

Defense Systems

DIGEST

10 SEPTEMBER 2019 – THE LATEST FROM DEFENSE SYSTEMS INFORMATION ANALYSIS CENTER



NOTABLE TECHNICAL INQUIRY

What are the current-state technologies, solutions, and limitations of stand-off biometric identification, specifically in face recognition? What U.S. government programs are active in this topic?

DSIAC was tasked with investigating stand-off biometric identification, specifically face recognition, technologies/solutions, and their limitations. Also of interest were U.S. government programs researching this topic and pertinent publications/reports related to face recognition...[Read More](#)

► **SUBMIT YOUR TECHNICAL INQUIRY – 4 hours of research service for FREE**

FEATURED NEWS

Soldiers Shape the Battlefield With Next Generation of Terrain-Shaping Munitions

PICATINNY ARSENAL, NJ — Shaping the battlefield, and thus shaping the terrain, has been doctrine for how to execute large-scale ground operations. Obstacles play a vital role in this process, providing friendly forces the freedom of maneuver while limiting the enemy's ability to do the same.

The Product Manager for Terrain Shaping

Obstacles (PdM TSO), based at Picatinny Arsenal, completed a Close Terrain Shaping Obstacle (CTSO) on July 24–25 at Fort Leonard Wood, MO, as part of its ongoing mission to develop the revolutionary next generation of terrain-shaping munitions.

The ability to shape terrain is a key enabler for maneuver and needed capabilities across the Army modernization priorities of long-range precision fires, next generation combat vehicles, and future vertical lift and soldier lethality.

The Picatinny-based PdM TSO, formerly the Product Manager for Gator Landmine Replacement, is part of the Project Manager for Close Combat Systems (PM CCS), which is an element of the Joint Program Executive Office for Armaments Ammunition (JPEO A&A).



VOICE FROM THE COMMUNITY



Joseph Peñano, *Head of the Beam Physics Branch, Navy Research Laboratory*

My current research interests include high-energy and high-intensity laser physics, atmospheric propagation of high-energy and ultra-short pulse lasers, interactions of intense ultra-short lasers with dielectric materials, and laser plasma accelerators. I am the recipient of multiple Navy Research Laboratory (NRL) Featured Research Awards, Alan Berman Publication Awards, the Dolores Etter Top Navy Scientists and Engineers Award, and NRL Technology Transfer Awards for the Incoherently Combined Fiber Laser

Architecture and the High-Energy Laser Counter-Anti-Ship Cruise Missile Program Laser Propagation Simulation. I hold a Ph.D. in plasma physics from the University of California, Los Angeles.

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UPCOMING EVENTS

2019 IEEE/AIAA 38th Digital Avionics Systems Conference (DASC)

8 September 2019 to 12 September 2019

Robotics and Autonomous Systems (RAS) Summit

23 September 2019 to 25 September 2019

Fundamentals of Random Vibration and Shock Testing Course

21 October 2019 to 23 October 2019

2019 Defense Manufacturing Conference (DMC)

2 December 2019 to 5 December 2019

► Want your event listed here? Let us know!

SEEKING YOUR KNOWLEDGE



What Technologies Exist for Hidden Stick-on Speakers That Can Be Remotely Activated to Broadcast Sound?

DSIAC is searching for sonic projection or targeted laser beam sound technologies that can broadcast an audio message to a targeted person or group. [Read More](#)

DSIAC JOURNAL SUMMER 2019



Disposal of Insensitive Munitions

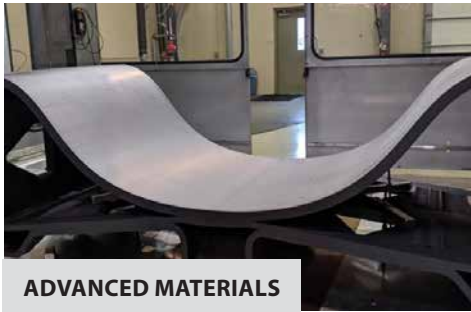
Also in This Issue:

- Computational and Experimental Characterization of an Improvised, Explosively Formed Penetrator
- Investigating Friction Stir Welding in Aluminum Hull Structures
- Additively Manufactured, Solvent-Loaded AP Composite Propellant – Printer Parameter Optimization
- A Multisensor System for Measuring the Light Output and Velocity of Live-Fired, Red Light-Emitting Pyrotechnic Tracers



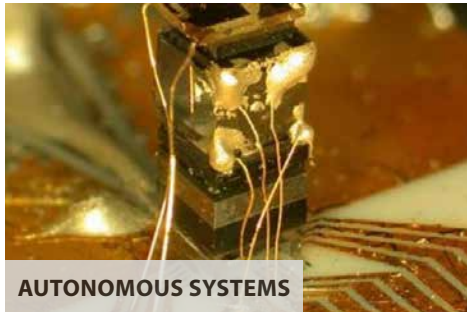
► Have an idea for a topic? Please contact us to write an article!

RECENT NEWS



ADVANCED MATERIALS

AFRL, Boeing, Thermwood Apply Large-Scale Additive Manufacturing to Autoclave Tools



AUTONOMOUS SYSTEMS

DARPA to Develop Advanced Tiny Chip-Scale Atomic Clocks for Military PNT Applications



DIRECTED ENERGY

Air Force Looking Into DE Weapon Prototypes for Counter-Cruise Missile Experiment



ENERGETICS

Astrobotic Is Going to Use a Vulcan Rocket for Its Lunar Lander in 2021



MILITARY SENSING

These Tactical Glasses Could Give Marine Grunts an F-35 Pilot's View of the Battlefield



NON-LETHAL WEAPONS

Non-Lethal Weapons? Will Marines Ever Use This Capability?



RMQSI

Alerts Sound on Maritime Logistics: Several Experts See Seriously Lacking Sealift Capability



SURVIVABILITY AND VULNERABILITY

ANTI-RPG Warhead Phases II and III: An Aircraft Protection Solution



WEAPON SYSTEMS

The Next Generation of High-Performance Explosives Developed by LANL and Army Research Lab

19
FALL ISSUE

published by the
Joint Aircraft
Survivability
Program Office

AIRCRAFT SURVIVABILITY

Rotorcraft Effects of Countering
RPGs

page 6

The HH-60W LFT&E Program:
An Update

page 13

Applications of Second-Order
Linear Differential Equations
to Model a Hydrodynamic Ram
Cavity

page 21



The 2019 Fall Issue of the Aircraft Survivability Journal Now Available

DSIAC is pleased to announce the release of the 2019 fall issue of the Aircraft Survivability journal.

The journal is viewable and available for electronic download at <http://ow.ly/kT4u50vVf1p> or <http://ow.ly/MFH150vVf1u>.

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