

OKLAHOMA ENGINEERING CONFERENCE

AGENDA

JUNE 15-16, 2026
METROTECH – SPRINGLAKE CAMPUS
1900 SPRINGLAKE DR.
OKLAHOMA CITY, OK 73111

MONDAY, JUNE 15

7:30-8:00 a.m. **Registration/Continental Breakfast**
Sponsored by Universal Surveying & Mapping



GENERAL SESSION

8:00-9:30 a.m.
Welcome
Doug Klassen, P.E.; OSPE VP of Education

Rooms G/H

**1. My Kingdom for a Gas Gauge:
Exploring the Solar System While Running on Fumes (1.5)**
Todd Barber, Propulsion Engineer, NASA

Rooms G/H

In space, no one can hear you scream when the gas needle approaches “E” on your dashboard. In fact, it is worse than this since traditional fuel measurements like a liquid fill-level measurement do not work in a microgravity environment. Historically, the way to deal with this issue is to load as much propellant as possible, provide conservative margins, and fly the prime mission. However, with extended missions now the norm, large uncertainties with nearly empty tanks, and often conflicting models, it is a challenge to guarantee mission success in face of high propellant depletion probabilities.

9:30-9:45 a.m.
NETWORKING BREAK

South Lobby

9:45-10:35 a.m.
2. OKC MAPS and Arena Project Updates (1)
David Todd, P.E., City of Oklahoma City

Rooms G/H

We will discuss the most recent updates with the OKC MAPS project and the new arena updates.

10:40-11:45 a.m.
3. Oklahoma Department of Transportation Update (1)
*Tim Gatz, Secretary of Transportation
State of Oklahoma*

Rooms G/H

11:45 a.m.-1:00 p.m.
Luncheon
*OSPE/NSPE Update
Geoff Covalt, P.E., President, OSPE and
Breck Washam, P.E., F.NSPE; President-Elect, NSPE*

Rooms G/H

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CONCURRENT SESSIONS

1:00-1:55 p.m.

4. Competitive Robotics as an Engineering Training Ground (1)

Room I

FTC Team 26949, Royal Society of Robotics

Competitive robotics gives students the opportunity to experience real engineering workflows through fast-paced, hands-on problem solving. In this presentation, Gage Ross will share how participation in FIRST Tech Challenge has served as an engineering training ground through advanced programming, robot systems integration, rapid iteration, and collaborative engineering design.

Drawing from the experiences of the Royal Society of Robotics, the presentation will explore how software, autonomous systems, sensor integration, motion control, and performance analysis are used to improve robot capability throughout a competitive season. Attendees will see how engineering decisions evolve through testing, troubleshooting, strategy changes, and collaboration between programming and mechanical design.

Examples from the team's internationally competitive robotics program will demonstrate how students apply engineering principles in an environment that mirrors real-world engineering development cycles. The presentation will also include demonstrations and video progression of the team's robots throughout the season as engineering iterations and design decisions are discussed.

5. Uniform Building Code (1)

Rooms G/H

*David Adcock, Chief Executive Officer
Uniform Building Code Commission*

This session will address the balance of housing affordability, building safety, and code modernization.

2:00-2:55 p.m.

6. Tinker Air Force Base Maintenance Program (1)

Room I

*Aruna Abhayagoonawardhana, Chief
Operations Division, Air Force Base*

7. Vehicle Accident Reconstruction (1)

Rooms G/H

*Scott Haney, ACTAR
RIMKUS*

Trucks are changing. We will discuss everything from rapid response to commercial vehicle collisions and brake system advancements. Trucks have complex performance systems and safety systems are evolving. Electronic evidence availability on commercial vehicles will also be addressed.

2:55-3:15 p.m.

NETWORKING BREAK

South Lobby

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3:15-4:10 p.m.

8. The Scoop on OKIE811 (1)

Room I

*William “Bo” Bohannon, Education and Outreach Liaison
OKIE811*

This presentation brings together the OKIE811 process and resources they provide, stakeholder responsibilities, key information about project planning in excavation, what safe excavation looks like, common mistakes and how to avoid them. By the end, you will have new tools and resources for planning, preparing, and safely digging into your project!

9. The Future of Engineering (1)

Rooms G/H

*Evan Lemley, Ph.D.
Dean, College of Mathematics and Science; Professor of Mechanical Engineering
Director, Center for Research and Education in Interdisciplinary Computation
University of Central Oklahoma*

As Oklahoma's dominant economic sectors undergo a rapid digital transformation, the engineering profession is becoming increasingly computational and data-driven. In this session, Dr. Evan Lemley will explore the profound impacts of artificial intelligence, machine learning, and advanced computation on the future of engineering design and problem-solving.

The presentation will highlight how the University of Central Oklahoma is proactively responding to these industry shifts. Celebrating over 25 years of engineering excellence, UCO's School of Engineering is experiencing record growth, including the rapid expansion of its new Computer Engineering program alongside established disciplines like Software Engineering. To fuel this future, UCO has built a formidable High-Performance Computing (HPC) ecosystem, featuring the NSF-funded "Buddy" supercomputer, a newly acquired \$6 million "Haise" cluster from Tinker Air Force Base, and a 100 Gbps campus network upgrade.

Dr. Lemley will outline UCO's strategic vision for leveraging these assets to meet workforce demands, including the university's AI Action Team, the campaign to build the Institute for Resilient, Intelligent, Secure Systems (IRISS), and the launch of a novel Ph.D. in Applied Science that requires industry-embedded research. Finally, backed by a recent NSF EPIIC grant, Dr. Lemley will extend a call to action for OSPE members to actively shape Oklahoma's future engineers through the Business Industry Leadership Team (BILT) model and the upcoming EPIIC@UCO Oklahoma STEM Summit.

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4:15-5:15 p.m.

10. Discussion of Oklahoma Statutes and Rules Including the Rules of Professional and Ethical Conduct for Engineers and Surveyors (1)

Room I

Bruce Pitts, P.L.S., Principal Assistant

OK Board of Licensure for Professional Engineers and Surveyors

Richard Willoughby, P.E.; F.NSPE, Board Chair

OK Board of Licensure for Professional Engineers and Surveyors

This session will cover the Board Enforcement function including current trends in violations as well as the importance of practicing ethically and the Board Rules of Professional Conduct.

11. Oklahoma Department of Aerospace and Aeronautics State Program Update (1)

Rooms G/H

Jeff Kindschuh, P.E., F.SAME

Airport Engineer, Oklahoma Department of Aerospace & Aeronautics

This presentation will provide highlights of Oklahoma's aerospace industry, from the past to the future. The four pillars of the Oklahoma Department of Aerospace & Aeronautics will be discussed, with an emphasis on the positive aerospace and defense economic impacts on Oklahoma's growth. Active and planned engineering and construction projects at Oklahoma's 100+ public airports will be discussed.

Visit Our Exhibitors



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TUESDAY, JUNE 16

7:30-8:00 a.m. **Registration/Continental Breakfast** **South Lobby**

GENERAL SESSION

8:00-8:55 a.m.

12. ODOT 101 (1)

T.J. Dill, Chief Engineer

Oklahoma Department of Transportation

Rooms G/H

This presentation provides an overview of ODOT's FFY 2026–2033 Eight-Year Construction Work Plan and FFY 2026–2029 Asset Preservation Plan, highlighting how the agency is investing in Oklahoma's transportation system despite significant funding and inflationary challenges. The presentation will explore how ODOT balances immediate transportation needs with long-term asset management goals, maximizing available resources to maintain and improve Oklahoma's highways and bridges for generations to come.

CONCURRENT SESSIONS

9:00-9:55 a.m.

13. OSHA Inspections and Most Frequently Cited Standards (1)

Zach Grinnell, Compliance Safety and Health Officer

OSHA Oklahoma Area Office

Room I

14. OKC Airport Update (1)

John Storms, P.E.; Director – Planning & Development

Will Rogers International Airport

Rooms G/H

This presentation will outline information about the Department of Airports' three airports: Will Rogers International Airport, Willy Post Airport, Clarence E Page Airport.

Including a discussion of anticipated projects in our current 5-year CIP (2026-2030) for all three airports. The presentation will also include a discussion of our preliminary in-process airport masterplan outlining an improvement program for the Terminal and Terminal area to provide capacity for forecasted airport demand over the next 25 years and beyond.

9:55-10:15 a.m.

NETWORKING BREAK

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10:15-11:05 a.m.

15. City of OKC Bond Program (1)

Room I

*Barry Lodge, P.E., CFM; Assistant City Engineer
Department of Public Works*

This presentation will provide an overview of the status of the projects that were included in the 2017 G.O. Bond and an introduction of what can be expected as part of the 2025 G.O. Bond.

16. Re-Routing the Juice:

Relocating Electric Utilities for Roadway Improvement Projects (1)

Rooms G/H

*Matt George, Power Delivery Practice Leader; CEC
Devin Oglesby, Power Distribution Senior Designer; CEC
Paul Riess, Power Distribution Department Manager; CEC*

Electric utility infrastructure is woven throughout the Oklahoma landscape and the world, powering our homes, cars, businesses – energizing our world. Much like other utilities (e.g. gas, water, telecommunications), the electrical grid uses available rights-of-way, owned and maintained by ODOT and various other local, state, and federal authorities. These public ROWs provide paths clear of horizontal and vertical obstructions for overhead lines, and typically open space for underground utilities. When these agencies decide to improve their respective systems, such as construction of additional lanes or new interchanges, the electrical systems must prevent interference by relocating. The power grid is very adaptable, with a seemingly infinite number of possible overhead and underground configurations to move electrons from origin to termination. Utilities across Oklahoma have deployed many unique solutions to maintain electrical system continuity in the ever-changing landscape of public ROW.

GENERAL SESSION

11:10 a.m.-12:00 p.m.

17. Data Center Cooling Project (1)

Rooms G/H

*Dr. Ardeshir Mofakhari, Assistant Professor
CEAT, Oklahoma State University*

12:00-1:00 p.m.

Networking Luncheon

Rooms G/H

GENERAL SESSION

1:00-1:25 p.m.

18. OEF Update (.5)

Rooms G/H

*Jennifer McCollum, Executive Director
Oklahoma Engineering Foundation*

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1:30-1:55 p.m.

19. PES State Board of Licensure Legislative and Enforcement Update (.5)

Kathy Hart, Executive Director

OK Board of Licensure for Professional Engineers and Surveyors

Rooms G/H

2:00-2:55 p.m.

20. Oklahoma Turnpike Authority: Financing the Future of Transportation (1)

Joe Echelle, P.E., Executive Director,

Oklahoma Turnpike Authority

Rooms G/H

2:55-3:10 p.m.

NETWORKING BREAK

South Lobby

3:10-4:05 p.m.

21. Practical Engineering Applications Using AI (1)

Blane Gee, P.E., Associate

Freese & Nichols, Inc.

Rooms G/H

Artificial intelligence is rapidly changing the way engineers approach design, analysis, documentation, and decision-making. This presentation, "Practical Engineering Applications using AI," will provide an accessible overview of AI fundamentals and demonstrate how AI tools can be applied responsibly and effectively in real-world engineering workflows.

The session will cover topics ranging from a practical explanation of what AI is, relative advantages and disadvantages of different AI approaches, the current limitations of AI, with a special emphasis on how engineers can use AI as a productivity tool while maintaining technical accountability, quality control, and ethical responsibility.

Through real-time examples, the presentation will show usable applications that can improve efficiency in engineering design and project delivery. Potential use cases include application design development, calculation support, code and spreadsheet assistance, quality reviews, research synthesis, and workflow automation. Attendees will leave with a clearer understanding of how AI can be integrated into engineering practice to reduce repetitive tasks, improve communication, accelerate early-stage analysis, and support better-informed design decisions.

4:10-5:00 p.m.

22. AI Programs (1)

Jason Angolano

Hamm Institute

Rooms G/H

The rapid growth of artificial intelligence is creating unprecedented challenges and opportunities for the energy industry. As AI models and data centers expand, electricity demand is increasing at a scale that will require significant investment in generation, transmission, and grid reliability.

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This presentation explores the connection between AI advancement and energy infrastructure, comparing the ability of technologies such as natural gas, nuclear, geothermal, wind, and solar to meet future demand. It examines the rise of gigawatt-scale data centers, growing interest in behind-the-meter power solutions, and the importance of reliable baseload generation.

Adjourn