Call for Contributions

Note: ***On-site and Virtual Options***
To accommodate many situations, we are offering the option for either physical presence or virtual participation. We would be delighted if all authors managed to attend in person but are aware that special circumstances are best handled by having flexible options.

Submission:
1. Inform the Chair about the Title of your Contribution
2. Submission URL:
https://www.iariasubmit.org/conferences/submit/newcontribution.php?event=ENERGY+2026+Special
Please select Track Preference as **WRE**

Special track

WRE: Wildfire Intelligence, Remote Sensing, and Smart-Grid Resilience

Chair

Prof. Dr. Vivian Sultan, California State University, Los Angeles, USA
vsultan3@calstatela.edu

along with

ENERGY 2026: **The Sixteenth International Conference on Smart Grids, Green Communications and IT Energy-aware Technologies**
March 8 - 12, 2026 - Valencia, Spain
https://www.iaria.org/conferences2026/ENERGY26.html

Wildfire risk is accelerating across the western United States and globally, driven by climate change, prolonged drought, and rapid expansion of the wildland–urban interface (WUI). These hazards increasingly intersect with critical energy infrastructure, challenging the reliability, efficiency, and resilience of modern electric grids. As utilities confront rising ignition risks, service interruptions, and public safety power shutoffs (PSPS), the need for intelligent sensing, advanced analytics, and equitable resilience planning has never been greater.

This special track explores how remote sensing, geospatial intelligence, smart grid technologies, and social vulnerability analysis can work together to reduce wildfire hazards and strengthen energy aware decision making. The track invites interdisciplinary contributions that bridge environmental science, engineering, data analytics, public health, and community resilience.

Recent advances, including satellite-based burn-severity mapping, machine-learning prediction models, IoT-enabled vegetation sensors, and GIS-based vulnerability indices, offer powerful tools for proactive wildfire mitigation and grid-resilience planning. At the same time, wildfire impacts remain deeply unequal, disproportionately affecting low income, elderly, disabled, and linguistically isolated populations. This track emphasizes solutions that are technically innovative, operationally effective, and socially equitable.

Prospective authors are invited to submit original papers on topics including, but not limited to:

- **Remote Sensing & Wildfire Analytics:** Burn-severity mapping using NBR, dNBR, NDVI, and other spectral indices, Satellite-based monitoring for early detection and postfire assessment, Machine-learning models for predicting fire ignition, spread, or severity, Integration of Landsat, Sentinel, MODIS, and commercial imagery for wildfire analysis.

- **GIS-Based Risk Assessment:** Spatial modeling of wildfire hazard, exposure, and infrastructure vulnerability, Social-vulnerability mapping (SVI, CES, ACS) for equitable wildfire planning, Wildfire risk in the wildland–urban interface (WUI), Multi-hazard overlays for community-level resilience planning.
- **Smart-Grid Resilience & Energy-Aware Technologies:** Grid hardening strategies and infrastructure risk indices (IRI), Vegetation-management optimization using IoT sensors and real-time data, Automated switches, reclosers, and sectionalization for ignition prevention, Microgrids, distributed energy resources, and backup power for vulnerable communities, Predictive maintenance and asset-management frameworks.
- **Public Safety, Equity, and Community Resilience:** Disproportionate wildfire impacts on marginalized communities, Evacuation challenges, shelter access, and emergency-response disparities, Public-health impacts of wildfire smoke and prolonged outages, Community-based resilience planning and equitable resource allocation.
- **Climate Change, Policy, and Governance:** Climate-driven shifts in wildfire frequency and intensity, Regulatory frameworks for wildfire mitigation and grid safety, Utility wildfire-mitigation plans (WMPs) and PSPS decision-making, Cross-agency coordination and governance models.

California Case Study: California continues to serve as a global testbed for wildfire resilience innovation. Recent years have brought destructive fires that strained emergency response systems, disrupted electric grid operations, and highlighted vulnerabilities in energy distribution networks. In response, state agencies, utilities, and research institutions have accelerated the deployment of remote sensing, smart grid automation, and equity focused resilience strategies.

Key Initiatives Include:

- **Advanced Remote Sensing & Monitoring:** Satellite imagery, spectral indices, and real time sensor networks support ignition detection, burn severity assessment, and postfire recovery.
- **Utility Wildfire Mitigation & Grid Hardening Plans:** Under CPUC oversight, utilities implement vegetation clearance programs, HD camera networks, weather stations, covered conductors, and automated switches to reduce ignition risk and limit PSPS events.
- **Equitable Community Resilience Efforts:** Social vulnerability data guides resource allocation, evacuation planning, and defensible space assistance for high risk, under resourced communities.
- **Landscape Scale Prevention & Fuel Management:** Hazardous fuel reduction, dead tree removal, prescribed burns, and fuel break construction improve emergency access and reduce fire intensity.

These initiatives reflect California's commitment to integrating **technology, equity, and infrastructure resilience**, the core themes of this 2026 special track.

Important Datelines

Inform the Chair as soon as you decide to contribute.

Submission: Jan 30, 2026
Notification: Feb 10, 2026
Registration: Feb 20, 2026
Camera-ready: Feb 20, 2026

Contribution Types

- Regular papers [in the proceedings, digital library]
- Short papers (work in progress) [in the proceedings, digital library]
- Posters: two pages [in the proceedings, digital library]
- Posters: slide only [slide-deck posted on www.iaria.org]
- Presentations: slide only [slide-deck posted on www.iaria.org]
- Demos: two pages [posted on www.iaria.org]

Paper Format

- See: http://www.iaria.org/format.html

- Before submission, please check and comply with the editorial rules: http://www.iaria.org/editorialrules.html

Publications
- Extended versions of selected papers will be published in IARIA Journals: http://www.iariajournals.org
- Print proceedings will be available via Curran Associates, Inc.: http://www.proceedings.com/9769.html
- Articles will be archived in the free access ThinkMind Digital Library: http://www.thinkmind.org

Papers Submission

https://www.iariasubmit.org/conferences/submit/newcontribution.php?event=ENERGY+2026+Special
Please select Track Preference as **WRE**

Registration
- Each accepted paper needs at least one full registration, before the camera-ready manuscript can be included in the proceedings.
- Registration fees are available at http://www.iaria.org/registration.html

Contacts
Chair: Vivian Sultan, vsultan3@calstatela.edu
Logistics: Steve McGuire, steve@iaria.org