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ACS Chapter

Saudi Arabia

FOCUSING ON VISION 2030 THROUGH
COMMUNITY OUTREACH

please send your comments, suggestions and articles to newsletter director Dr.Hind Aljohani

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Mobil # : 0504697345

Visit Report - ACS Meeting, August 2018, Boston

Dr. Hind Al-Johani, Mansour Lahiani and myself (Siddiqui) attended 256th ACS National Meeting and Exposition during August ,23-19 2018 held in Boston, USA. Drs Hind and Siddiqui were supposed to get US2000\$ each from ACS while Mansour will be financially supported by the SAICSC-ACS for the same meager amount.

We attended several technical sessions and specific meetings. We presented our society activity's poster before the beginning of 20th Annual ChemLuminary Awards ceremony and had great interactions with several ACS officials including

candidates seeking ACS presidency in current ACS elections. Global Engagement Award for International Chemical Sciences Chapters is based on one of the previous year activity where SAICSC-ACS selected Labtech2017. Total 12 International Chapters applied for the award and the following six (6) International Chapters were shortlisted as "Finalists" namely JingJinJi, Malaysia, Nigeria, Saudi Arabia, Shanghai and South Korea. Rest is history.

Dr. Hind Al-Johani, Mr. Mansour Lahiani and Dr. Siddiqui attended 256th ACS National Meeting and Exposition during August 2018 ,23-19 held in Boston, USA.

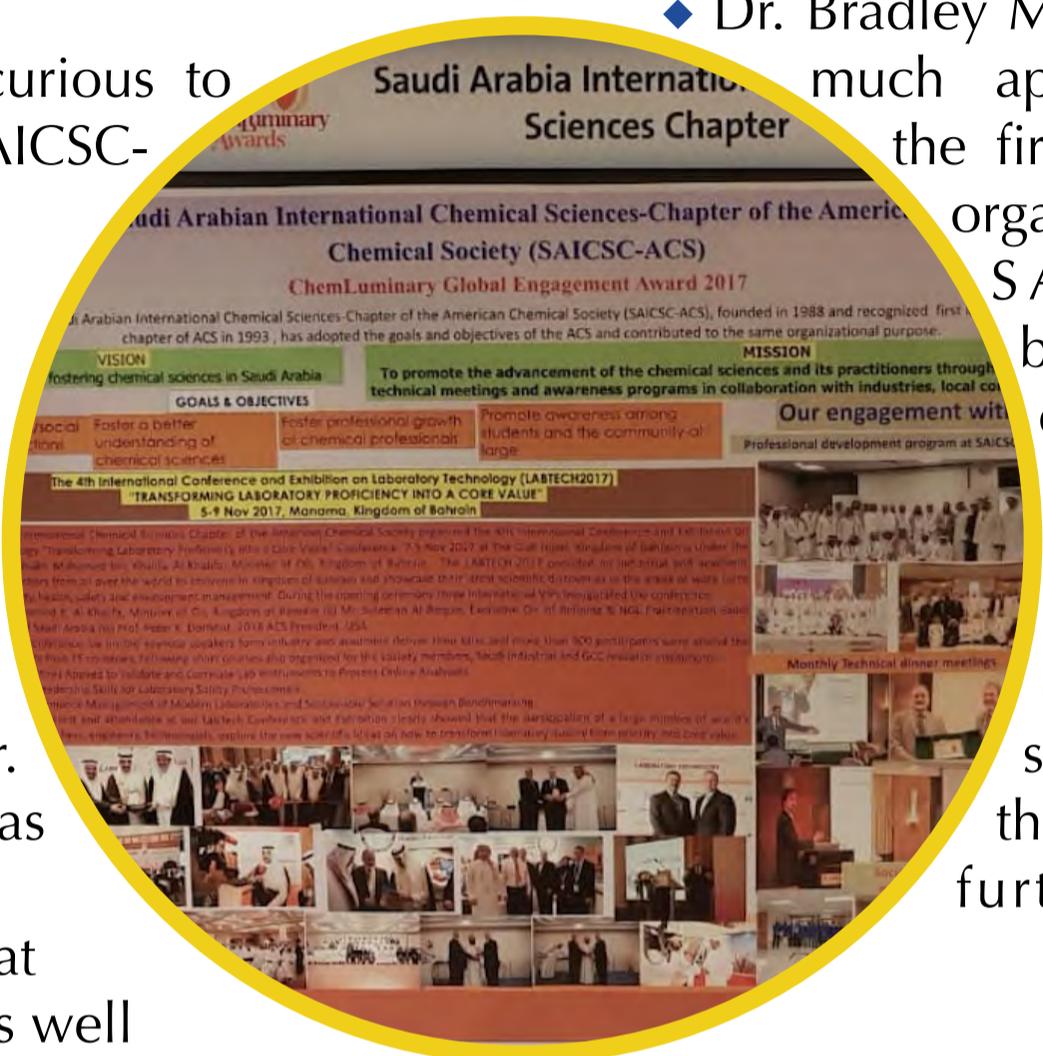


Dr. Bradley Miller specially invited three of us for a dinner with Dr. Jens Breffke (Email: jens@boselec.com), new Chairman of the Committees on International Activities of the ACS.

◆ We were curious to know why SAICSC-ACS missed Global Engagement Award second time in row, so we can plug the holes and improve for next year. The reply was very simple and candid that SAICSC-ACS is well established International Chapter and has already achieved several milestones, so ACS want to encourage new International Chapters. However, Brad and Jens have agreed to share the reports of other International Chapters on end of the year activities, so we can get acquainted with their level of activities.

◆ There are 22 International Chapters now. China has four (4) International Chapters and the Chinese chapter that won this year's award is not the

same Chinese chapter that won the award last year. Competition has become more tougher than previous years.



◆ Dr. Bradley Miller was very much appreciative of the first symposium organized by the SAICSC-ACS bringing most of the regional Chemical societies together. He emphasized in strengthening this activity further.

◆ Based on SAICSC-ACS achievements and long association, Dr. Jens Breffke informed that there is new policy in ACS to involve International Chapters in the governance of mother ACS committees.

Representatives from International Chapters can participate in ACS mother committees and have opportunity to grow higher levels in ACS committees with time, commitment and contribution.



Festival of Science week at Scitech

◆ Objective:

To increase the chemistry knowledge and interest new students to the chemistry major among visitors of the Festival of science at Scitech in Khobar.

◆ Activity Date:

From Monday October 15 to Friday October 2018 ,19

◆ Activity Time:

From 8:30 Am to 12:00 Pm
and from 4:00 Pm to 9:30 Pm

◆ Introduction:

The student chapter along with chemistry club students at KFUPM completed quite a lot of experiments that are amusing to the visitors of Scitech in the Festival of Science they have done more than nine different amazing experiments some of these experiments are done to increase the chemistry knowledge to the students and visitors and there was a questions were asked by the the visitors about the chemistry behind some of these experiments and a prizes were distributed at the end of each experiment by the chemistry club students from the KFUPM student affairs to the visitors to the chemistry experiment station

and it was distributed to people who passed the test and achieves the right answers for the chemistry behind some of these experiments for example burning money with alcohol, firing hand experiment, and whoosh sound experiment. In addition, a huge focus was done on safety precaution because there many children who are aged from 8-3 years old were attending the experiments that contains fires and gas releasing experiments. More than 10 student's chemistry and non-chemistry were participating in these experiments and in safety. Moreover, Chemistry Major students were available at the festival to answer any question were asked by the visitor about the chemistry major.



Figure:
A group
of chemistry
students answering
questions about
the chemistry
major



Figure
Helping
the children to
do the
experiment



Figure:
Burning
money by
alcohol



Figure
preparing
for the
whoosh sound
experiment

Fabrication of flexible PVDF supported I-rGO/ZnO NRAs hybrid and their piezoelectric behavior



Mr. Ibrahim Khan received his M.Sc. and M.Phil. degrees in Chemistry from the University of Malakand (UOM) in 2010 and 2013, respectively. After receiving research Scholarship, He is currently a Ph.D. student at the Department of Chemistry, King Fahd University of Petroleum and Minerals (KFUPM). His research interest includes the fabrication of novel heterostructure nanomaterials for alternative energy harvesting applications like water splitting, CO₂ conversion to value-added products and piezoelectrics. He also utilized DFT calculations for his research to provide the insight of the reaction mechanism and other related parameters.

Ibrahim et al. explore the growth of reduced graphene oxide (rGO)/ZnO NRAs over flexible conducting Polyvinylidene fluoride (PVDF). Taking the advantage of flexibility, the PVDF supported rGO/ZnO hybrid was used in the piezo nanogenerator. The piezoelectric nanogenerator is shown in Figure at right with SEM images and they readily convert the mechanical energy into electrical signals as shown the following graphs below.

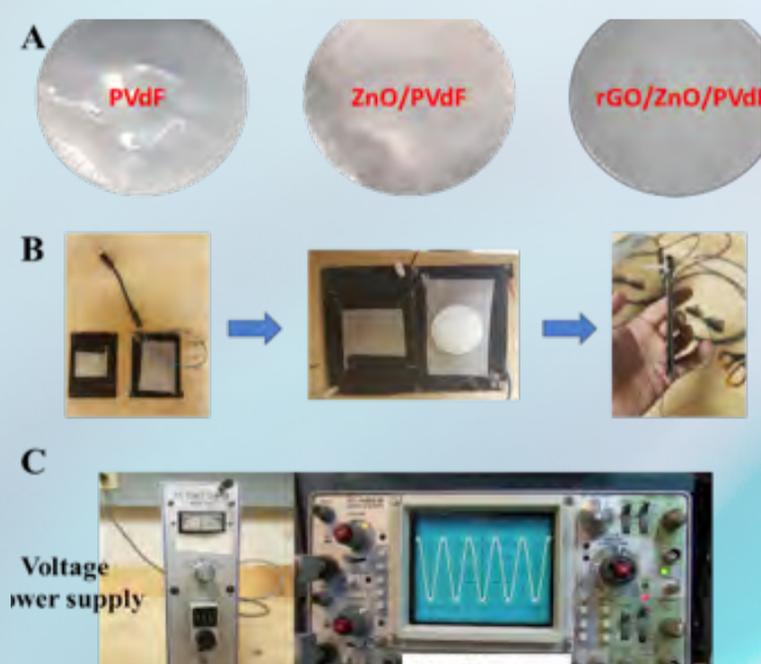


Fig 1. Fabrication of rGO/ZnO/PVDF hybrid nanogenerators



Magnified images nanogenerators

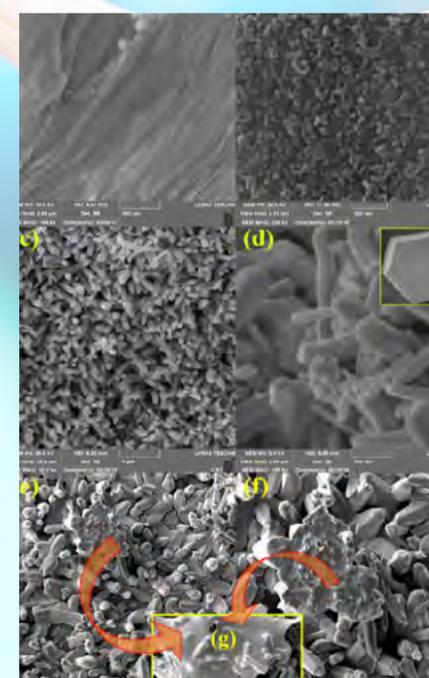


Fig 3. SEM images of PVDF (a,b), rGO/ZnO (c,d), and rGO/ZnO/PVDF (e,f) nanogenerators

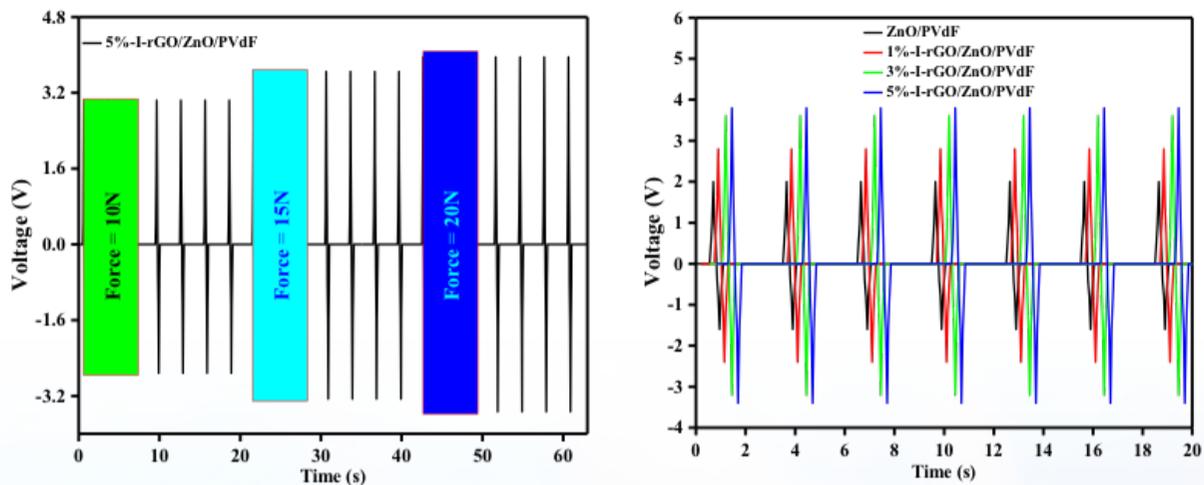


Fig 3. Piezoelectric Performance of rGO/ZnO/PVDF hybrid nanogenerators in terms of Voltage output

Electrochemical Architecting of Single Phase In₂O₃ and Au-In₂O₃ Nanowires, their Growth Mechanism and Solar-Driven Electrochemical Water Oxidation

Controlled In₂O₃ nanoarrays (NAs) were grown by anodization method, and their PEC water splitting performance is measured in three electrode cell. The results are presented in Figure 5 and 6 with mechanism.

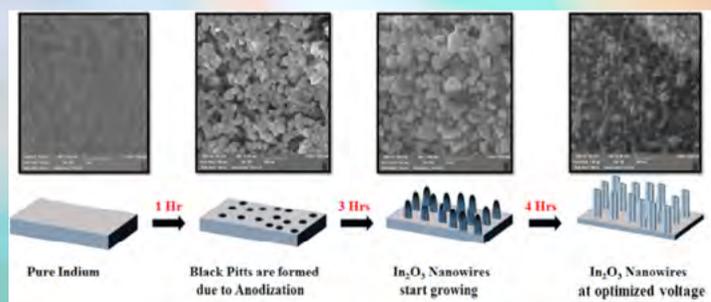


Fig 4. Growth of In₂O₃ nanoarrays (NAs) and SEM demonstration

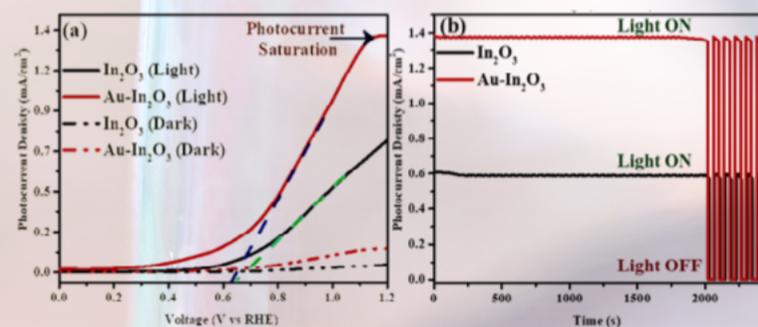


Fig 5. Photoelectrochemical (PEC) water splitting performance

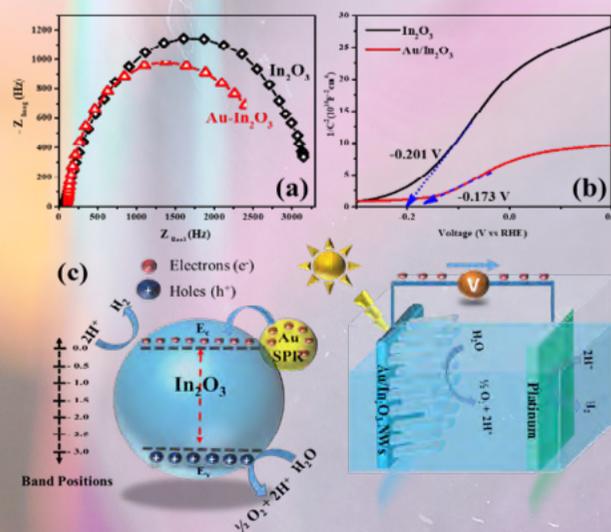


Fig 6. (a) Nyquist plots (b) Mott-Schottky plots, (c) Water splitting mechanism

CHEMISTRY RESEARCH SYMPOSIUM

The Chemistry department at KFUPM organized a full day "CHEMISTRY RESEARCH SYMPOSIUM" on Monday, April 2018, 30. Prof. Mohammad S. Al-Homoud, Vice Rector for Academic Affairs, KFUPM, inaugurated the Symposium. The Chairman of the Chemistry department, Dr. Abdulaziz Al-Saadi, appreciated the Saudi Arabian International Chemical Sciences- the Chapter of American Chemical Society (SAICSC-ACS) for sponsoring this Symposium and a certificate of recognition was presented by the Vice-rector to Prof. Mohammad Nahid Siddiqui, Past-Chair of SAICSC-ACS. There were total 16 presentations distributed in 3 sessions starting from 10:00AM to 3:30PM. Prof. Siddiqui and Dr. Basheer Chanbasha chaired one session each. The Symposium focused on important interdisciplinary topics that provided great opportunities for undergraduate students, graduate students, postdoctoral fellows and other faculty members to address challenging research issues. The Symposium was concluded with the distribution of appreciation certificates to all speakers followed by door prizes. The Symposium was highly successful with an average attendance of 75-65 persons throughout the event from various KFUPM departments and outside KFUPM also.





جامعة الملك فهد للبترول والمعادن
King Fahd University of Petroleum & Minerals



CHEMISTRY RESEARCH SYMPOSIUM

Date: Monday - 30 April, 2018

Venue: Chemistry Building (#4)

Room 125 (Auditorium)

Sponsored by

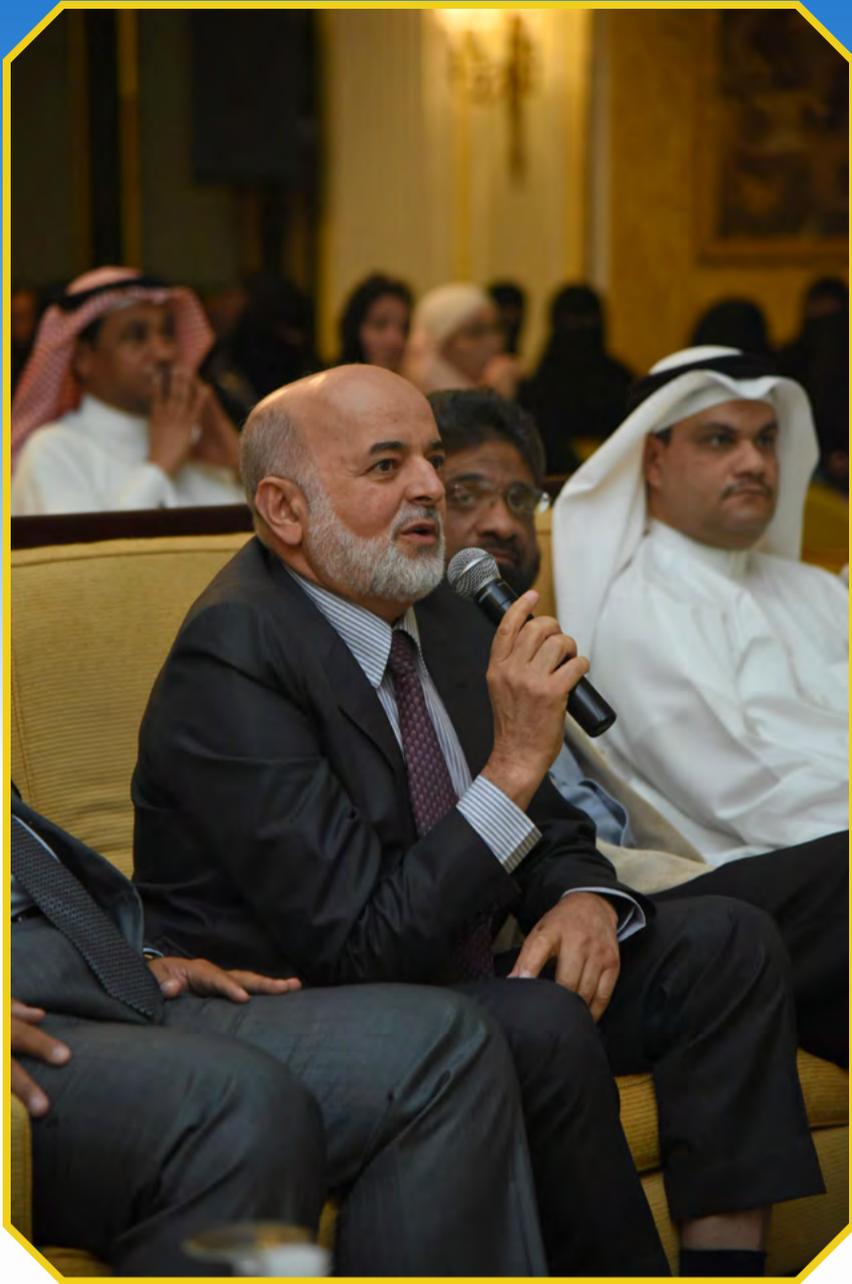


First Gulf Chemists Union Symposium

SAICSC-ACS had organized a one day symposium titled “First Gulf Chemists Union”. This symposium was held on Wednesday, April ,25 2018 in Le-Meridien Hotel, Al-Khobar. Many renowned speakers from within and outside the Kingdom have delivered their talks in the fields of Petroleum Industry Challenges and Latest Studies in Green Chemistry.

A number of attendees from Saudi ARAMCO, SABIC, KFUPM,... etc were in the prominent guest in this event. The event started with an official opening ceremony and inaugural speeches by Dr. Zeid Alothman (Chairman, Gulf Chemist Union) and Mr. Jamal Al-Otaibi (General Secretary, Gulf Chemist Union). They welcomed and thanked the guests for making this event successful with their presence. They also gratitude and requested support with the audiences for making such great events in upcoming years.





Role of Human Performance in Improving Lab Safety Culture

Role of Human Performance in Improving Lab Safety Culture was the second safety leadership course for this year. It was instructed by Eng. Esam Majrashi, a safety professional with +12 years of hands on experience and impressive track record in site of safety initiatives and best practices. Esam Expertise's has a wide experience in improving the safety culture in multicultural work environments among four different Industries: Oil & Gas, Petrochemicals, Manufacturing, & Construction. He worked in Australia with Human Performance Experts, and led the implementation of the Human Performance Program in Maaden. The workshop was held in Saturday May 12th at Khobar and was attended by 25 professionals from both the industry and academia. During the workshop the following topics were covered: Human Performance Concept, Performance Modes, Error Traps, Human Performance Tools, Deviation Analysis, and Consequences Model. There

was a good interactions between audience and the instructor which was positively reflected in the survey that was distributed online to all attendees. At the end of the course, certificates were distributed to attendees. More courses are planned to be carried out during the fourth quarter of the year.

Volunteer opportunities are open for any competent professional who is willing to participate as instructor in the safety training activities. If you are interested, please send e-mail to the lab safety director

labsafety@saicsc-acsc.com.

Please choose photos from the following link:

<https://saicsc-acsc.com/role-of-human-performance-in-improving-lab-safety-culture/>



On behalf of the Saudi International Chemical Sciences Chapter of the American Chemical Society (SAICSC-ACS) Board members, we want to express our sincere appreciation to Rachna S. Korhonen, General Counsel, Consulate General of the United States of America, Dhahran, KSA as "Guest of Honor" for attending the Society Technical Dinner Meeting conducted on September 2018, 12 in the Meridian Hotel, Al-Khobar. Her kind presence helped to make this event a great success and her humble and positive spirit have played a pivotal role in highlighting the importance of high officials engagement and will inspire and encourage more diplomatic members in the future to get involved in their local communities.





Saudi Arabian International Chemical Sciences
Chapter of American Chemical Society
www.saicsc-acsc.com



Sep 2018 Technical Dinner Meeting



Presentation Title

Evolution of Research at King Abdullah University for Science & Technology

Speaker

**Professor Jean Frechet, Senior Vice-President
Research, Innovation and Economic Development
King Abdullah University of Science and Technology (KAUST)**

Professor Jean Frechet is the Senior Vice-President for Research, Innovation and Economic Development at King Abdullah University of Science and Technology (KAUST). A chemist and chemical engineer by training, he is a member of the US National Academy of Science and the US National Academy of Engineering. Before joining KAUST in 2010, he was Professor of Chemistry and Chemical Engineering at the University of California, Berkeley. Frechet is well-known for his research work which encompasses both academic and entrepreneurial activities in the broad fields of nanoscience and nanotechnology with applications in areas as diverse as microelectronics, separation science, solar energy, drugs, and vaccines.

Abstract

Since its opening in 2009 KAUST has evolved into a top-level research University with a primary focus on problems of global significance related to energy, water, food, and the environment. With almost two thousand researchers in three academic divisions and 10 Research Centers, with its peerless Core Laboratories housing some of the world's most sophisticated equipment, KAUST derives its strength from its multidisciplinary approach fueled by a combination of fundamental and goal-oriented research. This presentation will showcase a variety of examples from our research programs and project them in a more global context, pointing to their relevance to the Kingdom and Vision 2030.

Location: Le Meridien Al-Khobar Hotel
Date: Wednesday, September 12, 2018
Reception: 6:30 p.m.
Presentation: 7:00 p.m.

Fees:
SAICSC-ACS Members & Students: FREE
Guests: SAR 40

For online registration, please click [here](#)
For further information, please contact muzaffarkhan@kfupm.edu.sa

Regrettably, children below 15 years old are not allowed

Visit to R&DC Aramco

◆ Objective:

To enhance the chemistry knowledge among students and have more knowledge about how chemists work in research.

◆ Activity Date:

Wednesday, October 2018 ,3

◆ Activity Time:

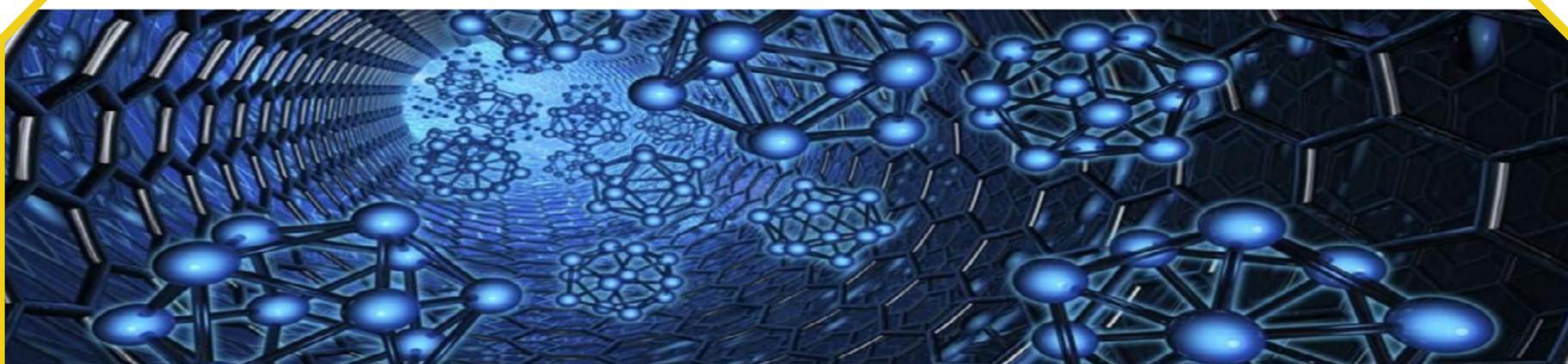
From 8:30 Am to 12:00 Pm

◆ Introduction:

The student chapter along with chemistry students at KFUPM visited R&DC at Saudi Aramco in Dhahran travelled by KFUPM bus from 8:30 Am. The visit started with short presentation about each division of R&D center in Aramco. After that, the visit continued with

splitting students into two groups each group 8 students and each one with one advisor from R&D center to have a tour around different Labs in the center. In addition, students had an exciting time visiting at R&D center and learn more about chemistry.





May 2018 Technical Dinner Meeting



Presentation Title

Functional Thin-Film Nanomaterials for Chemicals Synthesis and Energy Conversion

Speaker

**Dr. Khurram Saleem Joya, Department of Chemistry
King Fahd University of Petroleum and Minerals**

Dr. Joya has a PhD from Leiden University of Netherlands in 2011. During his PhD program, he had few research visits at University of Zurich, Switzerland, University of Uppsala, Sweden, ICIQ, Spain and UNT, USA. After his PhD, Dr. Joya joined Max-Planck Institute, Germany in 2012 for his postdoc research on an EU project. In 2013, he joined KAUST, KSA for another researcher position and DTU-Denmark in 2016. Dr. Joya's research focus is on Molecular and Functional Nanoscale materials, Functional Surfaces and Thin Films, Organometallics, Electrocatalysis, Spectroelectrochemistry, and Biomass conversion and Dye-Solar Cells. Dr. Joya has 50+ high impact research publications, with an h-index of 15, inventor of about 12 patents, and contributed to three books and 6 journals cover-highlights. His research accomplishments include 2 Faculty Research Awards (UET - Lahore), PhD Award, 2 LUF Research Awards Leiden University, The Netherlands, BioSolarCell Valorization Award, Several HEC Travel Awards, Best Lecture Award at Pak Coating Show 2016, Best Performance Award for UET-Lahore, Pakistan. Dr. Joya had delivered more than 55 Lectures as Plenary, Keynote and as Invited Speaker in Pakistan and abroad in EU, USA, Middle-East and beyond.

Abstract

Functional nanomaterials are becoming significant for many important applications in industry, essential catalytic processes and for solar & chemical energy conversion. Thus developing robust and high activity nanoscale materials for electrocatalysis, water oxidation and CO₂ conversion, and their synergistic interfacing with light-harvesting modules is very important to progress the construction of solar to fuel conversion system. During last 10 years, we have developed methods and exploited various functional thin-film nanoscale materials for catalytic water splitting, CO₂ reduction, and recently for biomass catalysis and solar energy conversion. We implemented several molecular, inorganic nanomaterials and metal-oxides displaying great potential to be used in surface chemistry and electrocatalysis.

Hands-On- Short course for Society members

The Saudi Arabian International Chemical Sciences Chapter of American Chemical Society (SAICSC-ACS) conducted a hands-on short course entitled

“Chromatography Method Development and troubleshooting” at the King Fahd University of Petroleum and Minerals on October 2018 ,11



This course was designed for chemists, chemical engineers, as well as technicians working in universities, petrochemical and polymer industries and research centers, who already have some basic theoretical knowledge of **CHROMATOGRAPHY AND SEPARATION SCIENCE**.

In the hands-on short course following topics were discussed

- ◆ During the workshop the following topics will be covered:
- ◆ How to select and develop an analytical method
- ◆ Basics of Method Optimization

- ◆ Liquid and gas chromatography method development
- ◆ Hands-on with liquid and gas chromatography method optimization & basic troubleshooting.

The short course was delivered by the Board of Directors Dr. Chanbasha Basheer, Associate Professor at King Fahd University of Petroleum and Minerals. His research is focused in the area of separation science and applied chemistry. He holds more than 18 years of practical and theoretical experiences in separation science, environmental and analytical chemistry.





Prince Sultan Military College
for Health Science, Dhahran
Vice Deanship of Development and Quality
Skill Development Unit



WORKSHOP

TBBL

Team-Based Learning

- Time:** 12:00 pm to 3:00 pm
- Date:** Wednesday 13 February, 2019
- Language:** English
- Location:** Quality Rm# 1031
- Participants:** Department Head,
Faculty

Dr. Khalid Alhooshani

King Fahd University
of Petroleum and Minerals

Registration: www.psmchs.edu.sa