

# **2022 OkIP International Conference on Advances in Power and Energy (CAPE)**

**Monday, October 3, 2022 - Thursday, October 6, 2022**

**Tiako Center, Oklahoma City, OK, USA and Online**

## **Scientific Tracks**

# Conference Technical Main Tracks

Conference technical main tracks

## Energy Generation/Storage

- Storage Technologies/Deployment/Economics
- Nuclear | Hydrogen | Fuel Cell-based Systems
- Energy Harvesting/Generation | Inverters
- Biofuel/Biomass Generation | Geothermal
- Circuitry for Energy Harvesting/Scavenging
- HVAC Systems | Transformers
- Energy System Operational Strategies
- Energy Carriers/Distribution/Consumption
- Hybrid Battery/Super Capacitors | Short-Circuit
- DC-AC Converter and Battery Storage System
- Uninterruptible Power Supply | Power supplies
- Demand/Conservation/Supply/Policy
- Clean/Future Energy | Natural Gas | Recycling
- Optimization/Consumption/Conversion
- Balance/Reliability/Strategy/Flow
- Utilization/Complementation | Mobile Storage
- Distributed Systems | Generation Capacity
- Distributed/Hybrid/Optimal Generation
- Liquid Air/Offshore Generation/Storage

## Power/Energy Systems

- Usage | Conservation | Management |
- Pervasive Services | Power Security/Stability
- Efficiency | Quality and Filtering Techniques
- Planning and Forecasting | Efficient Lighting
- Operational Strategies | Distribution Issues
- Advanced Metering Infrastructure | Converters
- Generation Technologies and Power Apparatus
- Operation| Automation | Distributed Systems
- Control Method/Techniques | Nuclear Station
- Optimization | Reliability | Transmission Lines
- Quality Monitoring and Mitigation | Security
- Converters Technologies/Topologies | Safety
- Power Electronics in Complex Systems
- Quality-Issues/Supplies | Condition Monitoring
- Integration/Packaging/Thermal-Management
- Power Devices/Driving Circuits | Compensation
- Performance Analysis | Vulnerability | AC/DC
- New Trends/Technologies | Policy | Strategy
- Future Challenges and Directions | Maintenance
- Hard/Soft Switching Techniques | Protection
- Asset Management | Wide-Area Systems
- Signal-Processing/IT/Computing in Power

## Grid & Electrical Vehicle (EV)

- Micro/Nano Grids | Smart Grid Technologies
- Station/Substation Protection | Dispatch Mode
- Hybrid/Multi Microgrids | Grid Modernization
- Smart Grids/Microgrids/Meters/Appliances
- Grid Interactive Systems | Grid Resiliency
- Battery Charging Technologies/Systems
- Battery Materials/Mechanisms/Management
- Contact/Contactless Battery Chargers
- Electric/Hybrid Vehicles | Distribution Grids
- Vehicular Technology Energy Saving
- EVs Components/Grid-Interactions | Safety
- Electric-Propulsion/Drive Systems | Weak-Link
- Fault Coordination/Protection of Grids
- Grid Resiliency/Integration/Interfacing/Control
- Cyber and Physical Security of Power Grid
- Grid Internet of Things/Everything (IoT/loE)
- Power Fluctuation | Dispatch Mode | Adequacy

### **IA in Power/Energy**

- Big-Data | Machine Learning | Data Analytics
- Deep Learning Model | Evolutionary Algorithm
- Estimation/Identification Methods
- Measurement Control/Techniques
- Motion Control | Robotics | Special Drives
- Factor/Disturbance Correction Techniques
- Decision Support Systems| Topology Control
- Frequency Control/Normalization
- Fault/Voltage Diagnosis/Control | Measurement
- Predictive Model | Network Analysis
- Line Monitoring/Inspection | Decarbonization
- Emergency/Flow/Power-Outage Management
- Anomaly Detection/Mitigation | Efficiency
- Multi-Machine Systems | Smart Ballasts
- Computational Methods | Damage Prevention
- Impedance-Model/Frequency Scan Analysis

### **Renewable/Sustainable Energy**

- Wind Farm | Novel Energy Conversion Studies
- Renewable Energy (RE) Evolution/Integration
- RE Systems Management/Awareness/ IoT
- RE Systems Education | Energy Internet
- Wind Hydropower | Solar Energy | RE Market
- Biomass/Biofuel | RE Transmission/Storage
- Geothermal/Wave/Tidal Energy | Wind Power
- Energy-Efficient Protocols/Data-Centers
- RE Distribution/Wireless/Cellular Network
- Electric Machinery/Control Energy Saving
- Green IT/Computing/Communication
- Power/Energy Legal/Social/Economic Issues
- Virtual Power Plant | Storage System
- Electricity Market/Policy/Regulatory Aspects
- Solar Radiation Forecasts |Greenhouse Gas
- Regenerative Power | PV Module Performance
- Energy Saving/Surplus Power | RE Reliability

## **Other Conference Tracks or Activities**

Other conference tracks or activities

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