Defense Systems DIGEST

5 MAY 2020 – THE LATEST FROM DEFENSE SYSTEMS INFORMATION ANALYSIS CENTER

NOTABLE TECHNICAL INQUIRY

What U.S. Department of Defense (DoD) efforts are ongoing to address the shortages of critical medical equipment due to the COVID-19 pandemic?

DSIAC staff collected information and the proper contacts related to several DoD initiatives addressing the production of PPE, respirators, ventilators, and other medical equipment in support of the COVID-19 pandemic response. Information and the pertinent contacts for two such initiatives were delivered... Read More

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

FEATURED NEWS

Five Ways the U.S. Military Will Change After the Pandemic

The global pandemic is about to profoundly change the U.S. military's role in defending the United States — even if Pentagon leaders don't know it yet. As we noted in our last column, many Americans will look at the immeasurable damage wrought by the pandemic and conclude that defending the homeland from catastrophic threats is far more urgent than defending against foreign threats far from American shores. That fundamental shift is rapidly ushering in a new era for the Department of Defense, which will upend some of its bedrock assumptions about when, where, and how the U.S. military contributes to national security.

VOICE FROM THE COMMUNITY

Ryan Makinson, *Associate Editor and Outreach Coordinator, Defense Technical Information Center (DTIC)*

I work at the Defense Technical Information Center (DTIC), where I help manage the Journal of DoD Research and Engineering (JDR&E). The JDR&E is a newly-created, peer-reviewed journal that only publishes classified and controlled unclassified defense research. My areas of expertise include stress neurobiology and neuroimmunology. I have a Ph.D. in neuroscience from the University of Cincinnati and Bachelor of Science in neuroscience and behavioral biology.

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UPCOMING POSTPONED EVENTS

2020 DEFENSE Forum

5 May 2020 to 7 May 2020

6th Ceramics Expo

5 May 2020 to 6 May 2020

C4ISR Symposium 2020

12 May 2020 to 14 May 2020

Ronald Reagan Missile Defense Conference

18 May 2020 to 19 May 2020

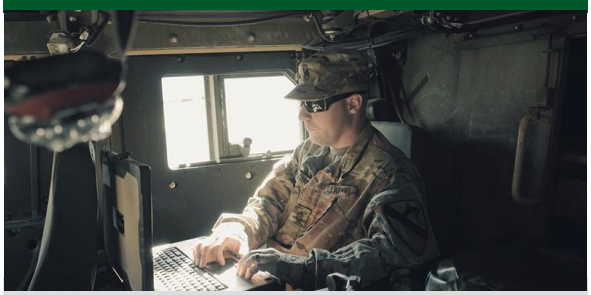
Want your event listed here? Let us know!

HIGHLIGHT

"Introduction to Brawler" Training Course – Postponed and Rescheduled for 16–19 June

Brawler is a U.S. government-owned, comprehensive simulation tool which provides a detailed representation of air-to-air combat engagements involving multiple flights of aircraft in both the visual- and beyond-visual-range (BVR) arenas. Because of the importance of cooperative tactics and the critical role of human factors (such as surprise, confusion... Read More

DSIAC JOURNAL WINTER 2020



Preventing Injuries Through Actionable Analysis

Also in This Issue:

- What Does Next-Generation, Passive RPG Protection Look Like?
- Augmented Target Recognition Display Recommendations
- System Capabilities Analytic Process and Advanced Teaming Analyses
- The Synthetic and Measured Paired and Labeled Experiment (SAMPLE) Dataset for SAR ATR Development
- Flight Standards for UAS in the National Air Space

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

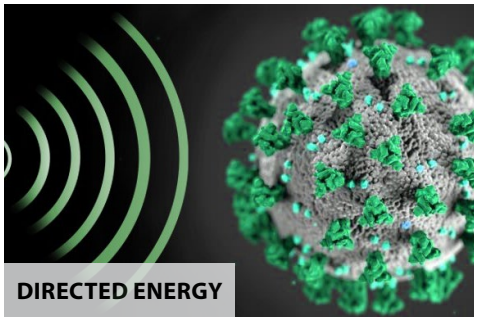
RECENT NEWS

ADVANCED MATERIALS

Researchers Create Materials-by-Design for Future Army

AUTONOMOUS SYSTEMS

Modernizing UAV Export Policy for Effective Coalition Forces



DIRECTED ENERGY

AFRL Scientists Investigate: Can Microwaves Reduce Viability of Airborne Coronavirus Spread?

ENERGETICS

Making Satellites Safer: The Search for New Propellants

MILITARY SENSING

COVID-19: Army IVAS Goggles Now Take Temperatures

NON-LETHAL WEAPONS

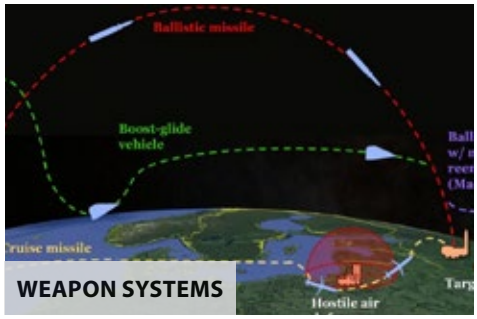
435 SFS Recognized: Best Small Security Forces Unit

RMQSI

Getting Serious About Interoperability

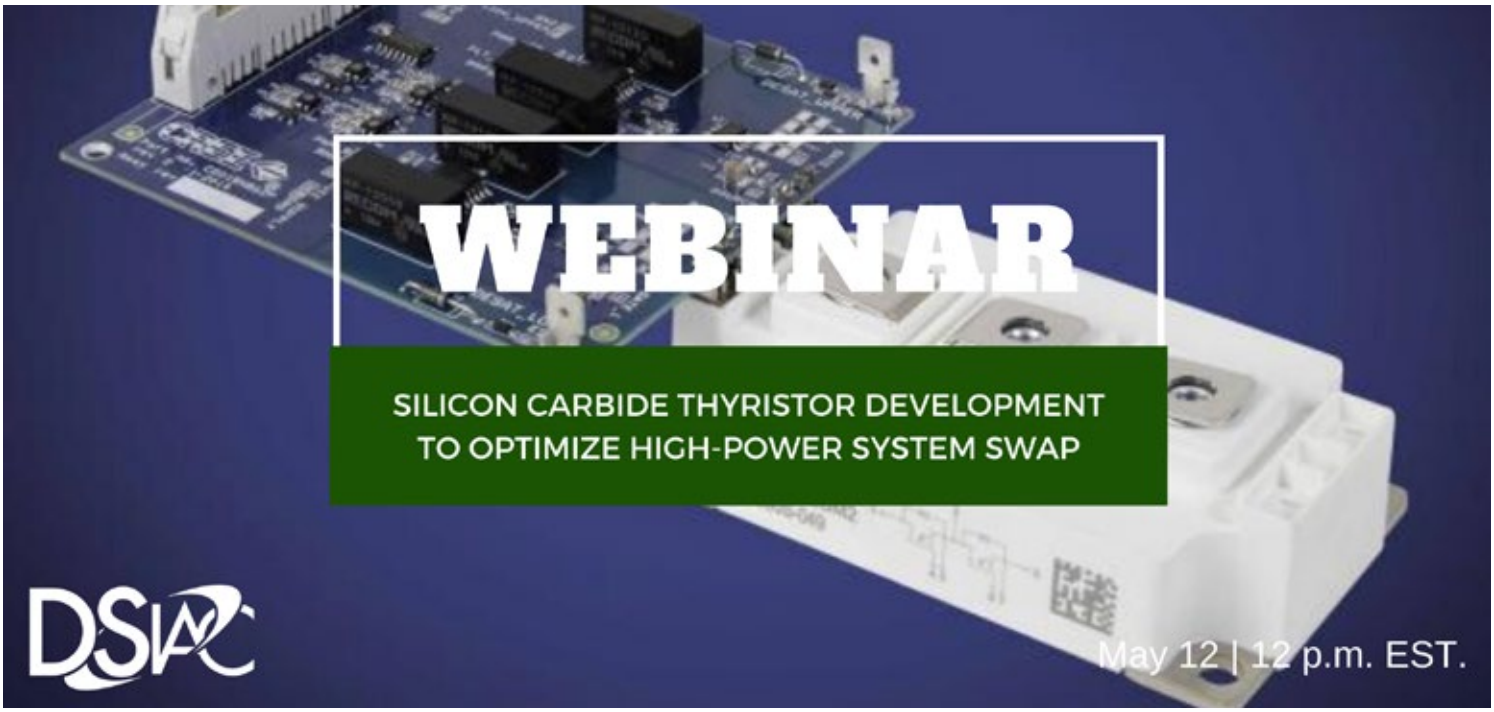
SURVIVABILITY AND VULNERABILITY

Popular Training Program Increases Marine Survivability



WEAPON SYSTEMS

Hypersonics: DoD Wants "Hundreds of Weapons" ASAP



Webinar: Silicon Carbide Thyristor Development to Optimize High-Power System SWaP

Wednesday 12 May 2020, 12:00 p.m. to 12:45 p.m. EST

The U.S. Army Research Laboratory (ARL) has funded the development of high-voltage silicon carbide (SiC) thyristors and diodes for pulsed power switching, culminating in the first-ever 1.0 cm^2, 15-kV SiC thyristor with n-type doping in the drift layer. N-type thyristors have been predicted to achieve faster switching speeds and lower switching losses but were only recently realized following the development of novel fabrication techniques. These devices are targeted to reduce volume and increase reliability of switching components in pulsed, high-energy systems. ARL and Texas Tech University characterized the first fabrication lot of these devices for high-voltage, DC-blocking capability (<1-μA leakage at 15 kV), optimal turn-on controls (4-A gate pulse), and on-state resistance at high-current densities (up to 3 kA/cm^2). This presentation will report on recent analysis of the turn-on speed and dI/dt capability of the n-type SiC thyristors compared to previously-reported 15-kV SiC, insulated-gate, bipolar transistors and 15-kV, p-doped, SiC thyristors. Performance metrics will be described as power density vs. switching frequency and power transmitted vs. power dissipated within the device.

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