

# DEFENSE

## Systems Digest

The Latest From the Defense Systems Information Analysis Center // November 19, 2024



## STATE-OF-THE-ART REPORT

DSIAC is pleased to announce publication of our latest state-of-the-art report (SOAR) "Attritable Unmanned Aircraft Systems: Conceptualization and Key Players."

In support of a U.S. Department of Defense priority for fielding attritable systems, this report provides the state of the art for attritable aircraft for multidomain operations.

**Read the SOAR here:** <https://dsiac.dtic.mil/state-of-the-art-reports/attritable-unmanned-aircraft-systems-conceptualization-and-key-players/>.

## DID YOU MISS OUR LAST WEBINAR?

"In-Space Developmental Test Persistent Platform at the U.S. Space Force"

 **WATCH NOW!**

*or download the slides*

## NOTABLE TECHNICAL INQUIRY

### What are the current DoD programs and projects on AI-enabled ground vehicles?

The Defense Systems Information Analysis Center was asked to identify programs performing research on artificial intelligence (AI)-enabled ground vehicles in the U.S. Department of Defense (DoD). Using AI-enabled ground vehicles, often referred to as unmanned ground vehicles (UGVs), allows increased adaptability on the battlefield by operating without a physical driver. Uses include scanning and identifying enemy threats, relaying... [READ MORE](#)

## UPCOMING WEBINAR



*Courtesy of Paolo Focardi*

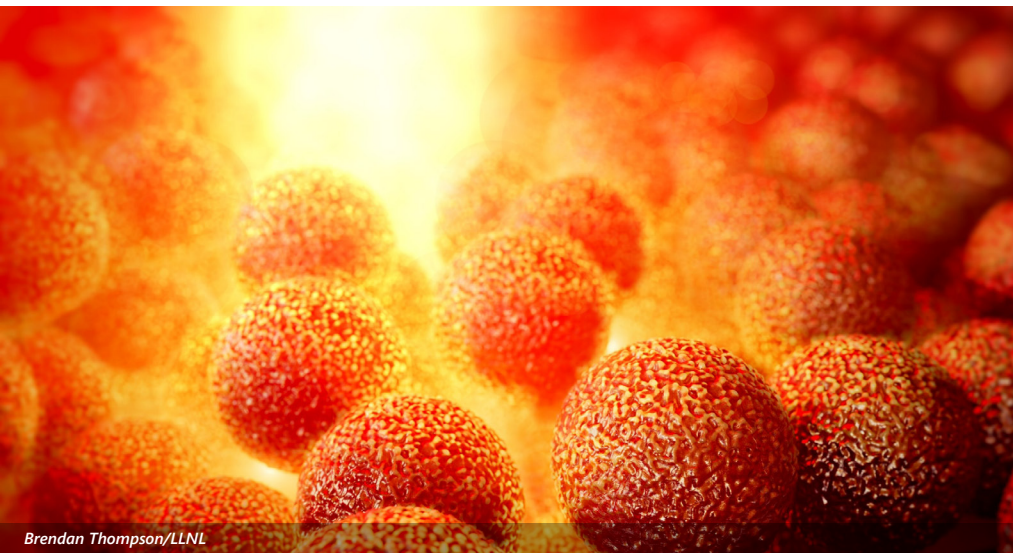
### Antenna Systems for Space Applications at the National...

December 11, 2024  
12:00 PM – 1:00 PM

**Presenter(s):** Paolo Focardi

**Host:** DSIAC

Antenna developments for space applications have a long history at the National Aeronautics and Space Administration (NASA) Jet Propulsion Laboratory. Starting from the 1970s, Voyager; Galileo; Cassini; the Shutter Radar Topography mission; and, more recently, Aquarius, the Soil Moisture Active Passive mission, the Surface Water and Ocean Topography mission, the NASA-Indian Space Research Organisation Synthetic Aperture Radar... [READ MORE](#)



Brendan Thompson/LLNL

## HIGHLIGHT

### New Technique Enhances Absorptivity of Powders for Metal 3D Printing

In a significant advancement for metal additive manufacturing, researchers at Lawrence Livermore National Laboratory (LLNL) and their academic partners have developed a groundbreaking technique that enhances the optical absorptivity of metal powders used in 3D printing. [LEARN MORE](#)

## EVENTS

### Defense Manufacturing Conference 2024

December 2–5, 2024  
Austin, TX

### Space Resiliency Summit

December 4–5, 2024  
National Harbor, MD

### 13th Annual SOF & Irregular Warfare Symposium

December 11–12, 2024  
Tampa, FL

### AOC 2024 International Symposium & Convention

December 11–13, 2024  
National Harbor, MD

### AIAA SciTech Forum

January 6–10, 2025  
Orlando, FL

### 2025 Future Indirect Fires Summit

January 14–15, 2025  
Austin, TX

### Want your event listed here?

Email [contact@dsiac.org](mailto:contact@dsiac.org) to share your event.



## VOICE FROM THE COMMUNITY

### Angel Acevedo

*Project Support Manager for Project Director Sensors-Aerial Intelligence (PD SAI)*

As the Project Support Manager for PD SAI, Angel Acevedo is responsible for a support strategy for all PD SAI Programs of Record. PD SAI is the Army's life-cycle manager for aerial sensor technologies and is currently shifting its portfolio from being platform-centric to sensor-centric. By pivoting to sensor-centric, the organization will continue to provide life-cycle sensor support regardless of the platform installed, reducing redundant costs and sensor support efforts across platforms.

## 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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- What are the threats and adversarial capabilities posed by Aided Target Recognition systems to the dismounted soldier?
- Which Global Positioning System-guided rockets or artillery rounds are used for all Service components and with unmanned systems?
- What efforts are currently being worked to develop opportunities for electronic attacks in contested environments?

## RECENT CSIAC & HDIAC TIs

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- What information is available on open-source modeling and simulation of assorted missile seekers (infrared, radio frequency, laser) that generically model their capabilities at high fidelity?
- How does the U.S. Department of Defense define "accredited" modeling and simulation software, specifically for tactical missile simulations?
- What commercial-off-the-shelf instruments are available for near real-time detection of chemical warfare agents?

## FEATURED NEWS

### Navy Demonstrates First At-Sea Reloading of Vertical Launching System

SAN DIEGO—The U.S. Navy achieved a breakthrough in combat readiness as it successfully demonstrated the Transferrable Reload At-Sea Method (TRAM) on an underway warship in the open ocean for the first time. [READ MORE](#)

## RECENT NEWS



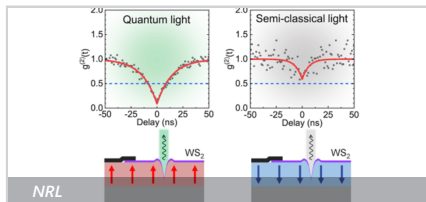
### Maintenance Alert: Portable Kit Analyzes Fluids to Gauge Health of Military Vehicles

Office of Naval Research



### Study Asks: Can Cellphone Signals Help Land a Plane?

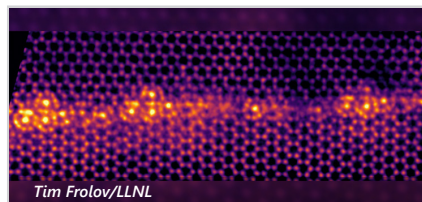
Sandia National Laboratories



NRL

### NRL Introduces a New Paradigm for Control of Quantum Emitters

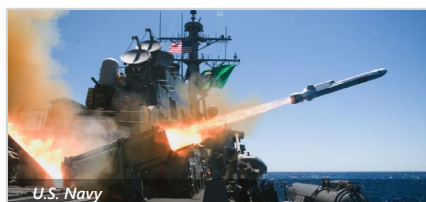
U.S. Naval Research Laboratory



Tim Frolov/LLNL

### When Iron Meets Titanium: Discovery of Quasicrystalline-Like Grain Boundary Phases...

Lawrence Livermore National Laboratory



### Navy Warfare Center Drives First Over-the-Horizon Install, Naval Strike Missile Launch...











U.S. Navy



### PVI Trainer Enhances EW System Training for Mobility Aircrews

Georgia Tech Research Institute



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

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