



# INTELEC 2025

## Call for Tutorial Proposals

All conference registrants are welcome to attend the short courses and tutorials, which are in parallel with technical sessions, at no additional charge.

## INFORMATION

Tutorials are expected to be 90 minutes in duration. Tutorials will be scheduled on October 12, 2025. The presenter/s of accepted tutorials will receive a free full registration (not including paper submission).

### Proposals should include

- Tutorial Title
- A one paragraph bio for each instructor (max 150 words)
- Proposed short course / tutorial summary for evaluation. If accepted, a full short course / tutorial description will be required. Max 300 words.
- Name, affiliation, and e-mail contact for each of the proposed instructors



**Potential topic areas include but are not limited to:**

- **Power converters, control, and other technologies for ICT infrastructure**
  - Power supplies for telecommunication networks
  - Fast and efficient converters for 4G LTE, 5G systems and beyond
  - Air conditioning/cooling infrastructure for power and communication systems
  - Predictive and adaptive control strategies in power electronics for ICT infrastructure
  - Other relevant topics on ICTs including 5G small cells, Internet of Things (IoT), etc.
- **Data center power management**
  - Highly efficient AC-DC and DC-DC converters for data center power distribution
  - Integration of renewable energy, energy storage, and backup systems for data centers
  - Thermal management and efficiency optimization of cooling systems
  - Power systems for data centers or thermal management in quantum computing, AI infrastructure, crypto mining, and other modern applications
  - Other topics on data centers, including digital twins and fault handling
- **Energy storage for grid, communication, and transportation systems**
  - Integration of renewable energy resources (solar PV, wind turbines, etc.) with energy storage systems for islanded and grid-connected applications
  - Energy storage system architectures for grid, transportation, and communication
  - Optimal energy storage system design for optimal energy management
  - Power converters for energy storage systems using batteries, hydrogen, SMES, etc.
  - Battery management systems, monitoring, and health enhancement
  - Other electrical topics on novel and advanced energy storage systems
- **Power converters in subsea and downhole energy applications**
  - Novel power distribution systems and elements for subsea as well as offshore energy
  - Converters and associated technologies for high temperature and high pressure applications such as subsea and downhole
  - Power distribution for critical and niche applications including CO2 storage, geothermal energy, reservoir characterization, geological hydrogen, etc.
  - Sensing systems, IoT, AI, and predictive maintenance in subsea and downhole converters
- **Critical power for aerospace and extraterrestrial systems**
  - Highly available power systems, including generation sources, for space applications considering extreme temperatures, radiation, power density, etc.
  - Extreme environment-capable energy storage systems for extraterrestrial systems
  - Critical power systems in electric aircraft and satellites
  - EMI/EMC and fault handling in aerospace applications
  - Other topics on critical aerospace power applications
- **Resilient, reliable, and highly available infrastructure for mission-critical applications**
  - Power supplies for medical applications such as MRI machines and implants
  - AI-assisted operation and life-cycle support in safety-critical systems
  - Fault protection and planning approaches in resilient power and ICT infrastructure
  - Forensic performance studies of power grids and ICT networks during disruptive events
  - Converters for critical pulsed power and RF applications such as radar, plasma
  - Other topics on system resiliency that do not fall under any of the above areas

If you are interested in giving a tutorial at INTELEC, please submit your proposal through the following link: <https://2025.ieee-intelec.org/tutorial-proposal-submission/>

If you have any questions, feel free to contact the Conference Tutorial Chairs, Joseph Kozak (joseph.kozak@jhuapl.edu) and Irfan Khan (irfankhan@tamu.edu).

The deadline for the submission is 15 April 2025.