Defense Systems DIGEST

23 OCTOBER 2018 – THE LATEST FROM DEFENSE SYSTEMS INFORMATION ANALYSIS CENTER

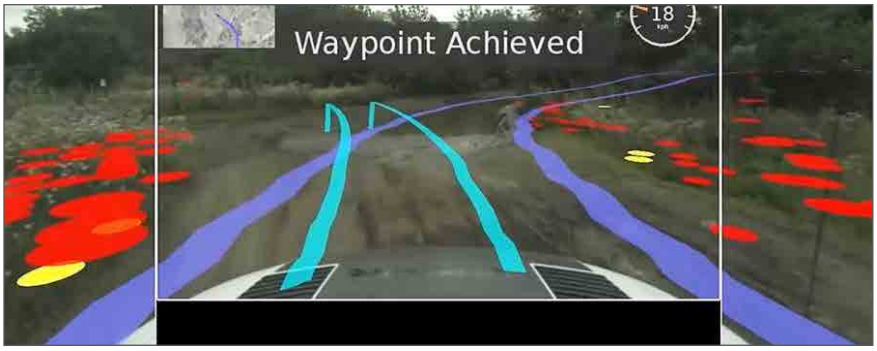
NOTABLE TECHNICAL INQUIRY

What research, development, testing, and evaluation (RDT&E) is being done on ceramic additively manufactured (AM) gas engine turbine blades?

DSIAC reached out to subject matter experts (SMEs) working in the field of ceramic AM and generated a summary of RDT&E being done in this area, including specific application for gas engine turbine blades and air foils. Additionally, a literature research was conducted... Read More

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

FEATURED NEWS



DARPA's GXV-T Program Demonstrates Advanced Vehicle Survivability Technologies

For the past 100 years of mechanized warfare, protection for ground-based armored fighting vehicles and their occupants has boiled down almost exclusively to a simple equation – more armor equals more protection. However, threat weapons ability to penetrate armor has advanced faster than armor's ability to withstand penetration. As a result, achieving even incremental improvements in crew survivability has required significant increases in vehicle mass and cost. The DARPA Ground X-Vehicles Technology (GXV-T) program... **Read More**

MODEL OF THE MONTH

AJEM – The Advanced Joint Effectiveness Model, or AJEM, is a survivability, lethality, and vulnerability (SLV) computer simulation code capable of analyzing one or more threats attacking a one or more rotary-wing or fixed-wing aircraft, small watercraft, ground-mobile system, and mounted or dis-mounted personnel.

Get this model!

VOICE FROM THE COMMUNITY

Thomas J. Meitzler, *Ph.D., Senior Technical Expert, Ground Vehicle Survivability and Protection, U.S. Army Tank Automotive Research, Development and Engineering Center (TARDEC)*

My B.S. and M.S. degrees are in physics, and I received my Ph.D. in electrical engineering. Since 1988, I've supported TARDEC as a research engineer in survivability and have been involved with development, validation and verification of electro-optical, infrared and human visual acquisition models. As TARDEC's Visual Perception Laboratory principal scientist and investigator, I worked with Ford and GM to apply visual target acquisition models to vehicle conspicuity and novel sensors to automobile 360-degree safety. Other areas of work include developing and integrating armor related technologies for embedded health-monitoring, embedded radio signal detection, and non-destructive testing. I have authored/co-authored many papers in electro-optic system simulation, visual detection, sensor validation, nondestructive armor evaluation, embedded piezoelectric nondestructive testing of armor, and spintronics. Some of the things I enjoy most are guiding development of embedded sensors that can improve warfighter and robotic combat survivability by providing real-time armor health monitoring and situational awareness and testing novel radar sensors based on spintronics.

▶ **Apply to be part of our network of over 1,000 subject matter experts.**

UPCOMING EVENTS

2018 Workshop on Space Environment Applications, Systems, and Operations for National Security (SEASONS)

7 November 2018 to 9 November 2018

Military Standard 810G (MIL-STD-810G) Testing

12 November 2018 to 15 November 2018

I/ITSEC 2018

26 November 2018 to 30 November 2018

3-Day Mechanical Shock Testing & Data Analysis

27 November 2018 to 29 November 2018

▶ **Want your event listed here? Let us know!**

BULLETIN BOARD

Have you seen Volume 1 Issue 2 of the JDR&E?

Read unclassified articles in the latest issue.

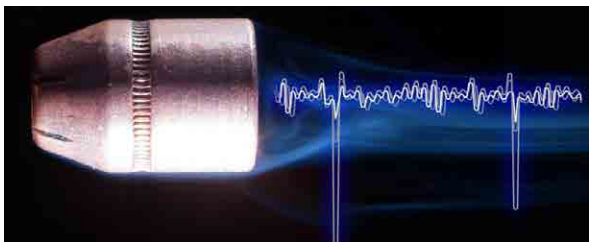
MIT Education Program on Architecture and Systems Engineering: Models and Methods to Manage Complex Systems

Fall 2018 ASJ newly available online

A fresh new look and feel to the DTIC public website!

▶ **Add your item to our board by contacting us.**

DSIAC JOURNAL SUMMER 2018



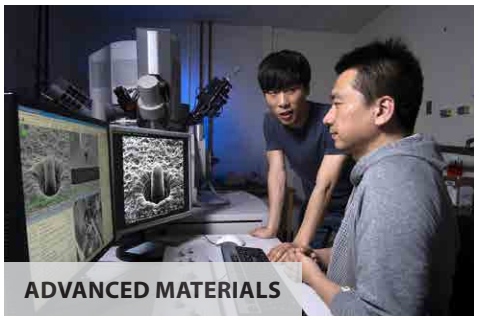
Detecting Bullets Through Electric Fields

Also in This Issue:

- To Use or Not to Use Mobile Robots
- Manufacturing at the Point of Need Using Recycled, Reclaimed, and/or Indigenous Materials
- Characterizing Cyber Intelligence as an All-Source Intelligence Product

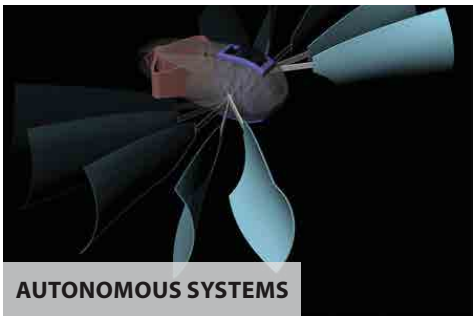
▶ **Have an idea for a topic? Please contact us to write an article!**

RECENT NEWS



ADVANCED MATERIALS

Study Shows Ceramics Can Deform Like Metals if Sintered Under an Electric Field

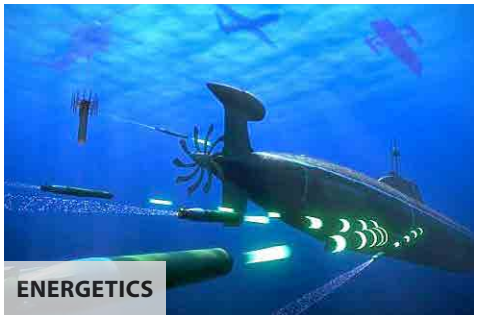


AUTONOMOUS SYSTEMS

No Motor, No Battery, No Problem

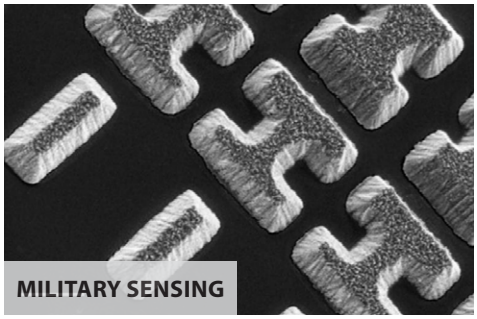
DIRECTED ENERGY

U.S. Marines Developing Scalable Effects Laser-Plasma Weapon System



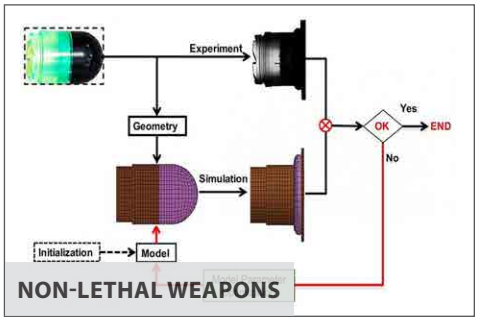
ENERGETICS

Applied Physical Sciences Continues Effort to Develop UUV Undersea Batteries in Blue Wolf Project



MILITARY SENSING

Improving Mid-Infrared Imaging and Sensing

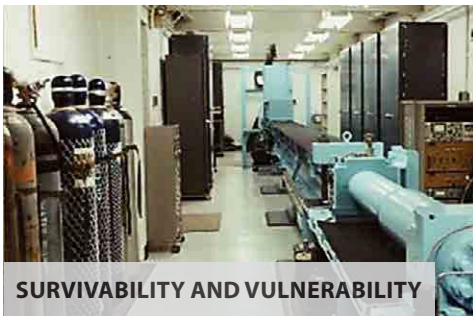


NON-LETHAL WEAPONS

Non-Lethal Projectile Characterisation Method: Application to 40-mm SIR-X and Condor NT901 Projectiles

RMQSI

Army to Use Artificial Intelligence to Predict Which Vehicles Will Break Down



SURVIVABILITY AND VULNERABILITY

NSWCDD Report: Mitigating Blast and Shock Using Advanced Materials

WEAPON SYSTEMS

Weapons Upgrade Set to Make U.S. Special Operations Even More Deadly

ARE YOU A DEFENSE SYSTEMS SUBJECT MATTER EXPERT?

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

DSIAC is looking to expand our SME network and we would like to invite you to join.

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