

# DEFENSE

## Systems Digest

The Latest From the Defense Systems Information Analysis Center // March 25, 2025

### 2025 SPRING AFSIM USER GROUP VIRTUAL MEETING

The Advanced Framework for Simulation, Integration, and Modeling (AFSIM) User Group Virtual Meeting will be held April 9-10, 2025. The purpose of this meeting is to provide a forum for the AFSIM community to learn about the latest developments regarding AFSIM, get updates regarding AFSIM management, hear from AFSIM users from across the community on how they are using AFSIM, and attend domain specific working group sessions.

**Learn more here:**

<https://dsiac.dtic.mil/events/2025-spring-afsim-user-group-meeting-virtual/>.

### DID YOU MISS OUR LAST WEBINAR?

“Overview of Space Nuclear  
Propulsion and Power”

 **WATCH NOW!**

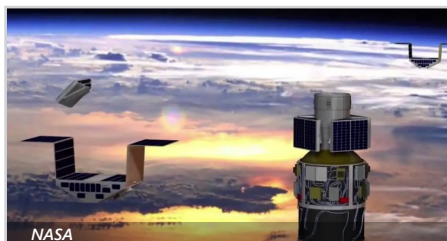
[or download the slides](#)

### NOTABLE TECHNICAL INQUIRY

#### What research is available on replacing conventional graphite in lithium-ion batteries with silicon oxycarbide?

The Defense Systems Information Analysis Center was asked to identify organizations and publications performing research in using amorphous silicon oxycarbide (SiOC) to replace conventional graphite in lithium-ion batteries (LIBs). Graphite is commonly used as a material for anodes in LIBs because of its fast-charging properties, high specific energy densities, and long life cycles. However, concerns about graphite's rate performance and low... [READ MORE](#)

### UPCOMING WEBINAR



#### Launch Site Selection Using Inland Commercial Spaceports...

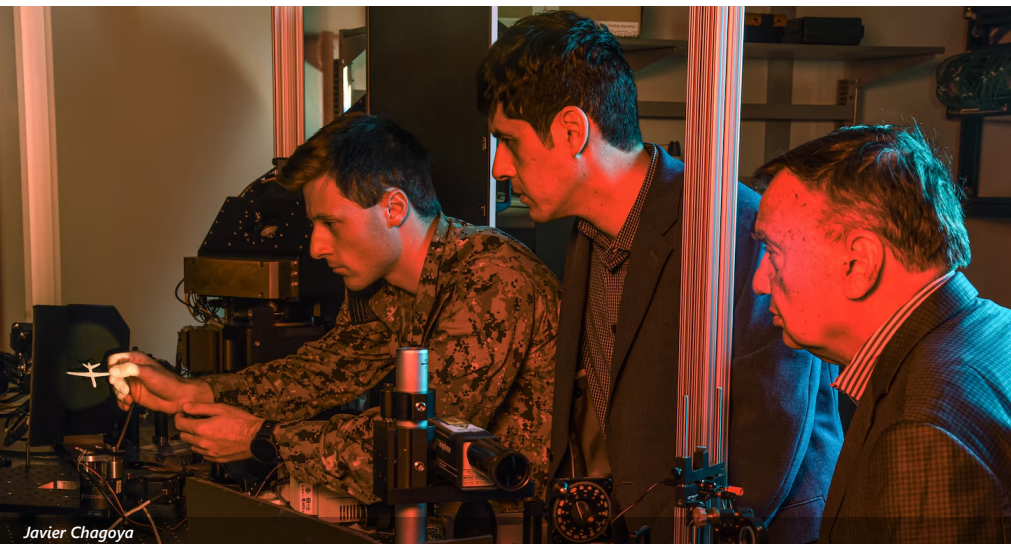
April 30, 2025  
12:00 PM – 1:00 PM

**Presenter(s):** Theresa Sitter

**Host:** DSIAC

*This webinar presentation contains CUI and is therefore limited to those with a CAC, ECA, or PIV certificate. Log in to our Member Portal to register.*

As nontraditional, inland spaceports start to become operational, there is a need to understand the viability of deploying satellite constellations from these potential commercial offerings for launching. This work investigates how utilizing a small launch vehicle with these nontraditional spaceports can deploy a low Earth orbit constellation in each timeframe, competing with the traditional means of constellation deployment. [READ MORE](#)



Javier Chagoya

## HIGHLIGHT

### NPS Develops AI Solution to Automate Drone Defense With High Energy Lasers

MONTEREY, Calif. – Lasers enable the U.S. Navy to fight at the speed of light. Armed with artificial intelligence (AI), ship defensive laser systems can make rapid, accurate targeting assessments necessary for today's complex and fast-paced operating environment where drones have become... [LEARN MORE](#)

## EVENTS

**Warrior West**  
April 9–10, 2025  
San Diego, CA

**2025 Spring AFSIM User Group Meeting (Virtual)**  
April 9–10, 2025  
Virtual

**2025 Spring AFSIM User Group Meeting (In-person Attendance)**  
April 15–16, 2025  
Chantilly, VA

**High-Speed/Hypersonic Subarea of the Air Platforms Community of Interest Technical Interchange Meeting**  
April 30–May 2, 2025  
Alexandria, VA

**The 2025 NSMMS & CRASTE Symposium**  
June 23–26, 2025  
Norfolk, VA

**Want your event listed here?**  
Email [contact@dsiac.org](mailto:contact@dsiac.org) to share your event.



## VOICE FROM THE COMMUNITY

### Daniel Carruth

*Associate Director for Advanced Vehicle Systems, Mississippi State University*

Daniel Carruth is the associate director for Advanced Vehicle Systems, an associate research professor, and an endowed chair at Mississippi State University's Center for Advanced Vehicular Systems. He has over 18 years of experience in modeling and simulation of autonomous ground vehicles in military off-road environments, human-autonomy interaction, and the deployment of unmanned ground vehicles in defense, law enforcement, and industrial applications.

## ARE YOU A SME?

If you are a contributing member of the information systems community and are willing to help others with your expertise, you are a subject matter expert (SME).

Join our team today.

**BECOME A SUBJECT  
MATTER EXPERT**

## ABOUT TECHNICAL INQUIRIES (TIs)

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### WHAT IS THE TI RESEARCH SERVICE?

- FREE service conducted by technical analysts
- 4 hours of information research
- Response in 10 business days or less

### WHO CAN SUBMIT A TI?

- U.S. government (federal, state, or local)
- Military personnel
- Contractors working on a government or military contract

### WHY UTILIZE THE TI RESEARCH SERVICE?

- Get a head start on your technical questions or studies
- Discover hard-to-find information
- Find and connect with other subject matter experts in the field
- Reduce redundancy of efforts across the government

To submit a TI, go to  
<https://dsiac.dtic.mil/technical-inquiries>

## FOR MORE: FOLLOW US ON SOCIAL

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## RECENT DSIAC TIs

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- How much more likely is magnesium vs. aluminum to start an aircraft fire?
- Are long-wave infrared video/data available for airborne assets from the ground?
- Are graphs of F-16 infrared signatures in an afterburner available?

## RECENT CSIAC & HDIAC TIs

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- Who can provide information on getting approval to use something like NotebookLM on closed-loop U.S. Department of Defense computers?
- Who are the U.S. manufacturers of commercial-off-the-shelf bioreactors?
- What subject matter experts are available to discuss post-incident procedures for a radiological event aboard a naval vessel?



# FEATURED NEWS

## Scientists Discover New Heavy-Metal Molecule "Berkelocene"

A research team led by the U.S. Department of Energy’s Lawrence Berkeley National Laboratory (Berkeley Lab) has discovered “berkelocene,” the first organometallic molecule to be characterized containing the heavy element berkelium. [READ MORE](#)

# RECENT NEWS



U.S. Air Force

**Holloman AFB Looks to Revolutionize Aircraft Towing Operations**

U.S. Air Force Research Laboratory






University of Illinois Urbana-Champaign

**DARPA Demos Will Test Novel Tech for Building Future Large Structures in Space**

DARPA







Mike Kortum, Four Sea Group Inc.

**Deep Space Advanced Radar Capability Makes Tremendous Progress in First Year**

U.S. Space Force





James Yoder, Stuff in Space

**New Technology Will Help Satellites Avoid Collisions in Space**

Los Alamos National Laboratory






American Physical Society/BNL

**Peeling Back the Layers: Exploring Capping Effects on Nickelate Superconductivity**

Brookhaven National Laboratory















Dan Herchek/LLNL

**LLNL Researchers Explore Future of Responsive 3D-Architected Materials**

Lawrence Livermore National Laboratory



-  Advanced Materials
-  Autonomous Systems
-  C4ISR
-  Directed Energy
-  Energetics
-  Military Sensing
-  Non-Lethal Weapons
-  RMQSI
-  Survivability & Vulnerability
-  Weapons Systems

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