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iCOMMAND & ICONS present: **Advancing Research and Innovation for National Defense and Security**

A workshop to bridge academia and government to support the warfighter



Keynote Address

Col. Todd Poindexter
Chief Innovation Officer
XVIII Airborne Corps
Fort Bragg

JSNN and UNC Greensboro
APRIL 30 – MAY 1, 2026

Advancing Materials Science Research to Support the Warfighter

12:00 – 1:00 PM **Registration and Networking Lunch**

1:00 – 1:15 PM **Welcome Remarks**

Dr. Tetyana Ignatova, *Associate Professor of Nanoscience; ICONS co-Director*
Dr. Kristen Dellinger, *Associate Professor of Nanoengineering; ICONS co-Director*
Dr. Ramanathan Nagarajan, *ST, Senior Research Scientist-Soldier Nanomaterials, DEVCOM, SC*
Dr. Sherine Obare, *Vice Chancellor for Research and Engagement, UNC Greensboro*
Dr. Masud Chowdhury, *Dean, JSNN*

1:15 - 1:55 PM **Invited Talks: Defense Needs & Innovation Opportunities**
Moderator: Dr. Tetyana Ignatova

1:15 – 1:35 PM **Mr. Craig L. Rettie**, *SES, Director Research and Technology Integration, DEVCOM SC*, “Army Transformation: Critical Technology Needs”

1:35 – 1:55 PM **Ms. Jaclyn Fontecchio**, *Deputy Director, DEVCOM SC*, “Innovation Opportunities in Soldier Domain”

1:55 – 2:55 PM **Lightning Talks**
Moderator: Dr. Nick Lalena

1:55 - 2:05 PM **Dr. Tetyana Ignatova**, “Nano-Sense and Thermal Control Management.” *DEVCOM SC POCs Joshua R. Uzarski, Margaret Auerbach*

2:05 - 2:15 PM **Dr. Kristen Dellinger**, “Hydrogel-Based Sensors for Heavy Metal Detection in Water.” *DEVCOM SC POCs: Todd Alexander, Eric Brack*

2:15 - 2:25 PM **Dr. Hemali Rathnayake**, “Anisotropic Copper Oxide Nanowire-based Sensors for Rapid Toxic Vapor Detection in the Battlefield.” *DEVCOM SC POCs: Elizabeth Hirst, Paola D’Angelo*

2:25 - 2:35 PM **Dr. Lifeng Zhang**, “Advancing Soldier Protection and Comfort by Engineered Nanomaterials.” *DEVCOM SC POC: Jason Parker*

2:35 - 2:45 PM **Dr. Shyam Aravamudhan**, “Atomic Layer Deposition as an Enabling Technology for 2D and Other Material Systems.” *DEVCOM SC POC: Ken Ngo*

2:45 - 2:55 PM **Dr. Shanthi Iyer**, “Next Generation Quantum and Infrared Sensors: A Journey Through Molecular Beam Epitaxy.” *DEVCOM SC POC: Paola D’Angelo*

2:55 - 3:00 PM *Transition to Panel Discussion*

3:00 - 4:15 PM **Panel: Strategies to Support Defense Research Innovation**
Moderator: Dr. Kristen Dellinger

Mr. Craig L. Rettie, *Director, Research and Technology Integration, DEVCOM, SC*
Ms. Jaclyn Fontecchio, *Deputy Director, DEVCOM, SC*
Ms. Krista Kane, *Program Coordinator, Applied Research Institute*
Dr. Ramanathan Nagarajan, *ST, Senior Research Scientist-Soldier Nanomaterials, DEVCOM, SC*

4:15 - 4:30 PM *Break and Transition to Poster Session*

4:30 - 6:00 PM **Research Poster Session**

This session will feature poster sessions focused on materials science to support the warfighter.

Day 2 | University of North Carolina at Greensboro | Elliot University Center - Cone Ballroom A

Warfighter Performance and Workforce Development

8:30 – 9:30 AM **Registration and Networking Breakfast**

9:30 – 10:00 AM **Keynote Address: Colonel Todd Poindexter**
Chief Innovation Officer | XVIII Airborne Corps | Fort Bragg

10:00 – 11:00 AM **Invited Talks: Enhancing Warfighter Readiness Through Health and Human Performance Research. Moderator: Dr. Sherine Obare**

This session will highlight cutting-edge research focused on optimizing warfighter health, resilience, and performance across physical, cognitive, and behavioral domains. Participants will explore innovative approaches and collaborative opportunities to translate scientific insights into solutions that enhance readiness and operational effectiveness.

10:00 - 10:20 AM **Dr. Gregory Weber, Research Biologist DEVCOM SC**
"Nutritional Physiology and Combat Feeding"

10:20 - 10:40 AM **Dr. Clint Allred, Distinguished Professor of Nutrition, UNC Greensboro**
"Diet Induced Modifications of Microbiota Metabolites in Gut Health"

10:40 - 11:00 AM **Dr. Ramanathan Nagarajan, ST, Senior Research Scientist-Soldier Nanomaterials, DEVCOM, SC**
"Sensors for Soldier and Squad"

11:00 - 12:15 PM **Panel: Developing the Defense Workforce: Pathways, Skills, and Opportunities**
Moderator: Dr. Nick Lalena

This panel will examine strategies for building a robust and agile defense workforce by strengthening education, training, and career pathways aligned with national security needs. Panelists will discuss critical skill gaps, emerging competencies, and collaborative approaches to prepare and sustain talent across the defense and research enterprise.

11:00 - 11:10 AM **Ms. Virginia Rettie, Program Analyst DEVCOM SC**
"Army Civilian Career Opportunities"

11:10 - 11:20 AM **Mr. Jacob Keys, Director, Military Outreach Veterans Engagement, North Carolina Biotechnology Center**
"Engaging Veterans Toward Notable Careers"

11:20 - 11:30 AM **Mr. Bob Burton, Director of Defense Technologies**
"Advancing Defense Business in North Carolina"

11:30 - 12:15 PM **Panel Discussion**

12:15 - 1:30 PM **Networking Lunch**

1:30 PM **Adjourn**



Institute for the Convergence of Optimized Methods
for Military Advances & National Defense

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 JSNN  Joint School of Nanoscience and Nanoengineering	   U.S. ARMY DEVCOM SOLDIER CENTER
INNOVATION COLLABORATIVE LABORATORY FOR NANOTECHNOLOGIES TO EMPOWER THE FUTURE SOLDIER	

Advancing Defense Research. Security, and Strategic Partnership.

**Thank you to all speakers, partners and attendees for your
commitment to advancing research and innovation for
national defense.**