

# TECHNICAL PROGRAM 17 November

Room 1

09:00 AM - 10:00 AM

## Conference Inauguration and Keynote Speakers

### 1) Eng. Abdullah S. Al-Suwailem

Senior Vice President of Western Region Manufacturing Aramco

### 2) Eng. Saad Binmatlig

P&CEO Yanbu Aramco Sinopec Refining Company Ltd. (YASREF)

### 3) HE Prof. Ahmed Al-Rawahi

Chancellor University of Nizwa, Oman

### 4) Dr. Yousif M. Al -Shammary

President London College of Energy Economics

10:00 AM - 11:00 AM

## Exhibition Inauguration

11:00 AM - 12:40 PM

**Session Chair**  
Prof. Ali Bumajdad

## Keynote Speakers

### 1) Prof. Ghassan Saed

Director of Translational Research  
Wayne State University School of Medicine

### 2) Dr. Abdulhameed Al-Hashem

Principle Research Scientist, Petroleum Research Center (PRC)  
Kuwait Institute for Scientific Research, Kuwait

### 3) Eng. Saleh AlAmri

Chief Executive Officer  
GCC-Lab

12:40 PM - 01:30 PM

## Lunch and Prayer Break

**SESSION 1**  
01:30 PM - 03:30 PM

**Session Chairs**  
Mrs. Fatimah Al Marzooq  
Ms. Lamya Alshehri

## Women Empowerment Program

### 1) Dr. Noha Al-Harthi

AI & Emerging Technologies Expert

### 2) Dr. Reem Al Turki

C.E.O. of Soft-Landing C.E.O. and Co-Founder of Green Hub

### 3) Reem Abdullah Al-Ghanim

Downstream HR Transformation Aramco

### 4) Prof. Hind Al Humaidan

Department of Pathology & Laboratory Medicine  
King Abdullah bin Abdulaziz University Hospital

### 5) Dr. Reem Khojah

Assistant Professor University of California, San Diego

### 6) Dr. Samha Z. Al-Ayoubi

Assistant Professor,  
Energy, Water and Environment Lab,  
Prince Sultan University

Room 1

## New Development in Analytical Technology

### 1) Mr. Abdulaziz Al Harbi

Failure analysis of leak in outlet manifold of hp steam super heater

### 2) Dr. Fehaid Alsubaie

Precise Synthesis of Tetrablock Copolymers of Different Acrylamide Derivatives via RDRP

### 3) Mr. Mohammad Hassani

An Efficient and Fast Method to Determine the Critical Micelle Concentration of Surfactants Using Space-Time Resolved Extinction Profiles Technology

### 4) Mr. Mohd A. Bin Ab Aziz

Challenges in Multivariate Modeling of Oxygenate addition in diverse Base Fuel recipes

Room 1

## AI Utilization and Laboratory Information

### 1) Dr. Francisco Hernandez Martinez

Unconfined Compression Strength Prediction of Rock Based on AI

### 2) Engr. Sulaiman Ureiga

Computer Vision and AI-powered PPE Compliance in Laboratory Environments

### 3) Mr. Sorab Jain

Automated validation and real-time monitoring of process analyzer data

### 4) Engr. Mohammad Alharthi

Revolutionizing Cementing Program Verification: An AI-Powered Solution for Enhanced Lab Efficiency and Well Integrity

Room 2

**Session Chairs**  
Dr. Hind Siddiq  
Dr. Marwah Madkhali

Room 3

01:30 PM - 03:00 PM

**Chemathon 2<sup>nd</sup> Round (6 Presentation)**

Room 4

**SESSION 2**  
03:30 PM - 04:50 PM

**Session Chairs**  
Dr. Prakash Nayak  
Dr. Wasan A.M Al Taie

**Hydrocarbon and Materials Science**

**1) Engr. Ahmed Al-Otaibi**

Optimizing ULSD Production: The Critical Role of Distillation End-Cut Temperature in Hydrodesulfurization Efficiency, Contamination and environment impact

**3) Prof. Mohammed Aljahdali**

Microplastics and Nanoplastics: Occurrence, Ecotoxicological Impact, Detection, and Cellular Genotoxicity

**2) Dr. Hina Rashed**

Fuel vs. Food: are we being pushed to 3D-Printed Foods

**3) Sasref**

Impact of Sampling on Electrical Conductivity of Static Dissipator Additives

**SESSION 2**  
(Continued)  
03:30 PM - 04:50 PM

**Session Chairs**  
Dr. Hassan S. Alqahiani  
Dr. Shakeel Ahmed

**Hydrocarbon and Nano-Material Science**

**1) Mr. Dipen Kalavadia**

Effect of Hydrogen Sulfide on Crude oil API Gravity

**3) Engr. Mohammed Alyousef**

Produced-Water-Driven CO<sub>2</sub> Mineralization for Sustainable Reinjection Operations

**2) Prof. Muna Khushaim**

Nanoscale mapping of the elastic properties of Al-Li-Cu alloys

**4) Dr. Shaqraa Musawi**

Molecular epidemiology and clinical patterns of Epstein-Barr virus infection in Southwestern Saudi Arabia: a 2020-2023 retrospective study

03:30 PM - 04:30 PM

**Chemathon 2<sup>nd</sup> Round (4 Presentations)**

Room 4

**End of Day 1**

Room 1

Room 2

# TECHNICAL PROGRAM 18 November

08:00 AM - 09:20 AM

**Session Chair**  
Dr. Prashant Umare

## Keynote Speakers

### 1) Prof. Khalid K. Al Harbi

Consultant in Medical Molecular Genetics, Chairman of Saudi Society for Clinical Laboratory Sciences

### 2) Dr. Khalid Al Noaimi

Manager of Upstream R&D Technology Strategy Aramco

### 3) Prof. Najlaa S. Al-Radadi

Faculty of Science, Department of Chemistry Taibah University

### 4) Prof. Salwa I. Hindawi

Professor of Haematology & Transfusion Medicine King Abdulaziz University, Jeddah, Saudi Arabia

### 5) Dr. Ian W. Campbell

Vice President National Transformation Institute (NTI), KAUST

09:20 AM - 09:30 AM

## Coffee Break

**SESSION 3**  
09:30 AM - 10:50 AM

**Session Chairs**  
Dr. Nujud Maslamani  
Dr. Taha Okasha

## Advanced Characterization

### 1) Mr. Moatz Al Ghamdi

Development & Validation of Innovative FTIR- ATR Method for Direct Quantification of (MEG) concentration In Aqueous Matrices

### 3) Ms. Lujain Alsmary

Conversion of CO2 into Solid Carbonates Laboratory Evaluation

### 2) Dr. Wael Badeghaish

Assessing PEEK Integrity in Downhole Applications: Exposure to Supercritical scCO2 at Elevated Pressures and Temperatures

### 4) Mr. Ahmed Al Dhuhouri

Failure analysis and failure investigation of Upper Zakum Utility ejector condenser

**SESSION 3**  
(Continued)  
09:30 AM - 10:50 AM

**Session Chairs**  
Dr. Hassan Al-Rabiah  
Dr. Prakash Nayak

## Laboratory Information Management

### 1) Mr. Kameswara Bamidipathi

Additives affecting MSEP Rating of Jet fuel

### 3) Mr. Anil Thakre

Transforming analyzer and laboratory quality & asset management with artificial intelligence and machine learning

### 2) Engr. Nagi Elbashir

Digital Transformation of Civil Testing Laboratories in Oil & Gas Industry

### 4) Ms. Reem Al Kubaisi

From Lab to Field: Laboratory Development and Validation of Autonomous Seismic Acquisition Device (ASAD)

**Session Chairs**  
Dr. Abdullah Alamri  
Dr. Reem Ghubayra

## Nanotechnology Applications

### 1) Dr. Abdullah Alomier

Advanced Microfluidics for Mixed Wettability Studies: Innovations in Fabrication and Analysis

### 3) Dr. Shakeel Ahmed

High-Resolution Electron Microscopic Analysis of Reforming Catalysts

### 2) Mr. Abdullah Alboqmi

Evaluating the Efficacy of Nano-surfactants Made with Local Ingredients in Enhancing Oil Recovery within High Salinity Carbonate Reservoirs

### 4) Dr. Mai Ibrahim

Structure and Surface Energy of Blend Films of Polystyrene and Polybutadiene

10:50 AM - 11:00 AM

## Coffee Break

**SESSION 4**  
11:00 AM - 12:20 PM

**Session Chairs**  
Dr. Wasan Al Taie  
Dr. Khalid Alrashidi

## Laboratory Quality Assurance & Accreditation Programs

### 1) Dr. Prashant Umare

Journey of Laboratory Accreditation from Good to Great through Digitalization using LIMS

### 3) Mr. Ibrahim Shabani

Turning a challenge to an Opportunity: YASREF Interlaboratory Comparison Study for Refined Products

### 2) Mr. Sajjad Aldarweesh

A New Method to QA/QC the Quality and Stability of Emulsified Acid through IFT Measurement: A Lab Study

### 4) Mr. Syed Saeed

Development of validation methodology for process analyzers through laboratory comparison

Room 1

Room 1

Room 2

Room 3

Room 1

## Chemical Handling & Hazardous Materials

### 1) Dr. Sasi Florence

Bioinspired Synthesis of Functional Palladium Nanoparticles from *Moringa oleifera* Flowers for Synergistic Antimicrobial and Photocatalytic Performance

### 3) Mr. Bijesh Valiya Suresh

Assessment of Refinery Sample Points for Enhancing Safety & Sample Integrity

### 2) Mr. Nawaf Al-Otaibi

Siderophore A121 as a Synergistic Agent to Reduce Antimicrobial Overuse and Environmental Impact

### 4) Mr. Mohammed Alghazal

Modeling and establishment of the maximum H<sub>2</sub>S concentration which can be mitigated by a Fumehood

### Session Chairs

Dr. Marwah Madkhali  
Dr. Reem Ghubayra

12:20 PM - 01:30 PM

### Lunch and Prayer Break

12:20 PM - 01:30 PM

### Poster Sessions

## SESSION 5 01:30 PM - 02:50 PM

### Session Chairs

Dr. Amani Alhifthi  
Dr. Abeer Ageeli

## Bioinformatics and Genomic

### 1) Dr. Nagarajan Kathiresan

Powering Genomics at Scale: The Role of the KAUST Supercomputing Lab in Bioinformatics Innovation

### 3) Dr. Hanadi Baghdadi

A study on the use of Artificial Intelligence Applications to develop and sustain industries and logistics services based on measurement and calibration in laboratories

### 2) Dr. Ashraf Almoudi

Enabling High-Resolution Structural Biology at KAUST: Joint Efforts between the EM and Supercomputing Core Labs

### 4) Mr. Ming Sun

High-performance space-time Fourier ptychography for *in vivo* quantitative phase imaging

### Session Chairs

Dr. Nasra Abd El-Mageed  
Dr. Taha Okasha

## Laboratories Efficiency

### 1) Mr. Mustafa Satawi

Effective Viscosity Reduction Methods for Enhancing Heavy Oil Mobility

### 3) Ms. Munerah Shreedah

Condensate banking mitigation using surfactant for IFT reduction and mobility enhancement

### 2) Engr. Prasad Karadkar

Liquid Unloading from Gas Wells Using an Innovative Foamed System

### 4) Mr. Abdulaziz Hawas

Laboratory Safety through Design Hazard Reviews: Insight from Air Products

02:50 PM - 03:00 PM

**Coffee Break**

**SESSION 6**

03:00 PM - 04:20 PM

**Session Chairs**

Dr. Wasan Al Taie  
Dr. Basheer Chanbasha

**Advancements in Analytical Instrumentation**

**1) Ms. Manar Al-Shafi**

Oilfield Scale Detection and Industrial Challenges

**3) Mr. Abdullah Abdalkareem**

Effect of Cooling of ULS-Diesel Samples Prior Testing on Atmospheric Distillation at 95%-Vol Parameter.

**2) Mr. Mohammed Eltahir**

Investigation of Low Octane Number in High Aromatic Fuel Sample Due to Presence of Octane Number Killers

**4) Dr. Junghyun Lee**

Effect of TGA Sample Holder in Evaluating Hydration and Carbonation of 3D Printed Concrete Specimens

**Session Chairs**

Dr. Hassan S. Alqahtani  
Dr. Khalid Alrashidi

**Nanotechnology in Laboratory Applications**

**1) Dr. Sultan Alshaibani**

Wideband LED Utilizing Five Layers of Self-Assembled InAs Quantum Dots for Optical Coherence Tomography Applications

**3) Ms. Razan Asiri**

Enhancing CO<sub>2</sub> Adsorption Capacity Using Amine-Functionalized MCM-41 Nanoparticles

**2) Mr. Santhana Kumar**

Best Practice for Safe Handling of Benzene and other Aromatic Samples

Room 1

Room 2

**End of Day 2**

# TECHNICAL PROGRAM 19

November

## Keynote Speakers Forum (Panel Discussion)

09:00 AM - 11:00 AM

### Session Chairs

Dr. Hassan Al-Rabiah  
Dr. Abdulhameed Al-Hashem

#### 1) Prof. Richard N. Zare

Professor of Chemistry  
Stanford University  
King Faisal Prize in Science 2011 Laureate.

#### 3) Prof. Ali Bumajdad

Director of Research and Technology  
Directorate at the Kuwait Foundation for the Advancement of Sciences

#### 5) Prof. Mohammed Bououdina

Aide to the President for Research Governance  
Prince Sultan University

#### 2) Dr. Amal M. Alamri

Associate Professor King Abdulaziz University  
PhD, Electrical Engineering  
KAUST

#### 4) Dr. Wasan A. M. Al Taie

Associate Professor of Clinical Biochemistry and Chemistry  
Emirates Chemical Society  
Hamdan Bin Mohammed Smart University, UAE

#### 6) Prof. Dr. Volker Abetz

Polymer & Membrane Scientist  
University of Hamburg, Germany

11:00 AM - 12:30 PM

### Closing Ceremony

12:30 PM - 01:30 PM

### Lunch

Room 1

## End of Day 3