

# Texas A&M Engineering WORKSHOP ON INTEGRATED COGNITIVE MULTI-SENSOR SYSTEMS

Bush Combat Development Complex  
**Research Integration Center**  
**April 14-15, 2022**



**BUSH COMBAT  
DEVELOPMENT  
COMPLEX**

Future Department of Defense (DOD) missions will require global integration of technologies across all domains. While there are several military systems being explored to shorten sensor-to-shooter timelines, they lack in their ability to extract information in a timely and energy-efficient manner, to adapt and optimize sensing resources and to transmit only the most essential information via undetectable means. This workshop will bring together experts from across academia to discuss and quantify the potential of today's technology, and to develop interdisciplinary approaches that can provide a quantum leap over today's technology.



Texas A&M Engineering  
Experiment Station

## MAIN TOPICS

<b>Tunable Intelligent Materials</b> Chair: T. Palacios	<b>Intelligent EM Devices</b> Chair: H. Wang	<b>Cognitive EM Architecture</b> Chair: P.R. Kumar	<b>Monolithic Multi-sensor Chip</b> Chair: R. Franklin
EM Protection <ul style="list-style-type: none"> <li>• Neuromorphic metamaterials</li> <li>• Topotronics</li> <li>• Quantum photonics</li> </ul>	Freedom of Maneuver <ul style="list-style-type: none"> <li>• Autonomous sensing devices (RF, EO/IR and THz)</li> <li>• Optimize detection regimes</li> </ul>	Optimize Distributed Architecture <ul style="list-style-type: none"> <li>• Layered intelligence</li> <li>• Hierarchical data management</li> </ul>	Reduce Size and Power Dissipation <ul style="list-style-type: none"> <li>• 2D and 3D interconnects</li> <li>• Coupling to EM radiation</li> </ul>



### Setting the Stage with a Keynote Presentation from DOD

Organization	Briefer	Title
DARPA	Dr. Phil Root	Director, Strategic Technology Office

This will be a hybrid MS Teams/in-person meeting.

**Please submit one-page abstracts  
by March 20 to [BCDC@tamu.edu](mailto:BCDC@tamu.edu).**

Plan for 20-minute presentation.

## ORGANIZERS



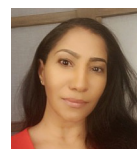
### Dr. Linda Katehi

Electrical and Computer Engineering,  
Texas A&M University



### Dr. Peter Rentzepis

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### Dr. Kimberly Sablon

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### Dr. Deji Akinwande

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