

SASG 25

المؤتمر السعودي الثالث عشر للشبكات الذكية

Conference Agenda

15-17 Dec 2025

The Ritz-Carlton, Riyadh

SASG 25

المؤتمر السعودي الثالث عشر للشبكات الذكية



Under Patronage of:

**HRH Prince Abdulaziz bin
Salman Al-Saud**

Minister of Energy

SASG 25

المؤتمر السعودي الثالث عشر للشبكات الذكية



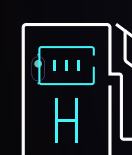
Conference Main Topics



Cyber Security Applications
in Smart Grid



Renewable Energy
and Grid Integrations



Smart Meters and
Advanced Solutions for
Data Management



Electric Power System
Resilience and Reliability



Regulatory Aspects
and Energy Policies



Localization of Smart
Grid Services and
Technologies



Standards for Smart
Grid and Grid Codes



Energy Efficiency Measures
and Methodologies



Electric Vehicles
and Energy Storage



Artificial Intelligence and
Blockchain Studies in
Smart Grid



Technologies in the 4th
Industrial Revolution



International Successful
Grid Smart in Practices

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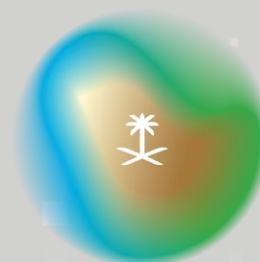
المؤتمر السعودي الثالث عشر للشبكات الذكية

Main Goals

- Encourage researchers to present scientific and applied experiences in smart grids.
- Highlight the role of government and private sectors in adopting smart grid concepts and benefiting from global best practices in legislation and strategy.
- Promote investment by transferring and localizing smart meter and network equipment technologies.
- Enhance system efficiency through load management and loss reduction.
- Explore challenges, opportunities, and lessons from countries applying smart applications in electricity networks.
- Advance energy storage and integrate it with conventional and renewable sources.
- Share practices for rationalizing electricity consumption amid rising demand.
- Promote economical power plant operation while ensuring network safety and reliability.

UNDER PATRONAGE

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Power & Energy Society®

TECHNICAL WORKSHOPS

📍 Riyadh, Hilton Hotel 📅 Sunday, 14 December

Session One

Workshop 1 (AlUla Hall-A)

NetZero Virtual Power Plant (VPP)

09:00- 10:30 am



Rafat Rob



Yousef Alsulami

aramco 

Workshop 2 (AlUla Hall-B)

Smart MVSWG Asset Preservation and Network Reliability

09:00- 10:30 am



Sofiane Allou

UTEC
POWERING CITIES. EMPOWERING LIFE.

Workshop 3 (Al Diriyah Hall)

TBA

09:00- 10:30 am



Kerem Bayram



Joerg Blumschein



Andreas König

SIEMENS

Session Two

Workshop 4 (AlUla Hall-A)

Cybersecurity & The Effect of AI in Securing Automation Systems

11:00- 12:30 pm



Ahmad Alanzi



Abdulaziz Zarie



Maram Alsofiani

aramco 

Workshop 5 (AlUla Hall-B)

Cybersecurity & The Effect of AI in Securing Automation System

11:00- 12:30 pm



Faris Aljehani



Mohammed Alshiekh



Sami Alalwani



Dr. Atif Alzahrani

DEMA
ENERGY

Workshop 6 (Al Diriyah Hall)

Interoperability at the Core of Smart City Evolution: The inteliCITY® Approach

11:00- 12:30 pm



Dinu Tepes

FLASHNET

Part of

Lucy Electric

Session Three

Workshop 7 (AlUla Hall-A)

Distribution & Customer Services in SEC: Journey Toward Smart Grid

01:00- 02:30 pm



Hossein ALGhawazi



Bakheet Hamdan



Mohammad AlRumaih



Ali Al-Rumaih



Ali Assiri



Raef Khorami

الشركة السعودية للكهرباء
Saudi Electricity Company

Workshop 8 (AlUla Hall-B)

Payment Structure for Solar and Wind IPPs.

01:00- 02:30 pm



Hadwan Al-Hadrami

المشتري الرئيسي
PRINCIPAL BUYER



Workshop 9 (Al Diriyah Hall)

Role of Battery Energy Storage in Saudi Grid Modernization

01:00- 02:30 pm



Hassan Farhangi

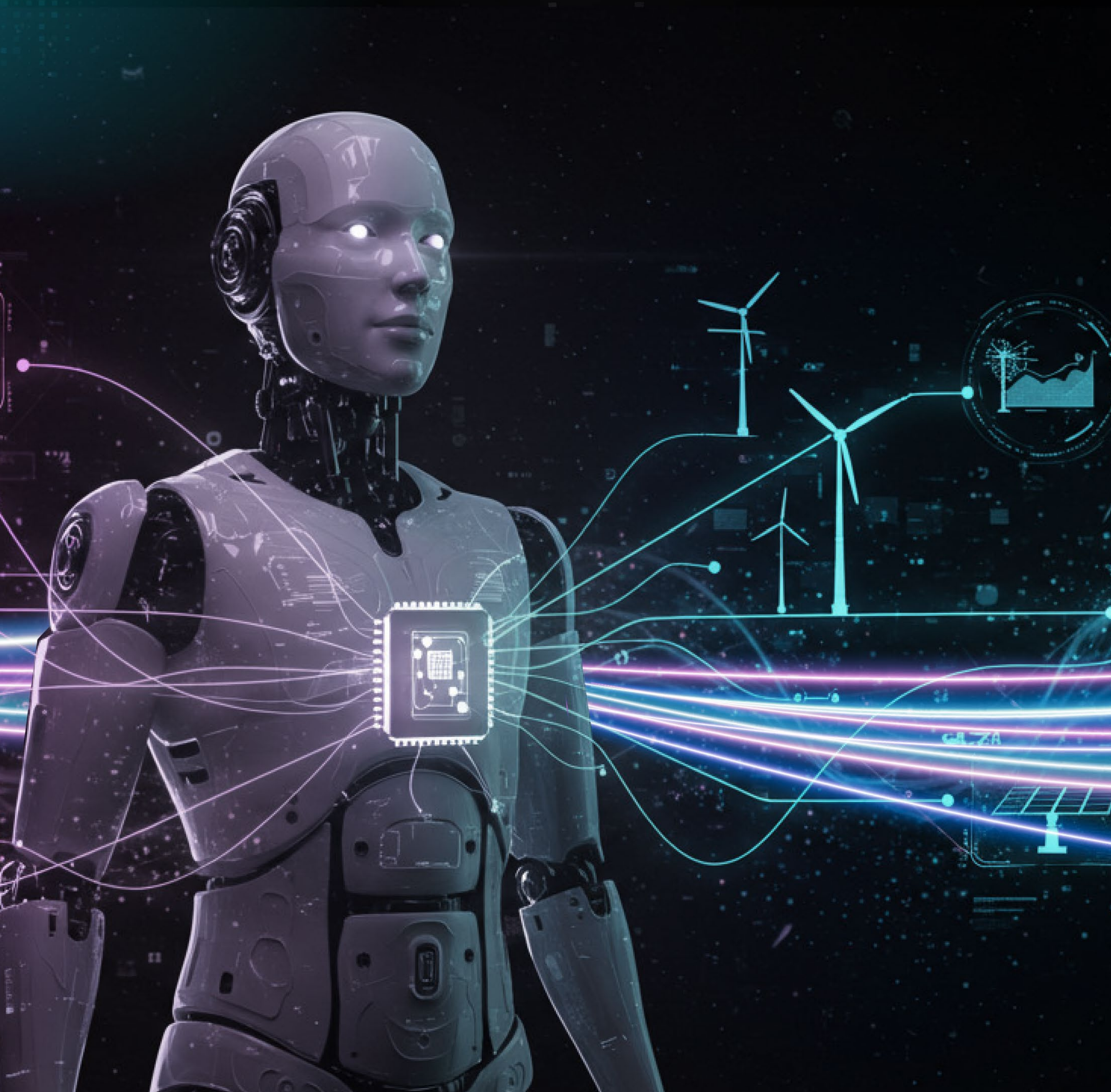


Mohammed Hael

عناية الطاقة
energycare

Monday, 15 December

Day One



Inauguration of Exhibition

07:00- 07:30 pm

Opening Ceremony

07:30- 09:00 pm

Royal Anthem

Holy Qura'an

Conference Opening Speech

IEEE Power and Energy Speech

Ministry of Energy Address

Signing Ceremony

Honoring Energy Hakathon Winners

Honoring the Sponsors

Opening Panel Session

Gala Dinner

Tuesday, 16 December

Day Two



AI-Powered Smart Meter Insights:
Unlocking Grid Intelligence for Vision 2030

Keynote
Speaker

09:00 - 09:15 am



Rohit Pareek



AI Application & Cyber Attack

Technical
Session

09:15- 10:30 am



Arndt Telschow



Towards Transparent and Efficient
Fraud Detection in Smart Metering
Using Explainable AI



TBA

TBA



Mohammad Altaisan



Machine Learning-Based Fault
Detection and Classification in Power
Transmission Lines



TBA

TBA



Ali Al Maqousi



AI-Augmented EV Charging
Architecture: Secure Integration of
Vehicle-to-Grid and Anomaly Detection

Shaping Utilities of the Future

Panel
Discussion

11:00- 12:00 pm

Executive Perspectives on Grid Modernization

Panel
Discussion

12:30- 01:30 pm

Stories of Success in Energy Industry

Panel
Discussion

02:00- 03:00 pm

Tuesday, 17 December

Day Three



Renewable & Storage Energy

Technical Session

09:00- 10:30 am



Abdallah Dhaydel
Study and Evaluation of Solar PV- Diesel-Battery Hybrid System for the Isolated Jannah Island in Saudi Arabia



Akib Refat
Voltage Stability Impacts of High Penetration Electric Vehicles on Transmission Grids



Gergo Varhegyi
Integrated Market-Grid Simulation Framework for Optimizing Short- & Long-Duration Energy Storage Technologies in 100% Renewable Power Systems



Saja Alqahtani
Renewable Energy Integration Frameworks: Comparative Strategies for Saudi Arabia



Hassan Farhangi
Saudi Arabia's Smart Microgrid Demonstration Platform



Abdelaziz Saidi
Forecasting of Wind and Solar Photovoltaic Power Generation Using Advanced Machine Learning: A Case Study of Saudi Arabia



Imran Mushtaq
Incorporating Solar Resource Assessment into Renewable Energy Policy and Planning



Grid Security, Resilience & Reliability

Technical Session

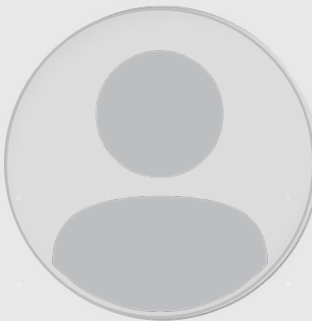
11:00- 12:00 pm



William Figueira
Assessment of Traveling-Wave Fault Location in Non-Homogeneous Feeders Terminated in Multiple Cable-Fed Transformers



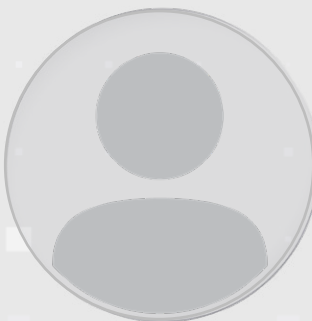
Nedhal Al-Amri
Rethinking Grid Storage: CO2-Based Energy Storage as a Competitive Alternative to Conventional Technologies



Amjed Al Rumeidhi
Techno-Economic Assessment for First Submarine Cable Project in Oman



Preston Johnson
From Reliability to Intelligence: Building a Roadmap to Smart Asset Management for Transmission and Distribution



Adin Memic
Advanced Frequency Response Analysis for Transformer Condition Assessment: Experimental Results and Diagnostic Insights



The Next Wave of Power & Digitalization

Panel Discussion

12:30- 01:30 pm

Technologies in Smart Grid

Technical Session

02:00- 03:00 pm



Murad Anwer
Use of Advanced Metering Infrastructure for Live Downed Conductor Detection



Yaser Qudaih
A Strategic Framework for Biogas-Powered Trigeneration in a University Campus Microgrid



Mohamed Hendam
Implications of Time-Varying Electricity Tariff Design for the Energy Transition in the Kingdom of Saudi Arabia



Fahad Al-Malki
Transformer Load Monitoring and Forecast



Labib Daloub
Virtual Power Generation Fosters the Increase in Customers Engagement with Decentralized Sources



Closing Session

POSTER SESSIONS

📍 Riyadh, Ritz Carlton Hotel

📅 16 Nov. 2025

10:00- 11:30 am

Session One

ID#	Poster Title	Name	Organization
1	Analysis of Cyber-Attacks on The Smart Grid	Mohamed Hassan	Egyptian Electricity Transmission
2	Negative-Sequence based Directional Overcurrent Adaptive Protection Scheme for Distributed Generation	Venkata Neelamraju	Saudi Electricity Company
3	Inferring Low-Voltage Distribution Topology from Trench Footprints: A Deep Learning Framework	Mohammed Alsalmi	Prince Sattam bin Abdulaziz University
4	Synchrophasor Data-Driven Secure Blockchain Architecture for High Impedance Fault Detection	Hany Abdelsslam	Kafrelsheikh University
5	Accelerating Towards Sustainable Mobility: Key Factors in Electric Vehicle Adoption	Muhammad Abrar	Lancaster University
6	Incremental Quantity Based Protection for Transmission Line connecting Inverter Based Resources	Praveen Nagaraj	Hitachi Energy L L C
7	Innovative Microgrid Planning for Grid Restoration and Support Using Distributed BESS Systems	Mohammad Alnaeem	ENOWA NEOM
8	Intelligent Control of UPQC Using ANN for Power Quality Enhancement in FUZZY Logic-Controlled Renewable Integrated Systems	Ashish Oliya	K&A Engineering Consulting, PC
9	A Coordinated Strategy for Balancing Electric Vehicle and Renewable Energy Hosting Capacity in Smart Power Networks	Mohamed Saad	kfupn
10	A Smart Dynamic Wireless Charging Lane for Electric Vehicles Using Solar and Hydrogen Energy	Malath Almulla	College of Engineering, King Faisal University
11	Impact of DER and Metro demand on Distribution Networks	Abdullah Almehizia	Saudi Electricity Company
12	Optimizing Saudi Arabia's Power Grid: The Role of AC/DC Hybrid OHTL Systems and BESS Integration for Energy Efficiency	Razan Aloteebi	(KFUPM)
13	Refining TUoS Pricing in Saudi Arabia: A Technical Exploration in Support of Grid Efficiency and National Energy Goals	Majed Almajed	National Grid SA
14	Real Time Digital Simulator (RTDS) Hardware in the loop (HIL) Testing of Battery Energy Storage System (BESS) Controller	Muhammed Worku	GCC Electrical Testing Laboratory
15	Robust Sliding Mode Control of On-Board Electric Vehicle Charger	Irfan Sami	KFUPM, Saudi Arabia
16	Impact of Energy Storage Systems into the Electrical Grid Decarbonization	Azam Almajed	Saudi Aramco
17	Robust High-Gain Control for Maximum Power Point Tracking of Variable-Speed Wind Turbines	Syed Amrr	King Fahd University of Petroleum & Minerals
18	PV Fault Detection using Artificial Intelligence based image processing	Wonsuk Ko	King Saud University

12:30- 02:00 pm

Session Two

ID#	Poster Title	Name	Organization
19	Electric Vehicles Utilization for Power Distribution Reliability and Stability through AI-Based Optimal Coordination	Yaser Qudaih	Higher Colleges of Technology
20	Case Study: Techno-economic Assessment of Distributed vs Centralized Solar PV Power Supply for Street Light Applications	Khalid Alshabib	Saudi Aramco
21	Parameter Identification and State of Charge Estimation of Li-Ion Batteries for Electric Vehicle Applications.	Badis Lekouaghet	Research Center in Industrial Technologies (CRTI)
22	Smart Grid-Integrated Solar PV Recycling: Potential for CO ₂ Reduction and Material Recovery in Saudi Arabia	Khalid Alhamdan	King Abdullah City for Atomic and Renewable Energy
23	Intelligent AI-based Reinforcement Learning Energy Management System	Rahaf Aljohani	King Abdulaziz University (KAU)
24	AI-Powered Health Index and Predictive Maintenance for HV Circuit Breakers Leveraging SCADA and IoT Sensor Data	Abdullah Althaqib	Saudi Aramco
25	OPTIMIZING WIND FARM DEVELOPMENT WITH GEOSPATIAL ANALYSIS IN EASTERN SAUDI ARABIA	Mohamed Elkadeem	kfupm
26	Assessment of Short-Circuit Strength Degradation Under Solar PV Integration: A Case Study on the Saudi Power Grid	Waleed Albukhari	TVTC - Al-Kharj Technical College
27	A Resilient Multi-Resonant Controller for Standalone and Grid-Connected PV System	Kamran Zeb	Interdisciplinary Research Center KFUPM)
28	Protection Against Cyber-Attacks of Transmission Lines with Shunt-Reactors	Latifah Alessa	(KFUPM)
29	Transformer Load Monitoring and Forecast	Sara Alabbadi	Saudi Aramco
30	National Renewable Flexibility Backbone: A Phased Techno-Economic Roadmap of Multi-Site Pumped Hydro Storage in Tuwaiq Mountain & HVDC to Achieve Net-Zero Power Target in the Central Operating Region	Alwaleed Alquraini	NEOM
31	AI-Driven Adaptive Protection Framework with Relay Coordination and Device Recommendation to Improve Selectivity in Industrial Smart Grid Power Distribution Networks	Doaa Alghamdi	King Abdulaziz University
32	Hybrid Approach – Deploying a G- π Hybrid Architecture in Telemetry	João Schutze	Wasion
33	Metaheuristic Algorithms for Optimal Design of VSC-HVDC Fault Current Limiters	Muhammad Ahmad	KFUPM, Dhahran
34	Integrated Feedback Loop for Ancillary Services Optimization of Economic Dispatch and Automatic Generation Control	Hassan Alsobaie	Student
35	From Terminal to Control Centre - Automated SAS Testing	Onur Durak	OMICRON electronics GmbH
36	Deep Reinforcement,“Learning Framework for Cyber,“Resilient Smart Grids: Adaptive Demand,“Response and False,“Data Injection Mitigation	Mohammad Alauthman	Department of Information Security, University of Petra

