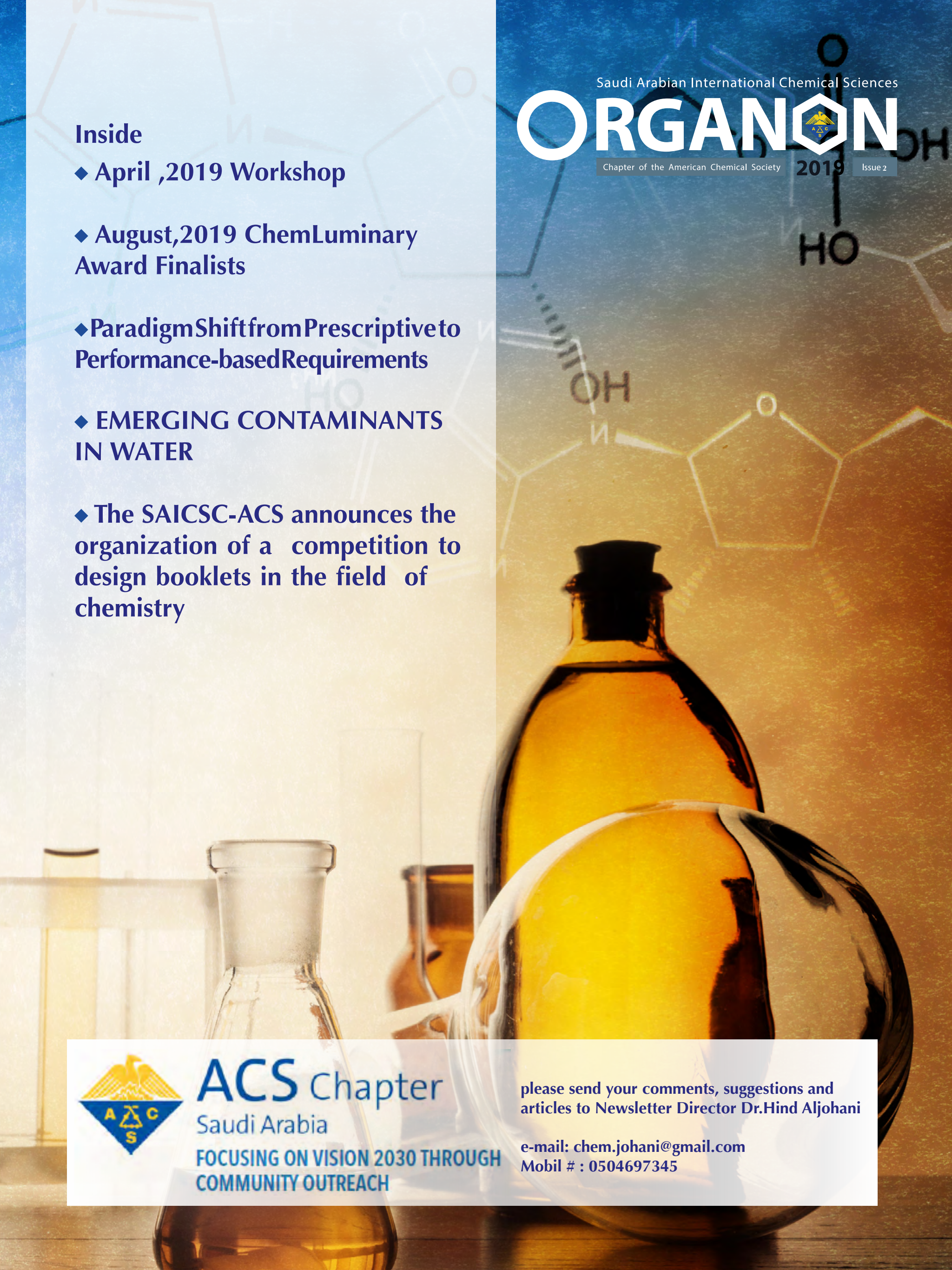
Saudi Arabian International Chemical Sciences
ORGANON
Chapter of the American Chemical Society 2019 Issue 2

Inside



ACS Chapter
Saudi Arabia
FOCUSING ON VISION 2030 THROUGH COMMUNITY OUTREACH

please send your comments, suggestions and articles to Newsletter Director Dr.Hind Aljohani

e-mail: chem.johani@gmail.com
Mobil # : 0504697345

Workshop on Education Technologies

Tuesday, April 16,2019

Professional development program 2019, under the aegis of SAICSC-ACS, organized a very successful workshop on Tuesday, April 2019 ,16 at Kempinski Al-Othman hotel, Al-Khobar, entitle, "Education Technologies in Higher Education: Present Status, Challenges, and Future Trends". Dr. Wajih Abu-Al-Saud, Director, Learning Technology Center at Deanship of Academic Development (DAD), KFUPM and Mr. Sanaullah Syed, Technical Research Assistant at the same center, shared their experiences and thoughts. The workshop provided an opportunity and awareness of the current technologies and how they are implemented in HE institutions globally. Many important topics were covered and discussed in detailed, however, more emphasis was given to Open Education Resources (OER), Massive Open Online Courses (MOOCs), Augmented and Virtual Reality. The participants included from Bahrain University, Dammam University (IAU), PMU, KFUPM, Saudi Aramco, Sabic and other organizations.

Location: Kempinisky AlOthman Hotel Al Khobar
Date: Tuesday, April 16,2019 **Reception:** 6:00 p.m **Time:** 6:30 p.m.
For more information please contact, Dr. M.N.Siddiqui
mnahid@kfupm.edu.saedu.sa

◆ **Speaker 1**

Dr. Wajih Abu-Al-Saud

Director, Learning Technology Center, Deanship of Academic Development (DAD), KFUPM.

Bio:

Dr. Wajih is the Director, Learning Technology Center at Deanship of Academic Development (DAD) at KFUPM since 2014. He has a PhD in Electrical Engineering from Georgia Institute of Technology, USA, and is a faculty member in Electrical Engineering in KFUPM. His research interests include software defined radios, wireless and mobile telecommunications and signal processing. He regularly presents seminars and workshops on Educational Technologies at KFUPM.

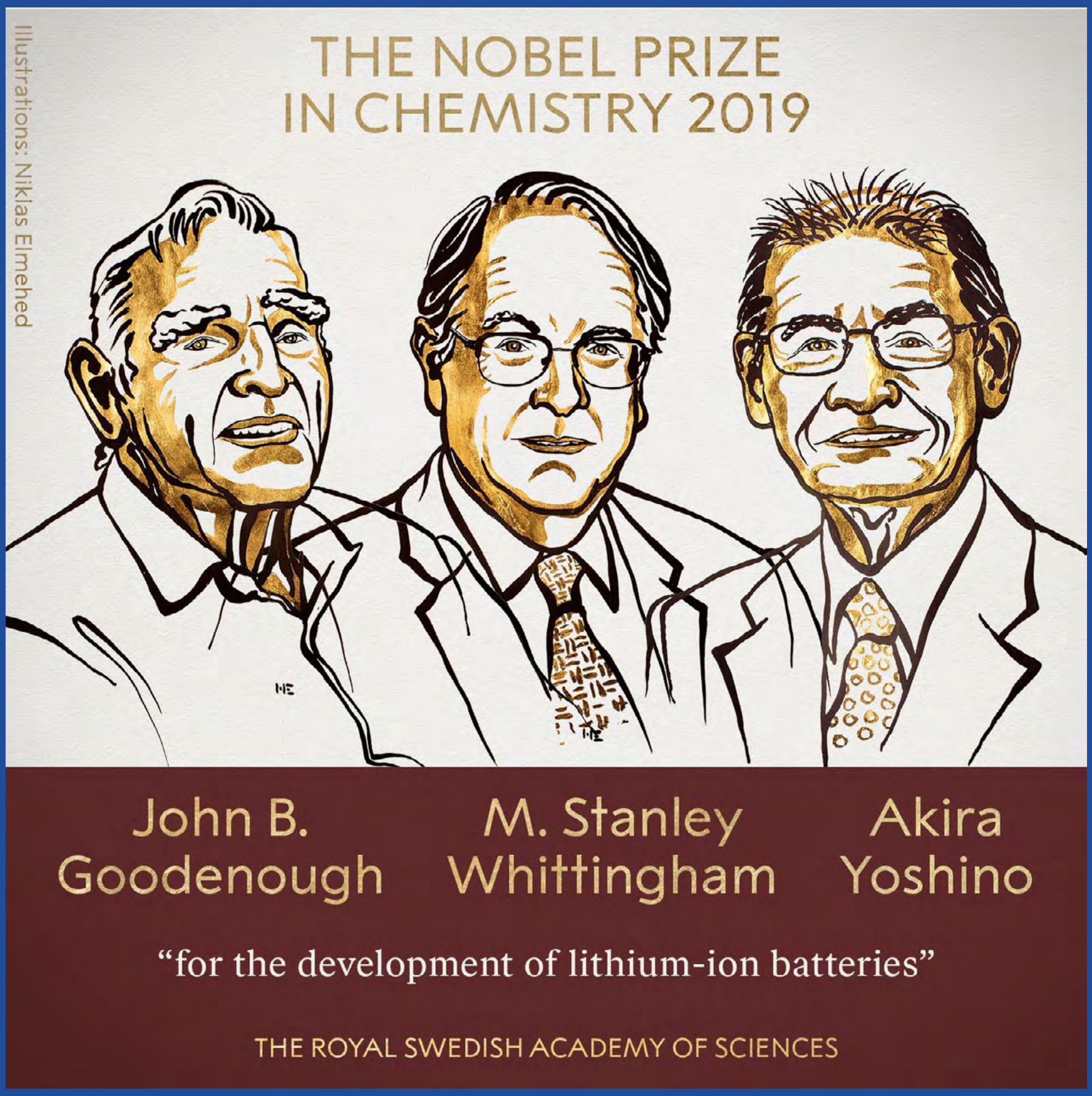
◆ **Speaker 2**

Mr. Sanaullah Syed

Technical Research Assistant, Learning Technology Center, Deanship of Academic Development (DAD), KFUPM.

Bio:

Mr. Sanaullah is working as a Technical Research Assistant in Learning Technology Center, Deanship of Academic Development (DAD) at KFUPM. He has a Masters in Computer Engineering, and is working with Learning Technologies in Higher Education. He conducts training workshops and seminars for faculty members, related to tools of educational technology such as LMS (Learning Management Systems) and related support systems.

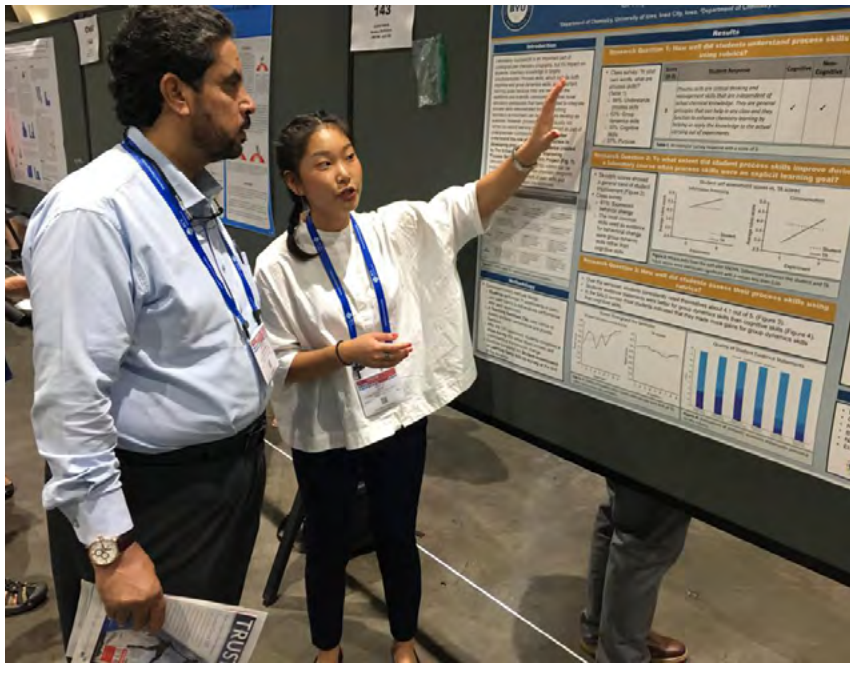

Illustrations: Niklas Elmehed
THE NOBEL PRIZE
IN CHEMISTRY 2019
John B. Goodenough
M. Stanley Whittingham
Akira Yoshino
"for the development of lithium-ion batteries"
THE ROYAL SWEDISH ACADEMY OF SCIENCES

Congratulations! ChemLuminary Award Finalists - Saudi Arabia Chapter

Tuesday, August 27,2019

c&en

The Global Engagement Award for International Chemical Sciences Chapters went to the **Saudi Arabia International Chemical Sciences Chapter**, which launched the Chemistry for Community workshop program. The program brought together 700 chemistry teachers for professional development training, which addressed effective teaching methods and reforms to the Saudi public education system.



Congratulations! ChemLuminary Award Finalists - Saudi Arabia Chapter

Tuesday, August 27,2019

Committee on International Activities

Credit: Scott Henrichsen Fotography

David Wu (left), chair of the International Activities Committee Subcommittee on Asia and the Pacific, and ACS immediate past president Peter Dorhout (right) present a ChemLuminary Award to Mansour Al-Lahiani (second from left) and Sowelim Al-Shammary of the Saudi Arabia International Chemical Sciences Chapter.

"ISO/IEC 17025:2017 – Paradigm Shift from Prescriptive to Performance-based Requirements"

Dr. Prashant S. Umare CQM-ASQ, NEBOSH-IGC Quality Coordinator Ras Tanura Area Laboratory Division, Saudi Aramco
Ras Tanura, Saudi Arabia 31311
Tel: 00966 13 6784207
prashant.umare@aramco.com

Introduction:

All laboratories involved in testing and calibration strives to produce valid results for their customers, and is a significant key performance indicator (KPI). Laboratory accreditation as per the globally accepted standard, ISO/IEC 17025 "General Requirements for the Competence of Testing and Calibration Laboratories," plays a vital role to meet this KPI. The fundamental objective to develop this standard was to promote confidence in the operation of laboratories and contains requirements for laboratories to enable them to demonstrate their competency, and to generate valid results. Implementation of this standard requirement in laboratories does not only facilitate the development of a robust structure of laboratory management system (LMS), but also lays down a strong foundation for Operational Excellence (OE) Model.

The most awaited third edition of ISO/IEC 17025 standard was released as ISO/IEC 17025:2017 in November 2017 to replace ISO/IEC 17025:2005. A three year transition period has been given to currently accredited laboratories to transition to the 2017 version. During the period of transition, both versions of standards, ISO/IEC 17025:2005 and ISO/IEC 17025:2017, will be equally valid and applicable. At the end of the transition period, accreditation of a laboratory to ISO/IEC 17025:2005 will not be recognized under the International Laboratory Accreditation Cooperation (ILAC) arrangement.

June 2019
Volume 14 • Number 5

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HOW TWO BROAD TECHNOLOGIES ARE INFLUENCING LIFE IN THE LAB

Purchasing Trends Survey

CHANGE MANAGEMENT

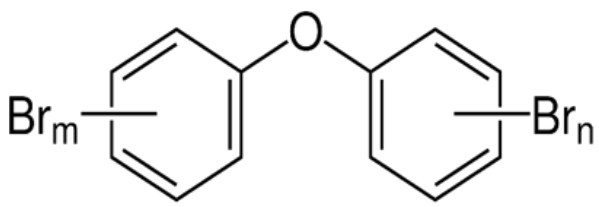
EMERGING CONTAMINANTS IN WATER

◆ **SELF INTRODUCTION:**
Mr. Muhammad Kamran
is a PhD student in the Chemistry Department at King Fahd University of Petroleum and Minerals, Dhahran, Saudi Arabia.

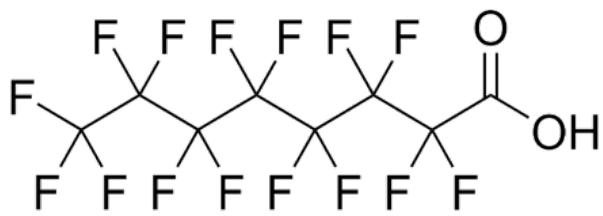
Water is a fundamental need of all living things. Each human person on earth at least requires 20 to 50 litres clean water per day for drinking, cooking and simply keeping themselves clean. Approximately, 1.8 million peoples die each year due to the diarrheal disease like cholera, due to polluted water drinking. Water is essential for the hydration of food production. Worldwide many places receive water from surface water such as rivers, lakes, creeks, rain etc. In recent decades, industrial and agricultural activities and population growth have increased the water demand and the production of wastewater. Emerging contaminants are the chemical that comes from the natural or synthetic source into the water. These contaminants cause an adverse effect on human health and the environment. The main reason for the contamination are industrial and agricultural activities and the use of different chemicals containing products in normal life. Most of the contaminants released continuously into the environment even in very low quantities which cause problems for the humans and aquatic wildlife. Summary of data of some important emerging contaminants that are present in the normal water is explained in the next paragraph.

The main contaminants that are mainly present is water are trichloropropane (TCP), dioxane, trinitrotoluene (TNT), dinitrotoluene, trinitro-triazane, nanoparticles, N-nitroso-dimethylamine (NDMA),

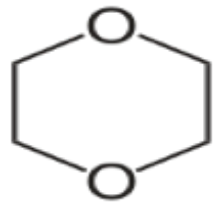
perchlorate, perfluorooctanoic acid, polybrominated biphenyls (PBBs), polybrominated biphenyl ethers (PBDPEs) and naturally occurring element tungsten. These chemicals are mostly present in solvents, cleaning products, pure explosives, military and underwater blasting, consumer products and medical applications, softeners, additives, antioxidants, byproducts of the chlorination of water, some firework equipment's, non-stick cookware, waterproof clothing, flame retardant and household products. Health problems that are created from these contaminants are rapid disruption of liver, kidney, lung, spleen, colon and muscles. These are also creating cell cancer and heart diseases. Most of these contaminants are carcinogenic and affect our skin, eyes and enzymes. The figures for theses contaminants are given below.



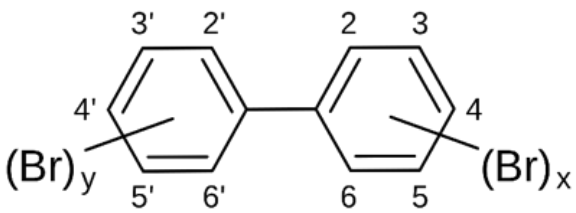
Polybrominated diphenyl ethers (PBDPEs)



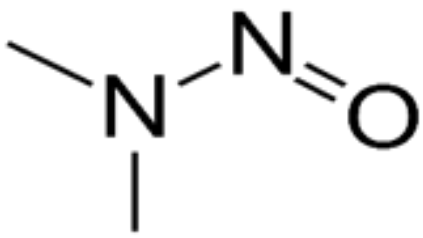
Perfluorooctanoic acid



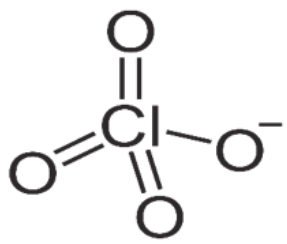
Dioxane



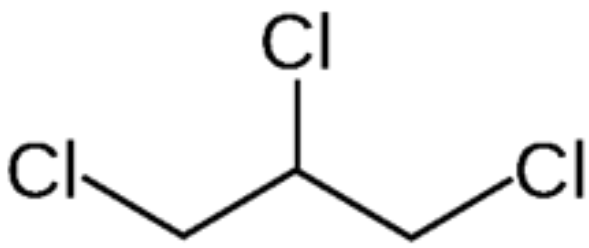
Polybrominated biphenyls (PBBs)



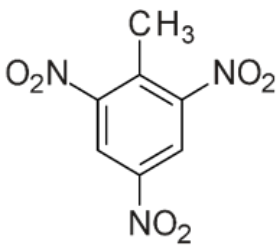
N-nitroso-dimethylamine (NDMA)



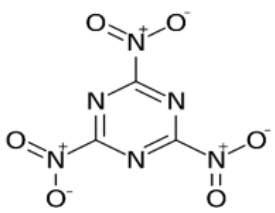
Perfluorooctanoic acid



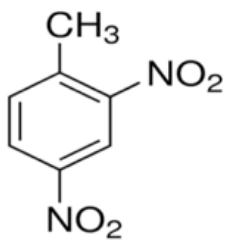
Trichloropropane (TCP)



Trinitrotoluene (TNT)

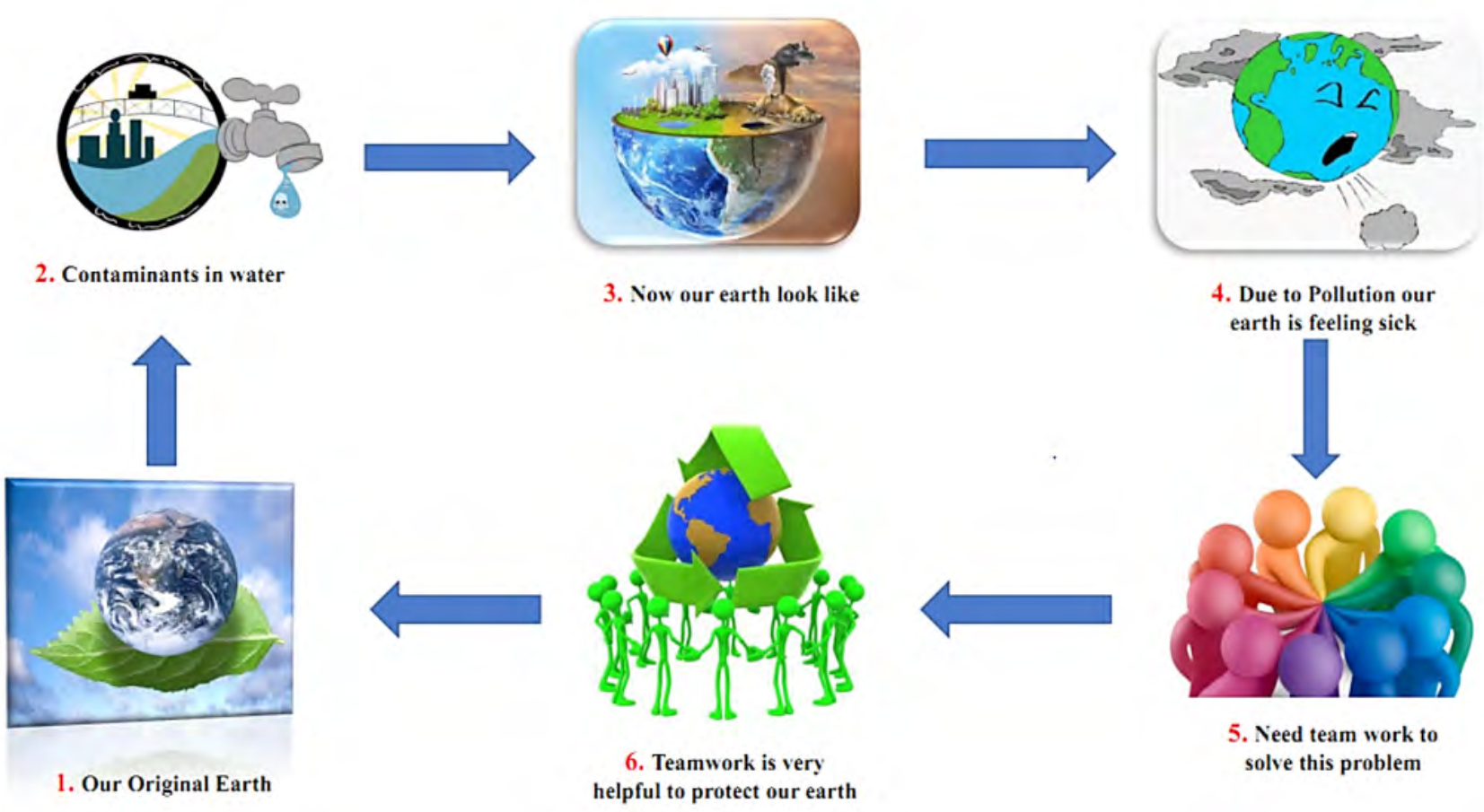


Trinitro-triazane



Dinitrotoluene

In the start, earth was very clean and beautiful as described in the following Figure. Eventually a small portion our water is contaminated with pollutants and with chemicals and industrial waste. Living thing depends on the earth for clean water, clean air and sunlight for proper growth. When water and atmosphere contaminated with pollutants than its effects the life of growing thing on earth like. When the earth will sick, the peoples, plants and animals who depend on it will suffer. So, we need proper teamwork to remove the contaminants to clean our earth. We should care about clean water to drink, clean air to breath and make sure that our earth is healthy. We can keep our earth clean, healthy and safe by remembering the three R's: recycle, reuse and reduce. Recycle means to take something old, change it and make it new, reuse means things use again and again and the meaning of reducing is to use less energy.




الكيميائيين الخليجي
Gulf Chemists Union
GulfChem 2019
الهيئة الوطنية للنفط والغاز
National Oil & Gas Authority
Under the patronage of His Excellency تحت رعاية معالي
الشيخ محمد بن خليفة آل خليفة
Sheikh Mohamed bin Khalifa Al Khalifa
وزير النفط، مملكة البحرين
Minister of Oil, Kingdom of Bahrain
The Gulf Chemists Union invites you to attend
The Second Gulf Chemists Symposium
Under the subject of
"The role of chemists in facing the oil challenges"
يتشرف اتحاد الكيميائيين الخليجي بدعوتكم لحضور
ملتقى الكيميائيين الخليجيين الثاني
تحت عنوان
"دور الكيميائيين في مواجهة التحديات في الصناعات النفطية"
@GulfChemists
The role of chemists on:
• Reduction of the corrosion impact
• Oil & Chemicals production and treatment
• Protection from information technology threats on industry
• Reuse of catalysts in oil and petrochemical industry
• Molecular analysis of petrochemical compounds
دور الكيميائيين في:
• تقليل أضرار التآكل في الصناعات النفطية
• إنتاج ومعالجة المواد النفطية
• الوقاية من تهديدات التقنية للمنشآت النفطية
• تطوير إعادة استخدام المواد الحفازة
• التحليل الجزيئي للمركبات البتروكيميائية
Golden Tulip Hotel فندق قولدن توليب
Manama, Bahrain المنامة، البحرين
Thursday 25 April 2019 الخميس 25 ابريل 2019م
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To: 02:30 PM إلى:
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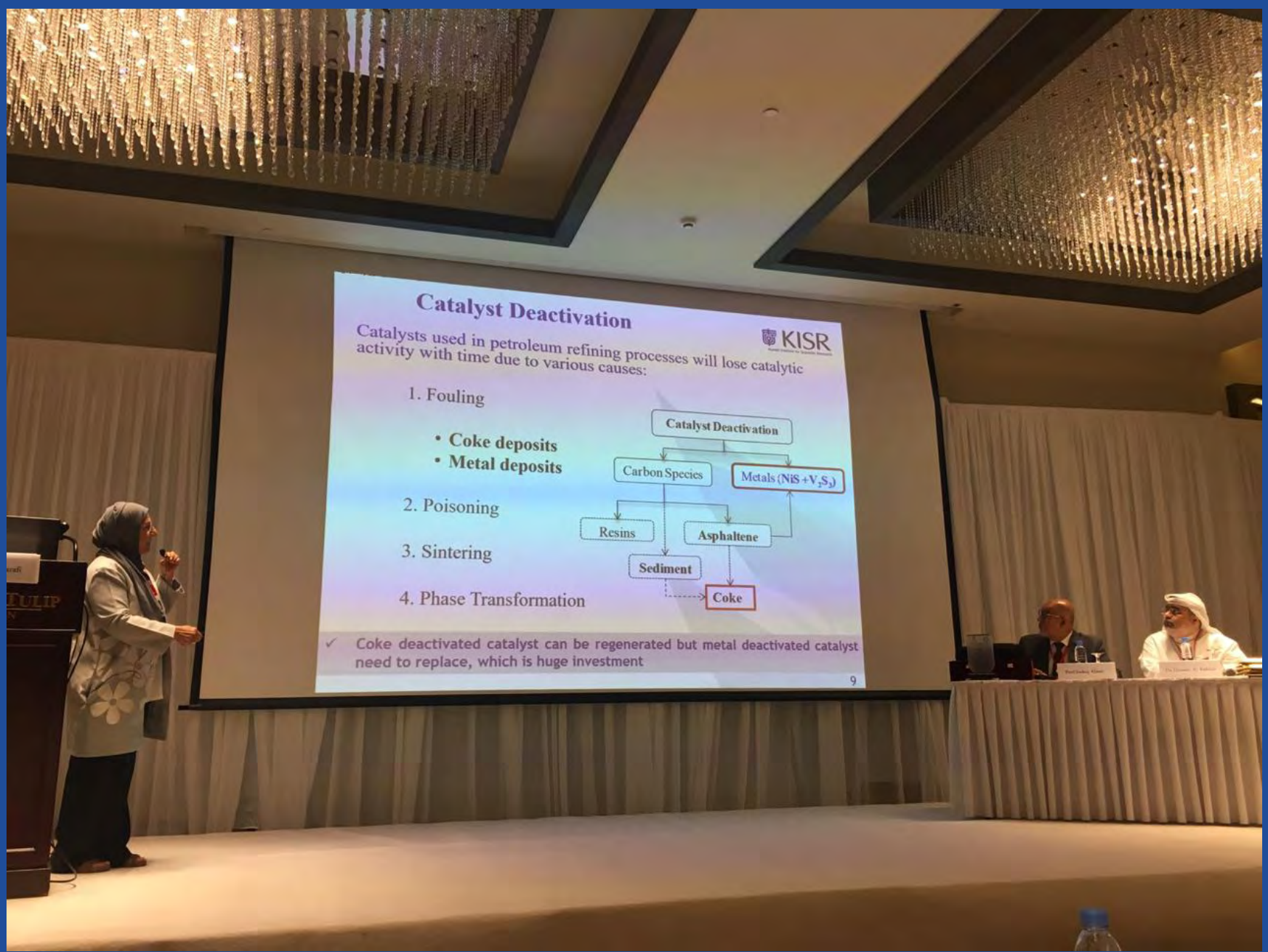
Kuwait Petroleum Sector
KISR
IRAQ
IRAN
KUWAIT
SAUDI ARABIA
KOC-Upstream Processing
Currently the crude oil production is around 2.9-3 bbl/days by 2025, plan to increase production by 4 million bbl/day
KNPC-Downstream Processing
3 refineries, 4th plus clean fuel project are in process. Increase refining processes by 1.5 bbl/day.


Catalyst Deactivation
KISR
Catalysts used in petroleum refining processes will lose catalytic activity with time due to various causes:
1. Fouling
• Coke deposits
• Metal deposits
2. Poisoning
3. Sintering
4. Phase Transformation
Catalyst Deactivation
Carbon Species
Metals (NiS +V2S3)
Resins
Asphaltene
Sediment
Coke
✓ Coke deactivated catalyst can be regenerated but metal deactivated catalyst need to replace, which is huge investment
9

Symposium Schedule

Second Gulf Chemists Union Symposium

Time	25 April 2019
8:00-9:00	Registration
9:00-9:15	**Opening Speeches** Dr Abdulwahid Al-Nakal, Chairman, Gulf Chemists Union Mr. Jamal Al-Otaibi, General Secretary, Gulf Chemists Union
	Session 1: Petroleum Industry Catalysis Challenges **Session Chairs:** **Dr Hassan Al-Rabiah,** *Kuwait Institute for Scientific Research, Kuwait* **Dr. Prof. Sadeq. Alawi ,** *University of Bahrain, Kingdom of Bahrain*
9:15-9:55	**PL-1:** *"Spent catalyst Technology Management: An Overview"* **Dr. Meena Marafi,** Petroleum Research Center, Kuwait Institute for Scientific Research , Kuwait
9:55-10:15	**L-1:** "*The role chemists in catalysis for petroleum refining and petrochemicals*" **Dr. Shakeel Ahmed,** Center for Refining & Petrochemicals Research Institute, King Fahd University of Petroleum & Minerals, Kingdom of Saudi Arabia
10:15-10:35	**L-2:** "*Environmentally friendly inhibitor of the corrosion of mild steel: commercial oil of Eucalyptus"* **Dr Baraa. Hafez,** Department of Chemistry, College of Sciences, University of Sharjah, UAE
10:35-11:05	Coffee Break
	Session 2: Petroleum Industry Analytical Challenges **Session Chairs:** **Prof. Zeid A. ALOthman,** *King Saud University, Kingdom of Saudi Arabia* **Dr Mahmoud A Mohsin,** *Department of Chemistry, University of Sharjah, UAE*
11:05-11:45	**PL-2:** *"Multidimensional Gas Chromatography for Molecular Analysis of Petroleum Products"* **Dr Hassan Al-Rabiah,** Petroleum Research Center, Kuwait Institute for Scientific Research, Kuwait
11:45- 12:05	**L-3:** "*The role of X-ray analyses in supporting the Industrial sector*" **Mr. Hussain Halwachi,** Aluminium Bahrain (Alba). Manama, Kingdom of Bahrain.
12:05-12:15	**L-4 Sponsor Lecture:** *"ProLab Systems your Lab Solution Provider"* **Zaid Al-Mosheky,** Prolab Systems
12:15-12:45	Prayer & Coffee Break
	Session 3: Petrochemical Materials Challenges **Session Chairs:** **Dr Meena Marafi,** *Kuwait Institute for Scientific Research, Kuwait* **Dr. Shakeel Ahmed,** *King Fahd University of Petroleum & Minerals, Kingdom of Saudi Arabia*
12:45-1:05	**L-5:** "*Developing advanced materials for Oil and Petrochemical industries*" **Prof. Zeid A. ALOthman,** Advanced Materials Research Chair, Department of Chemistry, College of Science, King Saud University, Kingdom of Saudi Arabia
1:05-1:25	**L-6:** "*Petroleum to Plastics and Back to Fuels*" **Mahmoud A Mohsin**, Department of Chemistry, University of Sharjah, UAE
1:25-1:45	**L-7:** "*Acoustic behavior of sodium surfactants in molten acetamide, N-methyl acetamide and N, N-dimethyl acetamide*" **Prof. Sadeq. Alawi,** Department of Chemistry , University of Bahrain, Kingdom of Bahrain
1:45-2:00	**Concluding Remarks**
2:00	Lunch


Saudi Arabian International
Chemical Sciences Chapter
ACS Chapter
Saudi Arabia
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89th
SAUDI NATIONAL DAY
23
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Renewal must be completed during September
Membership will be valid until end of December

ChemIndix 2019

SAUDI ARABIAN INTERNATIONAL CHEMICAL SCIENCES Chapter of ACS

The 11th International Conference and Exhibition on Chemistry in Industry

Gulf Hotel, Manama, Kingdom of Bahrain.

October 29-31, 2019

Under the Patronage of
His Royal Highness
Prince Khalifa bin Salman Al Khalifa
Prime Minister, Kingdom of Bahrain

Join Us

"Breakthrough Solutions Through Innovative Materials"

3 Panel Sessions

- Circular carbon economy
- Role of innovative materials in future industries/cities
- Innovative catalysis in chemical and refining industry

2 Students Hackathon Rounds

- 60+ undergraduate students
- 3 topics
- 3 awards (SR 60,000)

5 Keynote Speeches

- Innovation in IR4.0
- The role of artificial intelligence in materials discovery
- Potential applications for polymeric material in future industries
- Innovative and smart materials for enhanced oil recovery
- Catalytic upscaling of polymer waste to chemicals

4 Pre-Conference Courses

- 4th industrial revolution (IR 4.0) in oil and gas industry
- Innovation and creativity to organizational success
- Advanced material characterization
- Safety officer – challenges and opportunities

5 Main Topics

- Innovative materials in future cities and industries
- Circular carbon economy and sustainability
- Digital transformation
- Solutions in refining and chemicals
- Solutions in exploration and production

30 Technical Sessions

- 100+ oral presentations
- 100+ posters

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ChemIndix 2019

The 11th International Conference and Exhibition on Chemistry in Industry

Gulf Hotel, Manama, Kingdom of Bahrain.

October 29-31, 2019

Panel Discussion (1): October 29, 2019
Cricular Carbon Economy

Ahmad Al Khowaiter
CTO Technology Oversight & Coordination, Saudi Aramco

Waleed Al Shalfan
GM Petrochemical SBU Technology Management, SABIC

Peter Terium
Head of Future & Energy Sector, NEOM

BAO Xinhe
President, University of Science & Technology of China

Panel Discussion (2): October 30, 2019
Role of Innovative Materials in Future Industries/Cities

SUN Yuhan
VP, Shanghai Advanced Research Institute

Herman Dikland
VP, Arlanxeo Netherlands

Thomas Gries
ITA institute Director Aachen Univ, Germany

Ihsan Taie
Chief Technologist Saudi Aramco

Panel Discussion (3): October 31, 2019
Innovative Catalysis in Chemical and Refining Industry

Khalid Al Hamid
President, SASREF

Robert Slone
CTO, Honeywell | UOP

Jinichi Igarashi
President, JX Nippon Research Institute Ltd, Japan

Jorge Gascon
Director, KAUST Catalysis Center

Keynote Speakers

Sammy Haroon
CEO, AlphaX Decision Science, USA
Innovation in IR4.0
October 29, 2019

Dr. Sanjay Rastogi
Maastricht University, Netherlands
Potential applications for polymeric material in future industries
October 30, 2019

Yahya Mahmoud
Leader, IBM, UAE
The role of artificial intelligence in materials discovery
October 30, 2019

Dr. Abdullah Sultan
Petroleum Eng. Department KFUPM
Innovative and smart materials for enhanced oil recovery and production
October 31, 2019

Dr. Arthur Garforth
Professor of Catalysis, The University of Manchester
The circular economy and the upscaling of polymer wastes to chemicals using refinery catalytic processes
October 31, 2019

ChemIndix 2019

The 11th International Conference and Exhibition on Chemistry in Industry

Gulf Hotel, Manama, Kingdom of Bahrain.

October 29-31, 2019

Conference Schedule

Day 1 — October 29th 2019

07:30 - 8:50	Registration & Reception
09:00 - 9:20	Conference Inauguration
09:20 - 09:45	Sponsors Recognition
09:45 - 10:30	Exhibition Inauguration
10:30 - 12:00	Panel Session (1)
12:00 - 13:00	Lunch and Prayer Break
13:00 - 13:40	Technical Keynote Speech(1)
13:40 - 14:00	Poster Session (Coffee Break)
14:00 - 15:20	Technical Session (1)
15:20 - 15:40	Poster Session (Coffee Break)
15:40 - 17:00	Technical Session (2)
17:00 - 18:00	Welcome Reception & Networking

Day 2 — October 30th 2019

07:30 - 08:30	Registration & Reception
07:30 - 08:30	Technical Keynote Speech (2)
09:10 - 10:20	Panel Session (2)
10:20 - 10:40	Poster Session (Coffee Break)
10:40 - 12:00	Technical Session (3)
12:00 - 13:00	Lunch and Prayer Break
13:00 - 13:40	Technical Keynote Speech (3)
13:40 - 14:00	Poster Session (Coffee Break)
14:00 - 15:20	Technical Session (4)
15:20 - 15:40	Poster Session (Coffee Break)
15:40 - 17:00	Technical Session (5)
19:00	Gala Dinner

Day 3 — October 31st 2019

07:30 - 08:30	Registration & Reception
08:30 - 09:30	Technical Keynote Speech (4+5)
09:30-10:30	Panel Session (3)
10:30 - 10:50	Poster Session (Coffee Break)
10:50-12:10	Technical Session (6)
12:10 - 13:00	Lunch and Prayer Break
13:00 - 15:00	Student Hackathon
15:00 - 16:00	Honoring Organizers and Conference closing

Exhibitors

المساعد للشؤون المدرسية يدشن فعاليات الورشة التدريبية التفاعلية طريقك للتعليم الفعال
٤/٢/١٤٤١

دشن المساعد للشؤون المدرسية بتعليم الطائف محمد بن عامر النفيعي صباح اليوم الخميس بمركز الطائف العلمي فعاليات الورشة التدريبية التفاعلية طريقك للتعليم الفعال والتي استهدفت ٩٠ معلم ومعلمة ومشرف ومشرفة لمادة الكيمياء والتي تنظمها قسمي العلوم بإدارتي الاشراف التربوي (بنين وبنات) بحضور مساعدة المدير العام للشؤون التعليمية (بنات) مها الزايدي ومديري إدارتي الاشراف التربوي للبنين والبنات ورئيسي قسم العلوم (بنين وبنات) ومدير مركز الطائف العلمي ومدير مكتب غرب الطائف وعدد من ومنسوبي مركز الطائف العلمي .

وتأتي هذه الورشة التدريبية ضمن الشراكة المجتمعية للجمعية السعودية العالمية للعلوم الكيميائية مع وزارة التعليم والتي قدمها الدكتور خالد الحوشاني أستاذ الكيمياء بجامعة الملك فهد للبترول والمعادن .

واشاد النفيعي بمثل هذه اللقاءات والورش التفاعلية والتي تنمي المهارات لدى المعلم والمعلمة ومشيدا بالحضور من قبل المعلمين والمعلمات والمشرفين والمشرفات وتفاعلهم مع الورشة لتطوير مهاراتهم وتحسين المخرجات التعليمية لديهم على حد سواء . كما قدم شكره لمقدم الورشة الدكتور خالد الحوشاني على جهوده الحثيثة في اعداد وتقديم الورشة وللمعلمين والمعلمات والمشرفين والمشرفات على حضورهم و لقسمي العلوم بإدارتي الاشراف التربوي على استعدادهم الأمثل للإعداد والتجهيز لهذه الورشة ولمدير مركز الطائف العلمي على استضافته لهذه الورشة ومتمنيا للجميع التوفيق والاستفادة من هذه الورشة التفاعلية الهامة .