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MIDDLE EAST PROCESS ENGINEERING  
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The Definitive Event for Process Engineering in the Middle East

# **Digitalizing Process Engineering for a Sustainable Future**

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MAY 6-8, 2024 | Dhahran Expo, Kingdom of Saudi Arabia

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**Poster Program**

09:00 - 18:00    **Monday Poster Session**

| Topics   | Topics  | Topics  |
|--|---|---|
| <i>Effective Management of Safety Instrumented Systems</i><br><br>Speaker<br><b>Dinu Caragheorghe</b> Control System Engineer, Aramco  | <i>Ammonium Bisulfide and Ammonium Chloride Corrosion Control in Reactor Effluent Air Cooler Systems: An Operational and Engineering Experience in Aramco Refineries.</i><br><br>Speaker<br><b>Abdullah Alratoee</b> Engineer, Aramco | <i>CCTV Migration from Analogue to Digital Solutions</i><br><br>Speaker<br><b>Dinu Caragheorghe</b> Control System Engineer, Aramco   |
| <i>Jazan Refinery Complex (JzRC) Pathways to Sustainability</i><br><br>Speaker<br><b>Nidal A Samad</b> Operations Engineer Specialist, Aramco  | <i>The Role of CCUS Technology in the Oil and Gas Industry</i><br><br>Speaker<br><b>Mohammed Rustom</b> Market Development Director - ME Region - Sustainable Technology Solutions, Honeywell UOP                                     | <i>An Asset Management Maturity Benchmarking Model</i><br><br>Speaker<br><b>Dr. Khalid Al-Jabr</b> Engineering Specialist, Aramco   |
| <i>Kgp RO Quality Challenges and Improvements.</i><br><br>Speaker<br><b>Abdullah Aldadi</b> Associate Engineer, Aramco   | <i>Sru Thermal Oxidizer Oxygen Analyzer Upgrade</i><br><br>Speaker<br><b>Ahmad Almousa</b> Process Engineer, Aramco   | <i>Design of Wate Cooking Oil-to-Biodiesel Facility: A Case Study of Bahrain</i><br><br>Speakers<br><b>Ajaz Rashid</b> Assistant Professor, University of Bahrain<br><b>Muhammad Rizwan</b> Assistant Professor , University of Bahrain |
| <i>Integrating Safety, Operation, Maintenance and Environmental (S.O.M.E) Aspects during Detail Engineering Phase</i><br><br>Speaker<br><b>Rusheed Aldossari</b> Engineer, Self Employed   | <i>Waste Heat Recovery in the Process of Sour Water Stripping (SWS)</i><br><br>Speaker<br><b>Hae Yong Noh</b> Senior Process Engineer, Aramco   | <i>Best Practice to Mitigate High Risk of Improper Chemicals Management</i><br><br>Speaker<br><b>Heba Alhabboubi</b> Senior Lab Scientist, Aramco   |
| <i>Aspen Plus Simulation: High-Valuable Syngas and High-Surface Area Modified Biochar from Pyrolysis of Chlorella Pyrenoidosa</i><br><br>Speaker<br><b>Gus Ali Nur Rohman</b> , King Fahd University of Petroleum & Minerals (KFUPM) | <i>Mesoporous ZSM-5 Additive for Catalytic Cracking of Waste Plastics in Vacuum Gas Oil to Light Olefins</i><br><br>Speaker<br><b>Abdulkadir Tanimu</b> , King Fahd University of Petroleum & Minerals (KFUPM)                        | <i>Asset Predictive Analytics Digital Solution</i><br><br>Speaker<br><b>Abdullah Albannay</b> Digital Project Lead, Aramco  |
| <i>Water Treatment Optimizer</i><br><br>Speaker<br><b>Mohammed Aldossary</b> Process Engineer, Aramco  |   | <i>Advancing H2S Removal in Multiphase and Singe Phase Streams: A Laboratory Investigation of Novel Nano-Enhanced Scavenging Agents</i><br><br>Speaker<br><b>Ahmed Akram</b> , Samaa Technologies Co. Ltd.                              |

# Day 2 - Tuesday, 07 May 2024

Kingdom of Saudi Arabia

09:00 - 18:00 **Tuesday Poster Session**

| Topics   | Topics  | Topics  |
|--|---|---|
| <i>Heat Integration of an Industrial Crude Plant Distillation Unit Using Pinch Analysis</i><br><br>Speaker<br><b>Saba Alomari</b> Student, University of Bahrain   | <i>Optimizing Operations Unleashing Efficiency in Desalter Health for Enhanced Profitability - a Process Excellence &amp; Techno-Economic Study</i><br><br>Speaker<br><b>Michael Lam</b> Concept Solutions Engineer, SLB                | <i>Veolia's Comprise* Analytic Tool for Ethylene Cracked Gas Compressor System Assets, Helps Producers Meet Their Sustainability Objectives</i><br><br>Speaker<br><b>Naveen Agrawal</b> Digital Analytics Portfolio Leader, Veolia Water Technologies & Solutions |
| <i>Reducing Fuel Gas Usage in Sru Claus Burners for Improved Energy Efficiency, BTEX Destruction, and Sustainable Tgtu Operations</i><br><br>Speaker<br><b>Mohammed Aldossary</b> Process Engineer, Aramco   | <i>Rejected Gas Recovery System for Gas Oil Separation Plants (Two Inventions)</i><br><br>Speaker<br><b>Abdulrahman Alshehri</b> Lead Engineer, Aramco  | <i>Predicting Crude Quality in Gas Oil Separation Plants Using Hybrid AI: Physics Driven Machine Learning Modelling</i><br><br>Speakers<br><b>Syed Abrar Ahmed</b> Process Engineer, Aramco<br><b>Abdullah Alhussain</b> Process Engineer, Aramco                 |
| <i>Robust Automation and Analytics Lead to Improved Fouling, Emulsion, and Corrosion Control in Ethylene Plants</i><br><br>Speakers<br><b>William Choueri</b> , Veolia Water Technologies & Solutions<br><b>Oreste Vassillo</b> Senior Product Application Leader HPI/CPI Middle East, Veolia Water Technologies & Solutions | <i>Carbon Capture and Storage Pilot Project</i><br><br>Speaker<br><b>Massimo Capra</b> Process Service Manager, Aggreko   | <i>Non-Contact Radar Wellhead Growth Monitoring Digital Solution to Protect Well Integrity</i><br><br>Speaker<br><b>Jai Chainani</b> Senior Process Control Engineer, Aramco  |
| <i>Economic Optimization of the Energy Portfolio Management at Hard-to-Abate Industries</i><br><br>Speaker<br><b>Alaa Alsaffar</b> Instructor, University of Bahrain   | <i>Energy Conservation &amp; Emissions Reduction through Sustainability Digital Solutions</i><br><br>Speaker<br><b>Mohammed Al Buainain</b> Process Engineer, Aramco  | <i>Real-Time Framework to Detect Leaks in Industrial Heat Exchangers Network</i><br><br>Speaker<br><b>Abdulrahim Mohammed</b> Data Analytics Engineer, BAPCO  |
| <i>Effective Propane Preservation Strategy</i><br><br>Speaker<br><b>Rayan Aldahan</b> Associate Engineer, Aramco   | <i>Lummus Hybrid Cracking Heater</i><br><br>Speaker<br><b>Hani Alkhalifah</b> Sr. Tech Services Engineer, Lummus Technology   | <i>Optimizing Methanol Synthesis: Integration of a Digital Twin with Aspen HYSYS for Enhanced Plant Performance and Profitability</i><br><br>Speaker<br><b>Yomna Ayyad</b> Student, University of Bahrain   |
| <i>King Faisal University: A Pioneering story with patents</i><br><br>Speaker<br><b>Hany M. Abd El-Lateef</b> , KFU - King Faisal University   | <i>Eco-Friendly Decarbonization Process to Convert Carbon Dioxide to Liquid Fuels</i><br><br>Speakers<br><b>Shamsa Alderei</b> Student, United Arab Emirates University<br><b>Amna Almahri</b> Student, United Arab Emirates University | <i>Advanced Filtration Solutions to Optimize Clean Hydrogen Production</i><br><br>Speaker<br><b>Hassan Al Saood</b> Principal Field Scientist, Pall Corporation   |

09:00 - 15:00    **Wednesday Poster Session**

| Topics   | Topics  | Topics  |
|--|---|---|
| <p><i>NGL Quality Journey Towards Digitalization at Saudi Aramco</i></p> <p>Speaker<br/><b>Taib Abang</b> Engineering Consultant, Aramco</p>   | <p><i>Elimination of Dry-out Gas Flaring during Natural Gas Liquids Recovery Process Start-up</i></p> <p>Speakers<br/><b>Ahmed Al Ahmed</b> Process Engineer, Aramco<br/><b>Abdulaziz Alaql</b> Operations Engineer , Aramco</p>                    | <p><i>Hybrid AI - Industrializing Physic Based Model from Engineering to Operation</i></p> <p>Speaker<br/><b>Muhamad Zaki Bin Zaini</b> Digital Production BDM, SLB</p>   |
| <p><i>Performance Analysis of Innovative Multi- Stage High Oily Industrial Wastewater Treatment System</i></p> <p>Speaker<br/><b>Faisal Bader Almutairi</b> Engineer, Aramco</p>                               | <p><i>Techno-Economic Analysis and ML-Based Optimization of Advanced Solvent Looping and Stripper-Free Absorption Process for Pre-Combustion CO2 Capture from a Smr Plant</i></p> <p>Speaker<br/><b>Jun-Ho Kang</b> Senior Developer, DogWoodAI</p> | <p><i>Guided Experimental Design for Modeling Methane Dehydroaromatization Reaction Systems</i></p> <p>Speaker<br/><b>Byanne Malluhi</b> Student, Texas A&amp;M University at Qatar</p>   |
| <p><i>Process Optimization with an Efficient Separation Section: A Case Study on Scaleup of Enhanced Olefin Production from Butenes</i></p> <p>Speaker<br/><b>Dr. Qi Xu</b> Engineering Specialist, Aramco</p> |   | <p><i>Smart Solutions for Integrated, Optimized and Predictive Refinery Operations</i></p> <p>Speakers<br/><b>Ashly Titus</b> IT Business Application Section Head, Saudi Aramco Jubail Refinery Company (SASREF)<br/><b>Hamoud Al-Zuabi</b> IT Analyst , Saudi Aramco Jubail Refinery Company (SASREF)</p> |
| <p><i>Green Hydrogen – Electrolysers, Comparision, Evaluation &amp; Hydrogen Usages</i></p> <p>Speaker<br/><b>Mihir Patel</b> Engineering Manager - Major Contracts, Muscat Engineering Consultancy Ltd.</p>   |   | <p><i>Conversion of High-Moisture Wastes into Fuels and Chemicals Via Hydrothermal Technologies</i></p> <p>Speaker<br/><b>Dwi Hantoko</b> Researcher , King Fahd University of Petroleum &amp; Minerals (KFUPM)</p>   |
| <p><i>Sweet Gas Recycles for NGL Recovery Enhancements</i></p> <p>Speaker<br/><b>Rayan Aldahan</b> Associate Engineer, Aramco</p>  |   |   |
| <p><i>Flaring and GHG Emissions Minimization By Eliminating Off-Gas Flaring - a Success Story</i></p> <p>Speaker<br/><b>Mohammed Albuainain</b> Process Engineer, Aramco</p>                                   |   |   |
| <p><i>Gasification Technology: Unlocking the Potential of Sustainable Aviation Fuel Production.</i></p> <p>Speaker<br/><b>Daffer Alyami</b> Manager, Aramco</p>  |   |   |





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