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Please send your comments, suggestions and articles to newsletter director: DR. HIND AL-JOHANI | chem.johani@gmail.com |Mob:0504697345

You can get a digital copy of all the issue at www.saicsc-acs.com

Saudi Arabian International Chemical Sciences



### FOCUSING ON VISION 2030 THROUGH COMMUNITY UTREACH

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### WELCOME NOTE FROM CHAIRMAN

I got the honor elected as Chairman for Saudi Chapter of American Chemical Society. Thanks to the society members who voted for me.

Recognizing that the Chairman has just a short time in leadership in the society and he cannot steer the ship too sharply without an excellent crew. Our elected board of directors they are the gurus in chemistry field here in region and I do believe that with local chemists, faculty members, academic leaders, pioneers in industry and educators we all will make it a very focused and successful year in coincides with Kingdom of Saudi Arabia 2030 Vision by focusing on the following focus areas:

1. Promoting lab safety culture. Where we will invest more develops a national standard for not only operating the lab safety, but leading the lab safety in industry, universities and schools.

2 Developing chemistry professionals and young leaders. Already we started by January 2018 the "Chemistry for Community" program running across Saudi Arabia and targeting males and females chemists and teachers. More programs for certification and training are in pipeline to leverage the Chemistry capability in region.

In addition, we will give more attention developing our young-chemists and engaging them in our programs to strengthen their leadership skills to keep our pipeline of succession always producing leaders in chemistry. We will keep supporting the student chapter in KFUPM and the youth to grow with this science.

Finally, I invite you to share your ideas on how we can continue to improve the profession for our members and community. I welcome any volunteer, suggestion, collaboration or any else continuation to accelerate executing our strategy and goals.

You can reach me always through chairman@saicsc-acs.com Or interact directly with me on Twitter: @jalotaibi

### **ANNUAL GATHERING** DECEMBER 2017

The Saudi Arabian International Chemical Sciences Chapter of the American Chemical Society (SAICS - ACS) held its SAICSC-ACS Annual Gathering 2017 on 20 of December 2017 at Le Meridian hotel, Al-Khobar. At the meeting, Chairman Opening speech. In his speech, he highlighted the main accomplishments and achievements during the year 2017. Followed by a recorded videotape for the ACS president Prof. Peter K. Dorhout. He delivers a wonderful talk on his role to support the Saudi Arabia Chapter. He focused areas that need to work on, such as developing society strategy, Promoting the Lab Safety Culture in our community, Developing the Chemistry Professionals and Educators and developing the media center. The Prize is awarded annually by the Chairman for the best three articles published in Organon.

Chairman recognized and thanked our sponsors for their support and praised in their active role. The gathering attracted different executives from Saudi Aramco and major local companies, SAICSC-ACS board of directors, and society members.

The chairman recognized a great group of volunteers that unselfishly give their time and talents to assist the society. In the meantime, The chairman recognized the exemplary efforts of the BODs and Student Chapter in industry engagement, operations and planning, community and social outreach, and more.

Finally, the lucky winner of one of the door prizes announced.

The Gathering included many opportunities to hear about the work of SAICSC-ACS across our kingdom.

# TECHNICAL DINNER MEETING JANUARY 2018

#### **Presentation Title**

Challenges in Engineering Composite Materials

Speaker

#### Dr. Gilles Lubineau

Professor of Mechanical Engineering King Abdullah University of Science & Technology

Dr. Lubineau is the Professor of Mechanical Engineering and the principal investigator for COHMAS (Composite and Heterogeneous Materials Analysis and Simulation), an integrated environment for composite engineering that he created in 2009 when joining KAUST. He Is also Faculty chair of the Faculty of Mechanical Engineering. Before joining KAUST, Pr. Lubineau was a faculty member at the École Normale Supérieure of Cachan, France. He also served as a visiting researcher at UC-Berkeley and external faculty member at the École Polytechnique. He earned a PHD degree in Mechanical Engineering from École Normale Supérieure de Cachan (ENS-Cachan), France and was granted hisresearch habilitation In Mechanics In 2008. He received the Daniel Valentin Award for best innovative works related to the field of composite materials in 2004. He Is member of various Editorial boards, Including the International Journal of Damage Mechanics. Abstract.

The success of continuous-fiber composites in aeronautics has inspired their use in other applications, including automotive, civil and structural engineering, and piping systems. Even so, continuous-fiber composites are not used to their full potential because (1) the relations between the microstructure and the macroscopic properties are only partially understood, (2) assembly techniques that allow better composite integration need improvement, and (3) development of methods to monitor structures made from such composites remains a challenge. Here, we review these barriers to the full use of continuous- fiber composites in materials engineering and applications and offer illustrative examples of new directions In engineering composites taken by the COHMAS Laboratoy

# TECHNICAL DINNER MEETING FEBRUARY 2018

#### **Presentation Title**

The Future of Work in Saudi Arabia

#### Speaker Mr. Abdallah S. Jum'ah

Former President and CEO Saudi Aramco



Abdallah S. Jum'ah is former President & CEO of Saudi Aramco. During his 13+ years at the helm of the Company he transformed it into an internationally integrated oil and gas enterprise including its advent into the downstream petrochemical business. He studied at the American University in Cairo (AUC), the American University of Beirut and completed the Harvard Business School Management Development Program. Jum'ah served as a member of the Board of Trustees of AUC from 1998 to February 2013 and as Vice Chairman of the International Advisory Board of the King Fahd University from 2007-2009. His worldwide business affiliations include former memberships of Halliburton Company Board, JPMorgan Chase International Council, Schlumberger Business Consulting Advisory Board, the Reliance International Advisory Board and the International Business Council of the World Economic Forum. Jum'ah is a board member of Zamil Industrial, Hassana Investment Company, Saudi Arabian Airlines and a former member of the Supreme Economic Council's Advisory Committee and the Economic Cities Authority. He was appointed Chairman of the Board of the Saudi Investment Bank in February 2013 and Co-Chairman of the U.S.-Saudi Arabian Business Council in March 2015. Jum'ah is known for his innovative approach to business and has strong interest in developing leaders.

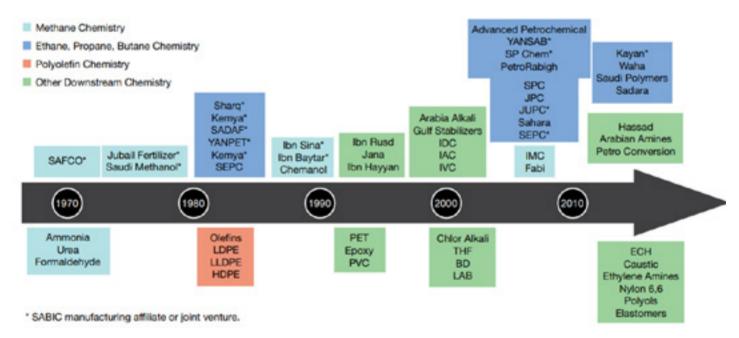
Abstract Saudi Arabia is undergoing significant transformations and historical changes, some from Vision 2030, and others from systemic sources. Mr. Jum'ah will discuss what the future landscape or environment may look like, the keys for success in that environment, and will touch on the skills the knowledge worker of the future will require. In addition, I will discuss the implications for businesses, educators and decision makers.

Mohammed Ibrahim Alshehab

### POLYMER PRODUCTION GROWTH IN SAUDI ARABIA

The polymers are present in the nature since long time. For example, starch, cellulose and rubbers are well known natural polymers and widely available and extensively used by the human being. Synthetic polymers plays major role in our daily life, thanks to the chemical and petrochemical industries who produces valuable chemicals for polymer synthesis. Synthetic polymers are enhances the human lifestyle.

Last ten years, Kingdom of Saudi Arabia strongly manufacturing chemicals and producing polymers in very large quantities, this remarkable success attracted the attention and appreciation from western countries. There is growing research and development in the kingdom to meet the demand of diversified markets.



SABIC is the top three polymer producers in the world, as a global manufacturer it has partnership with global companies to supply 3 million metric ton/year through its 26 manufacturing plants.

Major polymers produced are: Low density poly ethylene which is used in the industrial glass packings, flasks for the milk and the retail bags and High density poly ethylene, are produced for pipes for various transportations which includes gasoline. Poly propylene, PET, PVC are other products where uses in lining children diapers and the carpets and the cords and pipes systems and cars batteries.

Saudi Arabia is continuously expanding its growth the chemical industry in to the further and the much more growth is in the low cost -oil and gas-driven feedstock products. This leads to further expansion of local industrial cluster and job market which is well aligned with Kingdom's Vision 2030.

# PROFESSIONAL DEVELOPMENT PROGRAMS FOR SAICSC-ACS-MEMBERS

Basheer Chanbasha Professional Dev. Director ~ development@saicsc-acs.com

Saudi Arabian International Chemical Sciences Chapter of American Chemical Society (SAICSC-ACS) offers variety of professional development programs to our valuable society members. The main objective of the programs is to sharpen the learning skills to shape the future of our society members and provide support to achieve success. This key objective is well aligned with the Kingdom's vision 2030. Our programs are led by the experts from our mother society-ACS, Saudi Aramco, SABIC, King Fahd University of Petroleum and Minerals and King Abdullah University of Science and Technology. You'll be engaging with them in the Seminars, Workshops, interactive classroom discussions/learning and Industrial educational visits.

Everyone has the opportunity to progress professionally in SAICSC-ACS. We would like to seek your support for the activate participation in the following events

### LEARN TO SHARPEN YOUR SKILLS AND SHAPE THE FUTURE TO LEAD & EXPLORE THE SUCCESS

- 1. Chemistry for Community
- 2. Seminars
- 3. Conferences and short course
- 4. Online events
- 5. Industrial educational visits

From the mentioned programs, our ACS-Saudi Chapter providing opportunity for collaboration and exchange in a structured way which can have a positive contributory effect upon development of members' professional attitudes, skills and values.

If anyone interested to contribute or take part in the program, kindly contact me

via email (development@saicsc-acs.com).

## CHEMISTRY FOR COMMUNITY



The Saudi chapter of American Chemical Society (SAICSC-ACS) strongly believes professional development of chemistry teachers is the major step of excellence of our new generations. Thus, we introduce series of programs for chemis-

try teachers throughout the Kingdom. These programs designed to help the high-school chemistry teachers to obtain the modern theories and major chemical concepts related to the high-school curriculum in Saudi Arabia.

### PROGRAM OVERVIEW

The program targets male and female Saudi chemistry teachers and it aims to enhance the level of high-school student's understanding of the important theories and basic chemical concepts through proper training for those chemistry teachers. Chemistry teachers training program considers not only theoretical aspects of teaching chemistry but also the practical experience of the learn concepts. It also incorporates research on methodologies on how could engage students intellectually. In each workshop, there will be approximation of 70 participants including male and female teachers. The program has been developed in accordance with rigorous criteria and standards to ensure the quality of the materials delivered and to guarantee enrichment of the participant knowledge and experience. The program incorporates the following approaches:



- Inquiry based approach of learning.
- Built on a problem-based learning model.
- Derived from current science education research.
- Focused on participant questions and investigations.
- Centered on collaborative learning strategies.
- Supportive of cross-disciplinary and cross-curricula approaches.

Following is the schedule of the Chemistry for Community program from February to April 2018. We would like to seek our society members' strong participation in the upcoming events. Interested teachers are welcome to register through the following professional development director's email (development@saicsc-acs.com).

### **CHEMISTRY FOR COMMUNITY PROGRAM (2018)**

Program Name	Instructor	City	Venue	Date	Time
Chemical Equilibria by Guid- ing Inquiry	Dr. Khalid Al Hoshani	Al Ahsa	Education Department	21-2-2018 / 5-6-1439	8:00 AM - 12:00 PM
Using socrative to enhance in-class student engagement and collaboration	Dr. Khalid Al Hoshani	Jeddah	Education Department	28-2-2018 / 12-6-1439	8:00 AM - 12:00 PM
Chemical Equilibria by Guid- ing Inquiry	Dr. Khalid Al Hoshani	Makkah	Education Department	01-3-2018 / 13-6-1439	8:00 AM - 12:00 PM
Using socrative to enhance in-class student engagement and collaboration	Dr. Khalid Al Hoshani	Riyadh	Education Department	07-3-2018 / 19-6-1439	8:00 AM - 12:00 PM
What triggers a chemical re- action?	Dr. Ahmed Al Harbi	Dammam	Education Department	08-3-2018 / 20-6-1439	8:00 AM - 12:00 PM
Immediate feedback tech- niques in teaching chemistry	Dr. Khalid Al Hoshani	Hail	Education Department	14-3-2018 / 26-6-1439	8:00 AM - 12:00 PM
Enhancing learning by im- proving process skills in STEM	Dr. Khalid Al Hoshani	Al Rass	Education Department	21-3-2018 / 04-7-1439	8:00 AM - 12:00 PM
Chemical Equilibria by Guid- ing Inquiry	Dr. Khalid Al Hoshani	Al Madinah	Education Department	04-4-2018 / 18-7-1439	8:00 AM - 12:00 PM
Structure and bonding	Dr. Abdulrahman Al Baitar	Abha	Education Department	05-4-2018 / 19-7-1439	8:00 AM - 12:00 PM



Mr. Ialal Al Ghamai Lab Safety Director labsafety@saicsc-acs.com

### SAFETY

One of the initiatives of the society for 2018 is to develop a national laboratory standard that works both for industrial and academic laboratories. A communication was already initiated with the Saudi Standards, Metrology and Quality Organization (SASO) as the kingdom entity that governors the organizational and executive tasks related to standards, metrology and quality, including laying down and accrediting Saudi standards of goods, products and services, measurement and calibration bodies, and procedures of conformity evaluation and certification. Also, some international bodies were contacted to capture the best practices and best way to reach our target. Once the standard is drafted and approved by SASO, it will be communicated to all interested parties.

Another safety related initiative is to conduct a lab safety leadership training program for industrial and academic practitioners in coordination with SASO or any other training institutes. The door is open for suggestions, collaborations, or volunteering. All of these programs are again aiming to promote safety culture within the community.

# SOCIETY UPCOMING EVENTS:

### SAICSC-ACS IN-KINGDOM SOCIAL TRIP

Al Ahsa - Sat 7 April, 2018

TRAINING PROGRAM: IMMEDIATE FEEDBACK TECHNIQUES IN TEACHING CHEMISTRY Hail, Department of Education, MOE - 14 March 2018

#### TRAINING PROGRAM: ENHANCING LEARNING BY IMPROVING PROCESS SKILLS IN STEM

Al Rass, Department of Education, MOE - 21 March 2018

#### TRAINING PROGRAM: TECHNICAL DINNER MEETING, LE MERIDIAN HOTEL

Al-Khobar, Department of Education, MOE - 26 March 2018

#### BEST ARTICLES TO ORGANON-ACS-SAICSC The competition is open to anyone for the best scientific article through 2018 - 2019

#### The prizes are

1st prize - 1000 SAR 2nd prize - 750 SAR 3rd prize - 500 SAR For further information please visit our website; www. saicsc-acs.com