs vital for uplifting KU's international profile and scientific standing

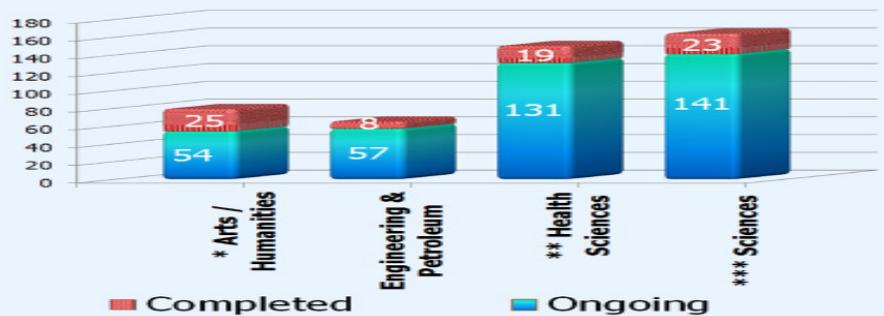
Scientific dynamism continued to prevail across faculties in the sphere of funded research at Kuwait University, with the Research Sector recording a total of 570 projects during the first six months (September 2013 through February 2014) of the current academic year 2013/14. These projects, in various stages of progress, completion and review, provided a definitive outlook of growth in faculty research, largely indicative of the effectiveness of RS support system and regulatory mechanism, offering encouraging and far wider opportunities for advanced, innovative and high quality research, backed by facilitative, flexible and friendly procedural mechanism. The net impact of these supportive measures is clearly visible in the larger volume of projects being received by the Research Sector for grant awards, with all faculties being consistent and active participants in seeking funding support, including the newly established faculties of Architecture, and Computing Sciences & Engineering, collectively responsible for 3.7% (21) of projects in this six-monthly outlook of funded research. Their participation in mainstream research, alongside all faculties, is a promising development, which is bound to open new

University Research Grants an enduring mainstay of faculty research, and the key driver in strengthening institutional scientific foundations

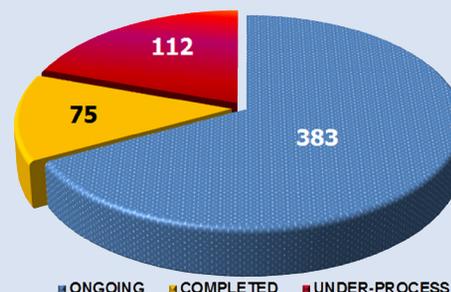
Table 1. TOTAL RESEARCH ACTIVITY during Last Six Months (2013/14) (Sept. 1, 2013 to 28, 2014)\*

Project Status	Funding ** Levels			Total
	less than 4001	4001 - 10,000	more than 10,000	
Ongoing	188	25	170	383(67.2%)
Completed	47	12	16	75(13.2%)
Under-process	30	14	68	112(19.6%)
<b>TOTAL</b>	<b>265 (46.5%)</b>	<b>51 (9%)</b>	<b>254 (44.5%)</b>	<b>570</b>

\* Source KURS, Data upto February 28, 2014 (Include ongoing/completed projects from previous year).  
 \*\* Values in KD.



\* Includes the Faculties of Arts, Business Admn., Education, Law, Sharia and Social Sciences.  
 \*\* Health Sciences Center Includes Faculties of Allied Health Sciences, Dentistry, Medicine and Pharmacy).  
 \*\*\* Includes Faculties of Computing Sciences & Engineering, Life Sciences and Science.

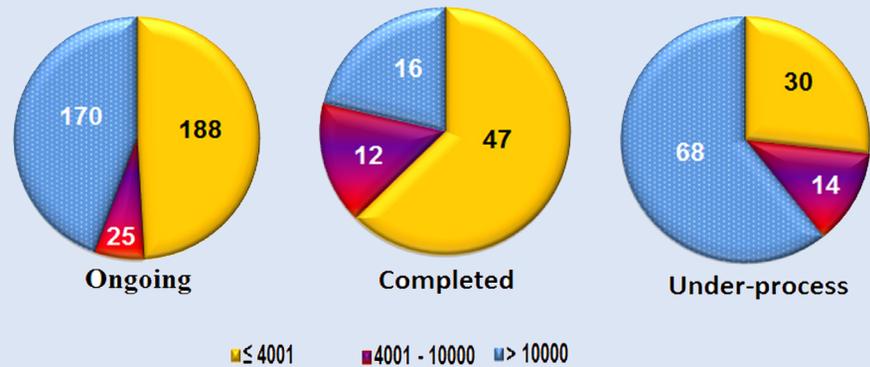


( Contd. P.33).. ▶

► Six Months Statistics on Faculty Research ...(From P.32)

corridors of scientific research at KU, further enhancing the institutional creative potential. Another interesting development is the appearance of faculty of Life Sciences with its new terminological identity, assigned to earlier Faculty for Women in line with international developments, and enlisted in RS grant awards system for the first time with its new name, and current record of 4.6% (26) grant awards.

With these two key developments in the six months statistical profile of funded research at KU, the Research Sector is looking forward to an intense phase of scientific activity across faculties, with advanced, innovative and comprehensive proposals gaining increased momentum over individualized research. An encouraging move is also detected towards joint and collaborative studies, bringing together the expertise and scientific caliber of faculties and external institutions, in the joint pursuit of studies that are scientifically significant and socially relevant. What is desired, however, is the value of scientific outputs in addressing issues, finding answers and generating new knowledge. This policy is central to RS current strategy of encouraging meaningful research that sheds new lights and provides solutions to problems that are persistent, complex and scientifically challenging, as well as potentially significant in advancing institutional scientific strengths, capabilities and standing. It is within this policy frame, the Research Sector profiles the current status of funded research, during the first six months of the current academic year 2013/14, analytically presenting the total volume of research activity at KU, with a comparative outlook of faculties participation and performance in funded research.



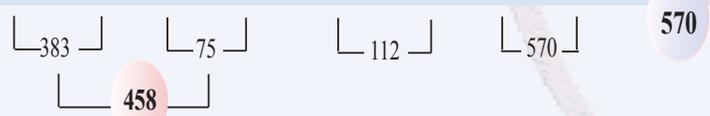
Statistically, RS recorded a total of 570 projects defining the volume of faculty research in various stages of progress, during the six months of the current academic year 2013/14. These included 383(67.2%) ongoing

projects, 75(13.2%) completed projects, and an additional 112(19.6%) projects under-process (Table 1). The distribution of these projects by funding levels, exhibited a higher concentra-

(Contd. P.36... ►)

Table 2. TOTAL ONGOING, COMPLETED & UNDER-PROCESS PROJECTS by FACULTY & FUNDING SOURCE (2013/14) Six Months Activity (Sept. 1, 2013 to Feb. 28, 2014)\*

FACULTY	ONGOING		COMPLETED		UNDER-PROCESS		TOTAL		GRAND TOTAL
	KU	EXT**	KU	EXT	KU	EXT	KU	EXT	
Allied Health Sciences	14	2	3	-	3	-	20	2	22
Architecture	-	-	-	-	-	2	-	2	2
Arts	6	1	4	-	4	-	14	1	15
Business Admn.	8	-	5	-	3	-	16	-	16
Computing Science & Eng.	7	1	-	-	6	5	13	6	19
Dentistry	17	3	2	-	3	1	22	4	26
Education	11	1	2	1	4	2	17	4	21
Engineering & Petroleum	49	8	8	-	13	4	70	12	82
Law	1	-	-	-	-	-	1	-	1
Life Sciences	17	-	4	-	2	3	23	3	26
Medicine	66	10	9	2	18	3	93	15	108
Pharmacy	19	-	3	-	-	-	22	-	22
Science	101	15	18	1	22	7	141	23	164
Sharia	9	-	6	-	2	-	17	-	17
Social Sciences	16	1	6	1	3	2	25	4	29
<b>TOTAL</b>	<b>341</b>	<b>42</b>	<b>70</b>	<b>5</b>	<b>83</b>	<b>29</b>	<b>494</b>	<b>76</b>	<b>570</b>



\* Source KURS, Data upto February 28, 2014.  
 \*\* External Institutions.

## KU President welcomes visiting Prof. Ayman Fuad Sayid The Visitor to deliver two lectures at RS Scientific Poster Day for Humanities and Social sciences

Under the Patronage of Kuwait University President, Prof. Abdulatif Al-Bader, the Research Sector is organizing the Poster Day for the Humanities & Social Sciences faculties, for the academic year 2013/14. The event, held in collaboration and sponsorship of Kuwait Foundation for the Advancement of Sciences (KFAS), includes a visit by Prof. Ayman Fuad Sayid, winner of Kuwait prize in “Plans and Topographic recording of Cities” in 2009, and Professor of History & Islamic Civilization, as well as manager of

center for text checking at Al-Azhar University, where he is continuing to work since 2009, until present.

The President welcomed the visiting guest this morning (Monday, March 17, 2014), in the presence of Vice President for External Collaboration, Prof. Obaid Al-Otaibi. This visit is to be followed by several meetings with the Vice President for Research and his assistants, Deans and Vice Deans of Humanities and Social Sciences faculties, as well as the department heads and faculty members. Prof.



▲ KU President receives Prof. Fuad Sayid

Ayman Fuad would be delivering two scientific lectures at the Humanities and Social sciences event, scheduled for Tuesday, March 18, 2014. □

## University College London Delegation Visits Office of Vice President for Research

### Exploring possibilities of collaboration and R & D activities

A two-member delegation from University College London, UK, visited the Office of the Vice President for Research, on January 16, 2014, at 10 am, where they attended a meeting with the Vice President for Research, Prof. Hasan Al-Sanad, and his Assistant, Prof. Haitham Lababidi.

The delegates, Prof. Duncan Craig, Director and Chair in Drug Delivery at the UCL School of Pharmacy, and Dr. Susan Parker, Senior Lecturer at the Dept. of Pharmaceutics, UCL, ac-

companied by Dr. Yacoub Al-Basarah, Asst. Professor, Dept. of Pharmaceutics, Faculty of Pharmacy, Kuwait University, showed interest in exploring the feasibility of scientific collaboration with Kuwait University in the potentially significant fields of pharmaceutics, drug delivery and related areas, including sharing of expertise.

These areas being crucial to R & D activities, the discussions primarily centered on possibilities of joint research, and in carrying forward the



▲ OVPR receives Visiting UCL Delegation

process through a coordinated plan for research collaboration. □

### ► RS releases Kuwait University at a Glance 2013/14...(From...P.13)

scientific culture and caliber, a mission that Glance strategically unfolds, reflecting the institutional *fundamentals, foundation* and *future*, as well as the challenges and journey ahead.

For all practical purposes, *Kuwait University at a Glance, 2013/14*, pre-

sents latest outlook on *institutional priorities, scientific vibrancy, research culture and graduates community*, and is aimed at national, regional and international readership, institutions, academicians, researchers and graduates for *joining, collaborating* and *bonding* with Kuwait University,

while contributing their talent and energies in strengthening and elevating institutional *world standing*.

The document explicitly outlines institutional key attributes in advancing knowledge, encouraging innovation, and targeting excellence. □

*Call for Research Proposal (CFRP) from KFAS*

**KU faculty members invited to submit proposals in the fields of Energy, Water and Environment**

**Interested faculty members may send proposal application to RS from Nov. 12, 2013 until Jan. 14, 2014**

The Research Sector is pleased to draw faculty members attention to the launching of the First cycle of Call for Research Proposals (CFRP) invitation, received from Kuwait Foundation for Advancement of Sciences (KFAS), in line with its new strategy for the period 2012-2016. The primary focus of this cycle is to encourage national priorities research in the key areas of energy, water and environment, as well as competitive and capacity building research in fundamental sciences, industrial applications, exploratory and interdisciplinary research of potential value to Kuwait and society.

*Applied,  
interdisciplinary  
and collaborative  
research encouraged*

Interested faculty members may submit collaborative or exploratory proposals in the designated areas identified by KFAS, in compliance to the new system introduced by the Research Directorate, for KFAS funding support. The requisite

application form could directly be accessed on KFAS website ([www.kfas.org.kw](http://www.kfas.org.kw)). Faculty researchers, desirous of participating in CFRP, may send complete proposals to RS for onward transmission to KFAS. The due date for submission of proposals is from Nov. 12, 2013 until Jan. 14, 2014.

All proposals would undergo standard screening process as per the requirements of KFAS Research Directorate. The concerned applicants will be informed about the screening outcome by January end. □

**RS organizes a workshop for its employees in cooperation with Thomson Reuters company**

Under the patronage of Prof. Hasan Al-Sanad, the Vice President for Research, and the attendance of his Assistants Prof. Haitham Lababidi and Prof. Nejib Smaoui, the OVPR organized a workshop for its employees in cooperation with Thomson Reuters Company, on Wednesday, 11 September, 2013, at 10:00 am, in the meeting room of OVPR, Administration Building No. (119), Second floor, Khaldiya Campus.

The VPR welcomed the attendance and expressed his happiness to organize such training courses. This workshop is part of the RS mission to encourage and support scientific research, and develop staff skills and capabilities in KU for offering the best services to researchers.

The goal of this workshop was

to train the employees to use InCites™ program, which is an electronic program on the internet to evaluate the performance of research, analyze scientific productivity, and compare it with outputs of

local regional and international institutions.

This program helps to outline strategic plans, besides evaluating performance, analyzing strengths and weaknesses, and specifying research priorities in the State of Kuwait. InCites™ Program uses the Web of Knowledge, which



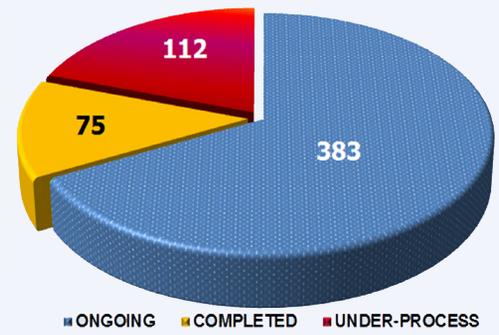
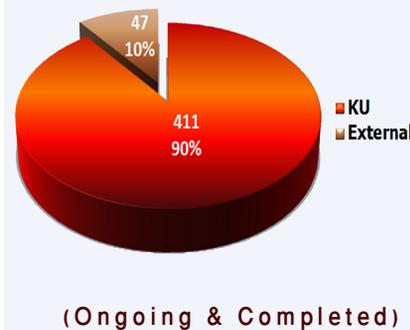
▲ *InCites™ Workshop for OVPR employees*

is considered one of the most important references for scientific production in the world. The program will enable RS and all researchers in KU to get the needed information and analyze data to prepare reports and studies, and to highlight the scientific activity in KU, for improving performance in specific fields. □

► Six months Statistics on Faculty Research ...(From ... P.33)

tion of 265(46.5%) projects in the lowest budgetary category of less than KD 4001/-, closely followed by almost an equally large number of projects in the highest budgetary category of more than KD 10,000/-, while least number of 51(9%) projects were enlisted in the medium budgetary range of KD 4001-10,000/-. Collectively, the least and highest funding categories accounted for an overwhelming 519 (91%) projects, reflecting faculties current inclinations oscillating between *smaller, limited objectives* and *shorter duration projects* on the one hand, and *comprehensive, multi-objectives, well-defined studies*, on the other that invariably required larger grants and resources for achieving the intended objectives and scientifically sound outputs. The bigger volume of projects figuring under less than KD 4001/- category is a noteworthy development, at a time when the Research Sector is encouraging faculties to invest their expertise and potential in pursuing advanced and innovative studies through merging of scientific interests, talent and strengths across disciplinary confines, for joint redressal of complex and unexplored concerns that continue to challenge science and society.

To a certain extent, a larger volume of projects requiring smaller grants could possibly be attributable to a phase of interim interest among researchers in smaller-shorter-duration projects as a baseline research for realizing objectives that hold potential for developing larger, issue-based, in-depth studies for deeper insights and answers to contemporary concerns and realities of life, unveiling new knowledge and providing empirical understandings of as yet unknown scientific complexities. The time ahead would, therefore, be a closely watched phase in faculty research, with RS monitoring faculties interests, preferences and predilections concerning



individualized smaller studies, or bigger, comprehensive and joint studies, and accordingly resetting its *priorities, policy, principles* and *directions* of research at Kuwait University. A closer look at the projects in terms of their respective *ongoing, completed* and *under-process* status, again showed a larger number of ongoing 188 (49%), and completed 47(62.7%) projects figuring under the lowest KD

4001/- budgetary category, while maximum under-process 68 (60.7%) projects were in the highest budgetary category of more than KD 10,000/-. The larger volume of big-budgeted projects in the under-process domain once again raises the hope that bigger, comprehensive studies are likely to remain the favored option in faculty research, overriding smaller research grants, as

(Contd.P.37... ►)

Table 3. PROJECT STATUS by FACULTY & FUNDING\*\* LEVELS, 2013/14  
six months activity (Sept. 1, 2013 to Feb. 28, 2014)\*

FACULTY	ONGOING			COMPLETED			UNDER-PROCESS			TOTAL
	less than 4001	4001 - 10,000	more than 10,000	less than 4001	4001 - 10,000	more than 10,000	less than 4001	4001 - 10,000	more than 10,000	
Allied Health Sciences	9	1	6	3	-	-	1	1	1	22
Architecture	-	-	-	-	-	-	-	-	2	2
Arts	6	1	-	4	-	-	4	-	-	15
Business Admn.	8	-	-	5	-	-	2	-	1	16
Computing Science & Eng.	5	1	2	-	-	-	4	-	7	19
Dentistry	13	2	5	1	1	-	-	1	3	26
Education	8	3	1	2	-	1	4	-	2	21
Engineering & Petroleum	21	3	33	6	-	2	1	2	14	82
Law	1	-	-	-	-	-	-	-	-	1
Life Sciences	15	2	-	3	1	-	-	1	4	26
Medicine	37	1	38	5	2	4	3	4	14	108
Pharmacy	10	-	9	1	1	1	-	-	-	22
Science	32	11	73	6	5	8	7	4	18	164
Sharia	9	-	-	6	-	-	2	-	-	17
Social Sciences	14	-	3	5	2	-	2	1	2	29
<b>TOTAL</b>	<b>188</b>	<b>25</b>	<b>170</b>	<b>47</b>	<b>12</b>	<b>16</b>	<b>30</b>	<b>14</b>	<b>68</b>	<b>570</b>
	└─┬─┬─┘			└─┬─┬─┘			└─┬─┬─┘			
	383			75			112			

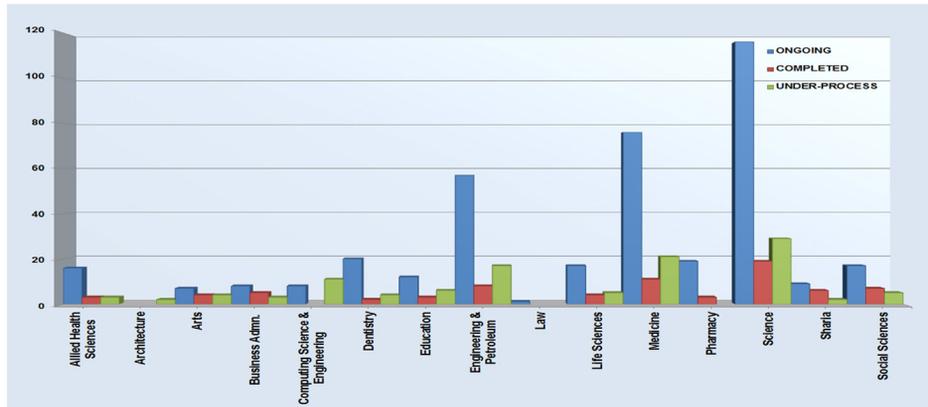
\* Source KURS, Data upto February 28, 2014.  
\*\* Values in KD.

► Six months Statistics on Faculty Research ... (From ...P.36)

an interim passing phase that RS is set to watch and monitor ahead (Table 1).

Since under-process projects are yet to acquire active status, empirical basis for faculties research performance is critically measurable purely on grounds of their ongoing and completed projects, providing a comparative outlook of their active and accomplished research during six months of the current academic year 2013/14, and collectively accounting for a total of 458 projects (Table 2). Of these, 411(90%) projects were the recipients of KU funding support, and an additional 47(10%) projects were being jointly pursued with external funding support. Taken together, the faculty-wise distribution of these projects showed Sciences faculties (*Science, Computing Sciences & Engineering, and Life Sciences*) collective performance superseding other faculties with a total of 164 (35.8%) ongoing and completed projects, closely followed by the Health Sciences Center faculties (*Medicine, Dentistry, Pharmacy & Allied Health Sciences*) performance with 150(32.8%) ongoing and completed projects, Arts & Humanities faculties (*Arts, Business Administration, Education, Law, Sharia & Social Sciences*) combined performance accounted for 79 (17.2%) ongoing and completed projects, and Engineering & Petroleum faculty's performance recorded 65 (14.2%) ongoing and completed projects.

Looking beyond ongoing and completed projects, the domain of 112 newly submitted proposals for grant support, currently under procedural review and evaluation, reflected the faculties continuous momentum in research participation, with proposed projects eventually acquiring active status following the review phase. This year, the newly established faculty of *Architecture, as well as*



*Computing Sciences & Engineering*, collectively registered their participation in RS funded research with a total of 13 new research proposals, currently under-process, with faculty of Architecture opening its account by submitting *two proposals*, and faculty of *Computing Science & Engineering* boosting its proposals record from one to 11.

Of the 112 under-process proposals,

a majority of 83 (74.1%) proposals were lined up for KU funding support, and an additional 29(25.9%) proposals aimed at seeking external support. Analyzing comparative input of faculties' newly submitted proposals, the Sciences faculties (*Science, Architecture, Computing Science & Engineering, and Life Sciences*) collectively submitted as many as 47(42%) new proposals, closely followed by Health Sciences Center faculties (*Medicine, Dentistry, Pharmacy*

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**Table 4. TOTAL ONGOING & COMPLETED RESEARCH PROJECTS by FUNDING SOURCE, 2013/14 (Sept. 1, 2013 to Feb. 28, 2014)\***

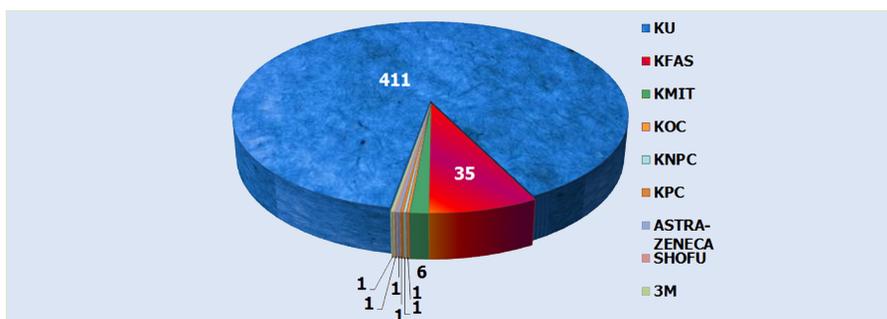
FACULTY	KU	KFAS	KMIT	KOC	KNPC	KPC	ASTRA-ZENECA	SHOFU	3M	TOTAL
Allied Health Sciences	17	2	-	-	-	-	-	-	-	19
Architecture	-	-	-	-	-	-	-	-	-	-
Arts	10	1	-	-	-	-	-	-	-	11
Business Admn.	13	-	-	-	-	-	-	-	-	13
Computing Science & Eng.	7	1	-	-	-	-	-	-	-	8
Dentistry	19	1	-	-	-	-	-	1	1	22
Education	13	2	-	-	-	-	-	-	-	15
Engineering & Petroleum	57	28	4	-	1	1	-	-	-	65
Law	1	-	-	-	-	-	-	-	-	1
Life Sciences	21	-	-	-	-	-	-	-	-	21
Medicine	75	11	-	-	-	-	1	-	-	87
Pharmacy	22	-	-	-	-	-	-	-	-	22
Science	119	13	2	1	-	-	-	-	-	135
Sharia	15	-	-	-	-	-	-	-	-	15
Social Sciences	22	2	-	-	-	-	-	-	-	24
<b>TOTAL</b>	<b>411</b>	<b>35</b>	<b>6</b>	<b>1</b>	<b>1</b>	<b>1</b>	<b>1</b>	<b>1</b>	<b>1</b>	<b>458</b>

\* Source KURS, Data upto February 28, 2014 (Include ongoing/completed projects from previous year).  
 KU Kuwait University  
 KOC Kuwait Oil Company  
 KNPC Kuwait Nation Petroleum Corporation  
 ASTRAZENECA  
 KFAS Kuwait Foundation for the Advancement of Sciences  
 KPC Kuwait Petroleum Corporation  
 KMIT Kuwait Massachusetts Institute of Technology  
 SHOFU Co 3M

► Six months Statistics on Faculty Research...(From ...P.37)

& Allied Health Sciences) submitting 28(25%) proposal, Arts & Humanities faculties (Arts, Business Administration, Education, Law, Sharia & Social Sciences) jointly accounting for 20 (17.8%) new proposals, and Engineering & Petroleum faculty submitting a total of 17(15.2%) proposals. Considering the sphere of 383 ongoing projects alone, the science faculties remained the largest grant recipients with a collective total of 141 (36.8%) ongoing projects, followed by Health Sciences faculties with 131 (34.2%) projects, Engineering & Petroleum faculty receiving 57 (14.9%) grants, and Arts & Humanities faculties pursuing 54(14.1%) ongoing projects (Table 2).

A further distribution of ongoing projects (383) by *funding-levels*, showed a higher concentration of 188 (49.1%) ongoing projects in the less than KD 4001/- budgetary category, followed by 170 (44.4%) projects in the highest budgetary category of more than KD 10,000/, while the medium-range budgetary category of KD 4001-10,000/- accounted for the lowest number of 25(6.5%) ongoing projects (Table 3). The completed projects (75), also reflected the same pattern, with maximum 47(62.7%) completed projects figuring under less than KD 4,001/- budgetary category, followed by 16(21.3%) completed projects in the highest budgetary category of more than KD 10,000/-, and an additional 12(16%) projects appearing in the medium range budgetary category of KD 4001 – 10,000/-. The distribution of completed projects by faculties showed higher completion rate achieved by Arts & Humanities (25, 33.3%) colleges, followed by Sciences faculties (23, 30.7%), with Health Sciences faculties attaining



(19, 25.3%) project-completion rate, and Engineering & Petroleum faculty registering a relatively lower number (8,10.7%) of completed projects (Table 3).

An analytical outlook of 458 ongoing and completed projects in terms of *funding source*, explicitly demonstrated *Kuwait University to be the major grant provider* in supporting as many as 411 (90%) of all currently active and accomplished projects, while continuous external interest in pursuing

joint studies in partnership with KU was responsible for the sustenance of 47(10%) faculty projects through external grant support. In all, 10 external institutions were the active participants in funding projects alongside Kuwait University, and were effectively involved in joint and collaborative studies, invariably requiring multi-expertise and resources in addressing strategic concerns and priorities, aimed at resolving industrial, economic and social concerns.

(Contd.P.39... ►)

Table 5. ONGOING RESEARCH PROJECTS by TYPES of GRANTS, 2013/14 (Sept. 1, 2013 to Feb. 28, 2014)\*

Faculty	Types of Grants									Grand Total
	URP	RIG	PRP	GRP	USP	GFP	ERP	NRP	SRUL	
Allied Health Sciences	9	5	-	-	-	-	2	-	-	16
Architecture	-	-	-	-	-	-	-	-	-	-
Arts	6	-	-	-	-	-	1	-	-	7
Business Admn.	6	2	-	-	-	-	-	-	-	8
Computing Sc. & Eng.	3	2	2	-	-	-	1	-	-	8
Dentistry	15	-	-	-	-	2	3	-	-	20
Education	8	1	1	-	-	1	1	-	-	12
Engineering & Petroleum	37	3	6	-	-	3	8	-	-	57
Law	-	-	1	-	-	-	-	-	-	1
Life Sciences	8	6	3	-	-	-	-	-	-	17
Medicine	34	6	-	23	-	-	10	2	1	76
Pharmacy	9	5	1	4	-	-	-	-	-	19
Science	70	1	3	11	2	14	15	-	-	116
Sharia	8	1	-	-	-	-	-	-	-	9
Social Sciences	11	2	2	-	-	-	1	-	1	17
<b>TOTAL</b>	<b>224</b>	<b>34</b>	<b>19</b>	<b>38</b>	<b>2</b>	<b>20</b>	<b>42</b>	<b>2</b>	<b>2</b>	<b>383</b>

URP-- University Research Projects  
 RIG -- Research Initiation Grants  
 PRP -- Priority Research Projects  
 GRP -- Graduate Research Projects  
 SRUL -- Specialized Research Units & Laboratories Projects

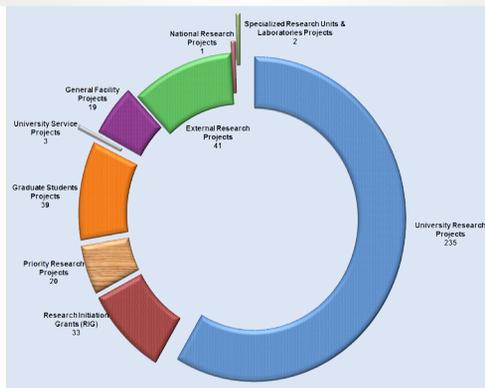
USP -- University Service Projects  
 GFP -- General Facility Projects  
 ERP -- External Research Projects  
 NRP-- National Research Projects

► Six months Statistics on Faculty Research...(From ... P.38)

Such collaborative studies are vital in advancing institutional scientific horizons, and are actively encouraged by the Research Sector in its endeavor to promote comprehensive, large scale, issue-based, multi-disciplinary studies that aim at exploring real issues, in a bid to provide tangible answers.

Given this intent, RS is developing the domain of its external alliances, and strengthening its collaborative base for meaningful research that is strategic, and holds scientific and social value. The current involvement of 10 external institutions in supporting faculty research is, therefore, immensely valuable in enriching the collaborative domain, while accounting for 47 jointly funded projects in various stages of progression and accomplishments. These projects were distributed over several collaborators that included *Kuwait Foundation for the Advancement of Sciences (KFAS)* responsible for funding 35 (74.5%) of all joint projects, *Kuwait Massachusetts Institute of Technology (KMIT)* funding 6(12.8%) projects, while remaining external support was distributed over 1(2.1 %) project each funded by eight sponsors – *Kuwait Petroleum Corporation (KPC)*, *Kuwait Oil Company (KOC)*, *Kuwait National Petroleum Company (KNPC)*, *Kuwait National Guards (KNG)*, *United Nations Environmental Program (UNEP)*, *AstraZeneca*, *Shofu Company*, and *3M* (Table 4). As regards 112 under-process projects, 83(74.1%) newly submitted proposals were lined-up for KU's grant support, and remaining 29 (25.9%) projects were under review for external support (Table 2).

Table 5 presents the current outlook of total ongoing faculty research by *Types of Grants*, with 383 ongoing



projects distributed over nine Types of Grants. These included a maximum of 224(58.5%) projects listed under the *University grants* category, and the remaining distributed over the categories of External research projects 42 (11%), *Graduate research projects* 38(9.9%), *RIG projects* 34(8.9%), *General Facility projects* 20(5.2%), *Priority research projects* 19(5%), *University Service projects* 2(0.5%), *National Research projects* 2(0.5%), and newly started *SRUL projects* 2(0.5%), there being no GCC projects during the current six months phase (2013/14). These figures indicate that faculty research was being actively pursued under all grant support categories, with the lone exception of GCC grants. The figures further indicate faculties overwhelming preference for grants under the *University Research projects* category, the single most favored category forming the core of institutional research in comparison to all other types of grants. This preference is set to continue in the sustenance of faculty research at KU, as all other types of grants are aimed at promoting research related to specific purpose and category, while *University Research Grants* remain the mainstay of faculty research, and the key driver in strengthening institutional scientific foundations, and globalizing KU research.

While the Research Sector is rigorously promoting high quality re-

search, determinable on grounds of successfully accomplished projects, the empirical measure of quality remains a project's *productivity*, the scientific output of research that gets published in international refereed journals of repute, with impact factor rated as per the *Journal Citation Report (JCR)*. *Research Productivity* is thus the ultimate *quality factor* in measuring a project's overall performance, defining the current quality standards in faculty research at KU. *RS policy of high quality research* is aimed at encouraging faculties to incorporate the *quality factor* in their research endeavors, with an eye on generating distinguished, internationally credible outputs that get published in top ranking journals, known for their scientific quality and impact. This policy is slowly and steadily bringing forth significant improvements in faculty research outputs, with an increasing number of publications finding placement in well reputed journals known for their international standing and quality of published research. This indeed is a reassuring development in faculty research, reflecting the effectiveness of RS supportive system and measures in promoting the *quality culture* in institutional research, the eventual impact of which is bound to uplift KU's international standing, on grounds of its research *quality*, and *credibility* of its scientific outputs.

Available statistics on faculties *research productivity* over the last five calendar years (2009, 2010, 2011, 2012, and 2013), provides a cumulative view of their published papers in journals of repute, reflecting on the productivity levels attained by each faculty during a specific calendar year (Table 6). Year-wise, the faculties cumulative productivity totaled 137 published papers during 2009, 140 during 2010, 142 during 2011, 119 during 2012, and

(Contd.P.40... ►)

► Six months Statistics on Faculty Research...(From ... P.39)

133 published papers during 2013. These figures remain in a state of progression, tied as they are with the periodicity and release of those journal issues, having earlier communicated to the concerned authors the acceptance of their submitted papers following the standard review process. The upward enhancement in yearly published record is, therefore, directly linked to the appearance of accepted papers in print-form, with the release of the concerned journal issues, a record which RS closely monitors for requisite statistical updates. Apart from yearly account of faculty published research, Table 6 also exhibits higher productivity levels consistently attained by three faculties -- *Science*, *Medicine*, and *Engineering & Petroleum*, which continue to generate

higher number of publications in comparison to any other faculty. The consistency of their efforts in the sustenance of their productivity records over the last five years, apart from reflecting their scientific vitality, provides a reassuring view of their confidence in effectiveness of RS quality assurance measures for achieving outstanding results, the prime indicator of faculties research *quality, credibility* and *excellence*.

Given the above statistics, the six-month record of faculty research is indeed promising, providing a distinct outlook of faculties research efforts, performance and productivity, the basis for which stems from the fundamentals of RS grant support system, with opportunities, incentives and awards earmarked for faculties to realize their scientific ambitions and abilities in a congenial environment for creative excellence. The entire system is refined, automated, and geared to inculcating the values of quality and credibility in research, while encouraging faculties to innovate and excel.

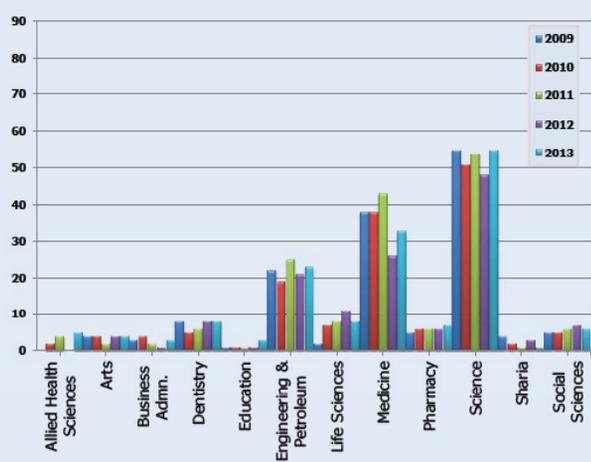
The overall enlisting of 570 projects, half-way through the academic year 2013/14, is a significant pointer to faculties creative potential and efforts in taking advantage of the RS *resource* and *funding support* in pursuing endeavors that are well defined and strategic, and aim at high quality outputs, spearheading institutional *scientific growth*. These statistics indeed profile a promising outlook of faculty research at this juncture, with a significant volume of currently under-process projects (112) set to further accelerate the institutional research growth as the year progress through its *second six-monthly* phase. Given this momentum, RS would remain in a state of dynamic

move, encouraging faculties to capitalize on their creative potential, and address issues that are challenging and strategic to advancement, require collaboration, seek to discover new knowledge, provide answers, serve mankind, and improve the quality of life. This vision is guiding RS in elevating the status and standard of institutional research, by driving faculties to *innovate, discover* and *excel...!*

**Table 6. PUBLISHED PAPERS, COMPARATIVE FIVE CALENDAR YEARS\* 2009,2010,2011,2012 & 2013**

FACULTY	2009	2010	2011	2012	2013
Allied Health Sciences	-	2	4	-	5
Arts	4	4	2	4	4
Business Admn.	3	4	2	1	3
Dentistry	8	5	6	8	8
Education	1	1	1	1	3
Engineering & Petroleum	22	19	25	21	23
Life Sciences	2	7	8	11	8
Medicine	38	38	43	26	33
Pharmacy	5	6	6	6	7
Science	55	51	54	48	55
Sharia	4	2	1	3	1
Social Sciences	5	5	6	7	6
<b>TOTAL</b>	<b>147</b>	<b>144</b>	<b>158</b>	<b>136</b>	<b>156</b>

\* Figures for Published papers coordinate with calendar year (Jan. 1 to Dec.31).



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