



951-729-6228
info@sptus.com
www.sptcus.com
2990 Myers St,
Riverside, CA 92503

Future Forward: Energy Management Innovation Showcase

SPT Headquarters & SPT ENERGY AI LAB Launch Ceremony in Riverside City

and Energy AI Innovation Challenge – Riverside Edition

 **Finals Presentation Date: Friday, May 30, 2025**

 **Venue: SPT Headquarters · Multi-Function Conference Hall (2990 Myers St, Riverside, CA 92503)**

 **Organizers: SPT, SPT ENERGY AI LAB, Greater Riverside Chambers of Commerce, UCR**

 **Supported by: City of Riverside**

1. Event Overview

On the 30th of May, SPT and the City of Riverside will co-host a special integrated event themed “Future Forward: Energy Management Innovation Showcase” to celebrate the official establishment of the SPT Headquarters and SPT ENERGY AI LAB in Riverside City, alongside the Energy AI Innovation Challenge – Riverside Edition.

Combining a corporate launch ceremony and a university innovation competition, the event highlights the intersection of AI and clean energy, offering a platform for city leaders, industry experts, and student innovators to connect, collaborate, and shape the smart energy city of the future.



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2. Event Highlights

-  **Student Innovation Showcase – Presentations of AI-powered clean energy concepts**
-  **Expert Jury Engagement – Live feedback and mentoring from top industry professionals**
-  **Internship & Award Opportunities – Winners will earn internship slots at SPT ENERGY AI LAB**
 - **Innovation Award** - Most unique and forward-thinking solution
 - **Practicality Award** - Most implementable and scalable concept
 - **Future Talent Award** - For teams/individuals showing strong potential
 - **Other Participants** - Certification of Appreciation + gifts

4. Competition Theme

“Future Forward: Energy Management Innovation Showcase”

Students are invited to present innovative smart energy system designs that leverage Artificial Intelligence to optimize the use and application of battery storage technologies in addressing real-world energy challenges. The focus should be on how AI can enhance the efficiency, reliability, and sustainability of energy storage solutions.



5. Submission Requirements

Project Proposal (PPT or PDF):

- **AI Model & Implementation:** Detail the specific AI model(s) being utilized (e.g., machine learning algorithms, neural networks). Explain how the AI will be trained, the data sources it will leverage, and the rationale behind its selection for the chosen energy storage application.
- **Energy Storage Application:** Clearly define the real-world energy challenge your solution addresses and how smart energy storage, powered by AI, plays a crucial role. Consider applications such as **(Only Examples)**:
 - Microgrid Optimization with Battery Storage
 - Intelligent Energy Dispatch for Battery Systems
 - AI-Enhanced Battery Management Systems (BMS)
 - Smart Home Energy Management with Battery Integration
 - Electric Vehicle (EV) Smart Charging and Grid Services
 - Second-Life Battery Applications:
- **Projected Outcomes & Impact:** Quantify the anticipated benefits of your solution. This could include improvements in energy efficiency, cost savings, reduction in carbon emissions, enhanced grid stability, or increased reliability.

Be specific and, where possible, use data-driven projections. Consider the potential impact specifically within the context of Riverside's energy landscape.

Required Supplement:

- **Demonstration Video (Maximum 3 minutes):** A concise video showcasing the core functionality of your smart energy system concept. This could illustrate the AI in action, the user interface (if applicable), or the predicted behavior of the system.
- **OR a Mini Simulation/Model Prototype:** A tangible representation of your system's logic. This could be a software simulation demonstrating the AI's control over energy storage, a small-scale hardware model illustrating



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interaction of components, or a visual representation of the data flow and decision-making process.

Emphasis on Riverside Challenges:

Students are strongly encouraged to tailor their solutions to address specific energy challenges relevant to the Riverside area. This could include optimizing energy use for local businesses, enhancing the resilience of the municipal grid, integrating local renewable energy sources with battery storage, or developing solutions for energy management in residential communities within Riverside.

6. Key Dates

Milestone	Date
Submission Deadline	May 19, 2025 (Monday)
Finalist Announcement	May 25, 2025 (Sunday)
Final Presentation	May 30, 2025 (Friday), 1:00 PM
Award Ceremony with the Riverside Mayor	June 3, 2025 (Tuesday)

7. Awards

Innovation Award - 2 awards of \$500 and Innovation Award Certification

Practicality Award - 2 awards of \$500 and Practicality Award Certification

Future Talent Award - 2 awards of Summer Internship opportunities and Future Talent Award Certification

Other Participants - Certification of Appreciation and gifts

8. Judges:

Dr. Alex Liu: Director of SPT Energy AI Lab, Ph D in Statistical Computing from Stanford University;

Dr. Alfredo Martinez-Morales: Professor at UCR, Ph D in Electronic Engineering from UCR

Dr. Amir Atiya: AI and Prediction Expert, Ph D in Electronic Engineering from Cal Tech;

Dr. Michael Krause: AI Expert, Ph D in Energy Resource Management from Stanford University

9. About SPT ENERGY AI LAB

SPT ENERGY AI LAB is SPT's flagship R&D center in North America, dedicated to advancing the integration of artificial intelligence in the clean energy industry. The lab focuses on AI-driven power forecasting, battery storage optimization, microgrid control systems, and smart user-side energy solutions. Designed as a hub for research, pilot testing, and academic-industry collaboration, the lab plays a vital role in building Riverside into a true smart energy city.

10. Expert Profile

Dr. Alex Liu

- Director, SPT ENERGY AI LAB
- Ph.D. and M.S. from Stanford University
- Former IBM Chief Data Scientist, with years of AI + Energy systems experience
- Leading expert in data science, optimization, machine learning for energy and other industries
- Advisor of Harvard Data Science Review, and Stanford StartX