



U.S. ARMY COMBAT CAPABILITIES DEVELOPMENT COMMAND (CCDC) – ARMY RESEARCH LABORATORY

Army Research Office – University Affiliated Research Centers

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ARMY MODERNIZATION

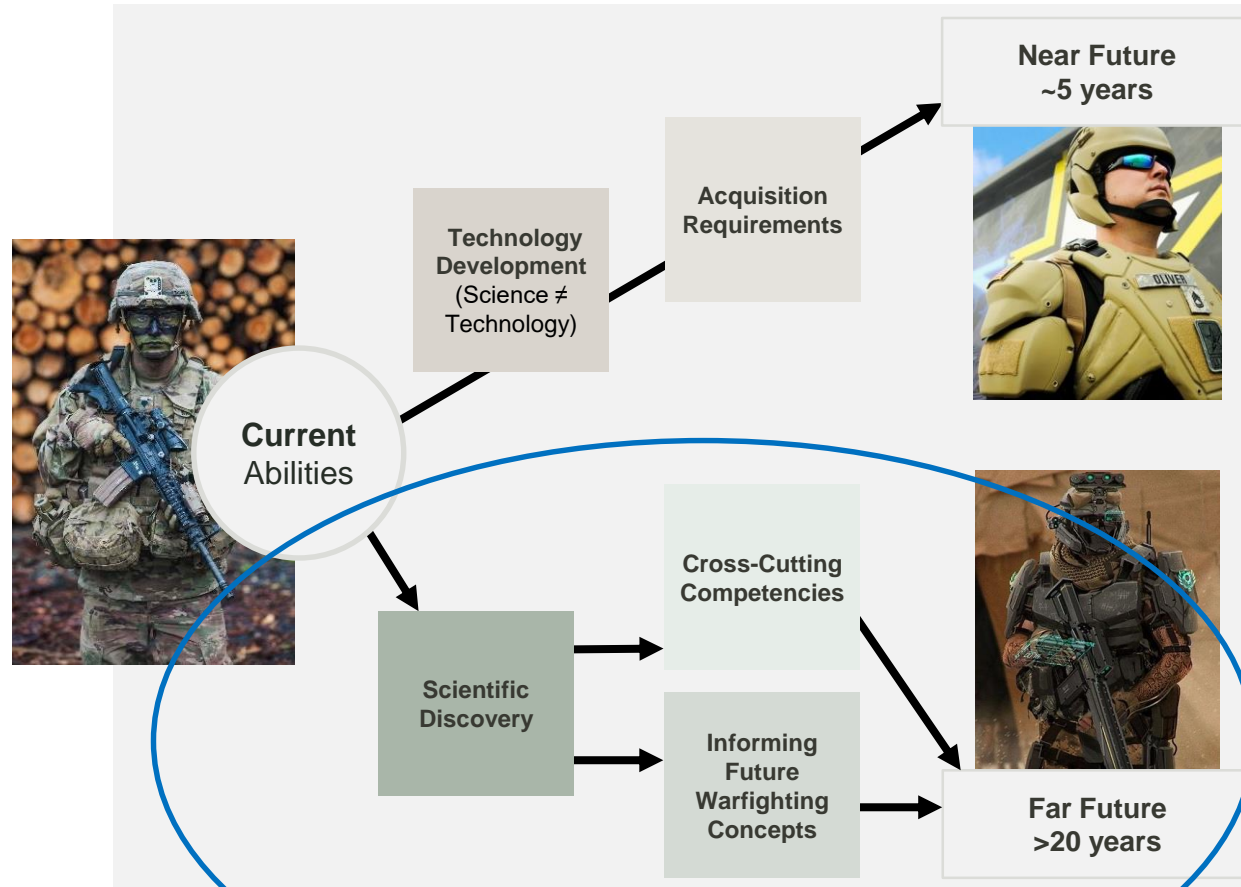
To have the best Army in the world,
we must have the best Science.

ARO is always looking for answers
to the question:

**How will we ensure
success in the future?**



ARO's work with basic
scientific research drives
toward the Army's *far* future
capabilities
20, 30, 40 years from now.





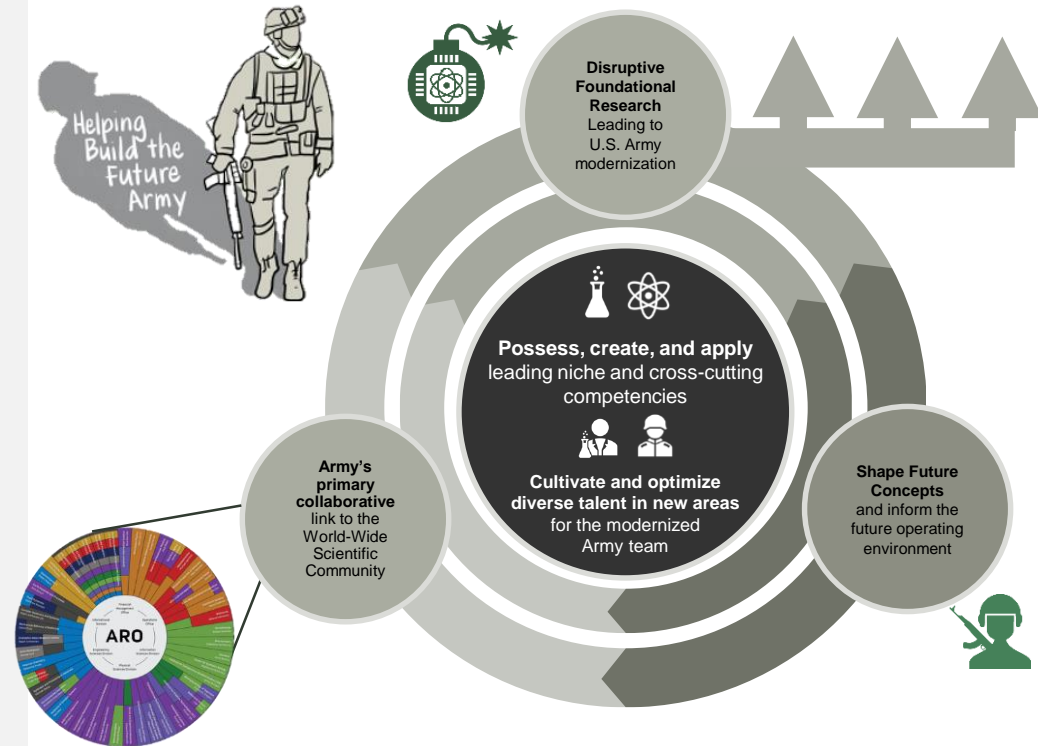
Mission

ARO's Mission

A component of DEVCOM ARL, the Army Research Office contributes to Army modernization by focusing on **basic scientific research**.

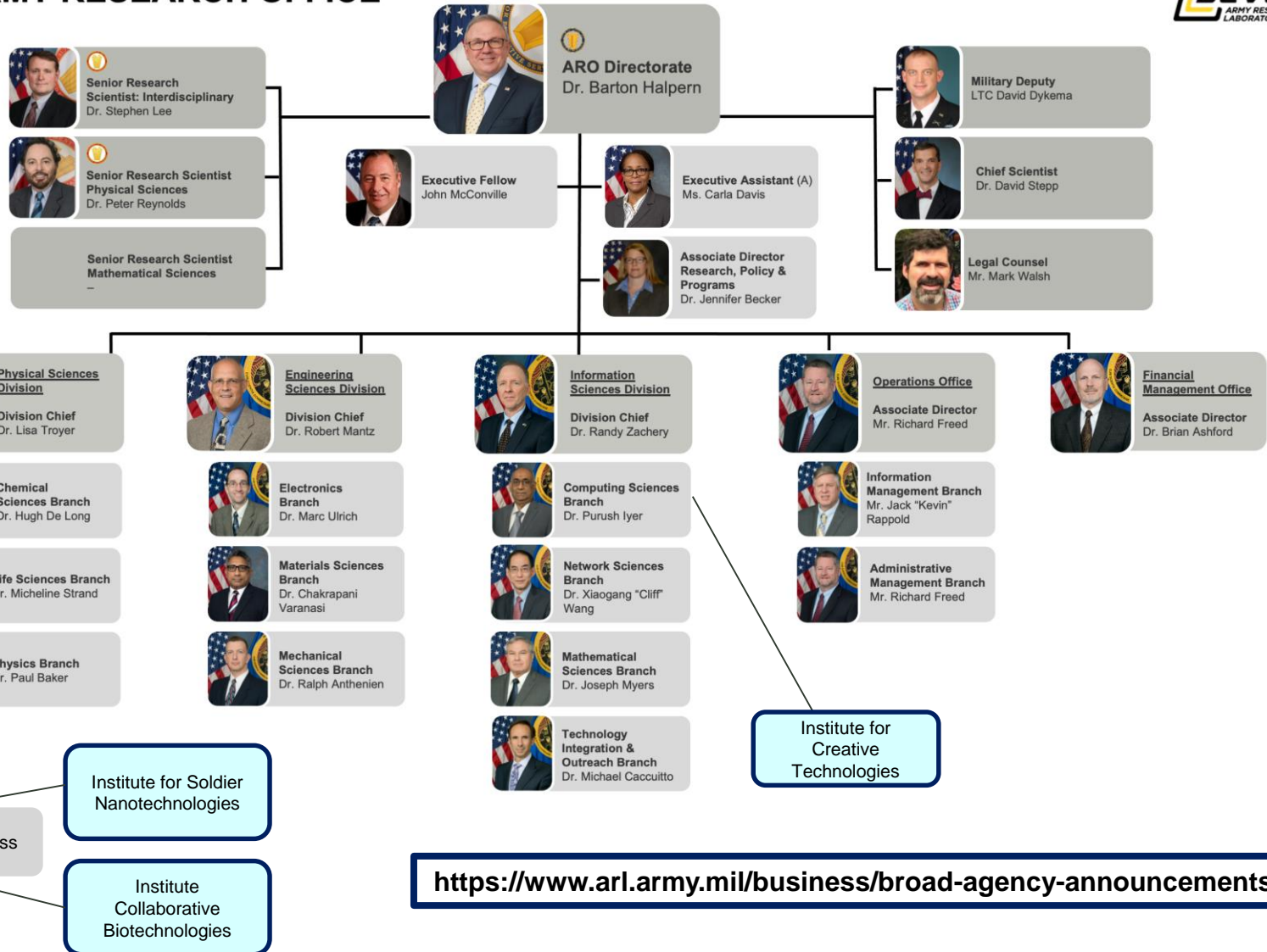
- 1 Build the Future**
Create and direct scientific discoveries for revolutionary new Army capabilities
- 2 Solve Existing Problems**
Drive science to develop solutions to existing Army technology needs
- 3 Accelerate**
Accelerate transition of basic research
- 4 Educate**
Educate and train future Army Scientists & Engineers workforce
- 5 Prepare**
Create technological superiority for U.S. Forces, and prevent adversary technological surprises

ARL's Mission:
Operationalizing Science for **Transformational Overmatch**





ARMY RESEARCH OFFICE



<https://www.arl.army.mil/business/broad-agency-announcements/>



Institute for Creative Technologies (ICT) University of Southern California <https://ict.usc.edu>

Dr. Purush Iyer
(s.p.iyer.civ@army.mil)



Scientific Objective

The ICT aims to discover new ways to teach, train, help, and heal. ICT researchers explore and expand how people engage with technology. In turn, the immersive prototypes built on this knowledge provide engaging experiences that help users improve decision-making, leadership, and coping, enabling new Department of Defense capabilities and skills.



Center for Body Computing



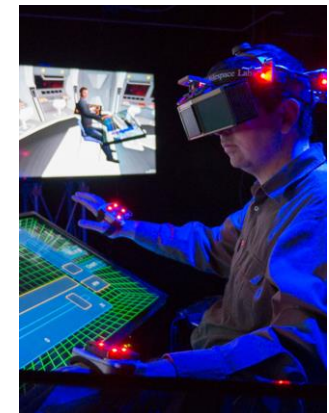
Affective Computing and Virtual
Intelligent Agents



Learning Sciences



Modeling and Simulation



Mixed Realities



Institute for Creative
Technologies Facilities

***This is only a sample of the ICT research thrusts – please visit the Web site above
for further information***



Institute for Collaborative Biotechnologies (ICB)
University of California –Santa Barbara
<https://www.icb.ucsb.edu/>

Dr. James Burgess
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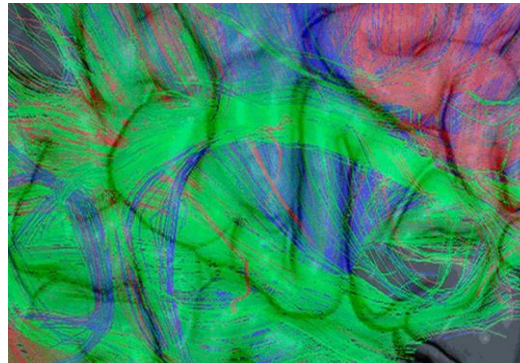


Scientific Objective

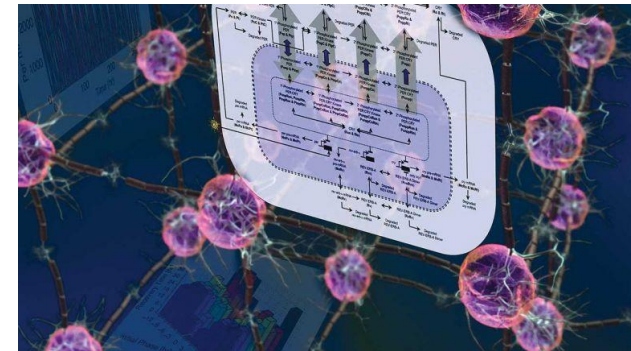
ICB research is driven by premier faculty working together with graduate students and postdoctoral researchers as an interdisciplinary teams of biologists, chemists, physicists, psychologists, physicians, and engineers to develop biologically inspired, revolutionary technological innovations in systems and synthetic biology, bio-enabled materials, and cognitive neuroscience to generate new capabilities for the Department of Defense.



Bio-Enabled Materials



Cognitive Neuroscience



Systems and Synthetic Biology



Institute for Soldier Nanotechnologies (ISN) Massachusetts Institute of Technology

<https://isn.mit.edu>

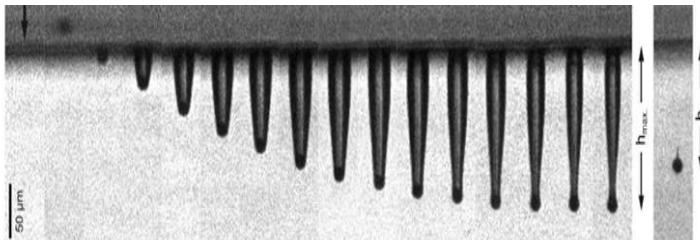
Dr. James Burgess

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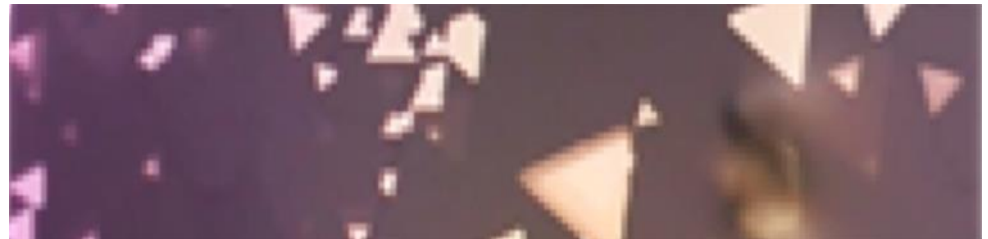


Scientific Objective

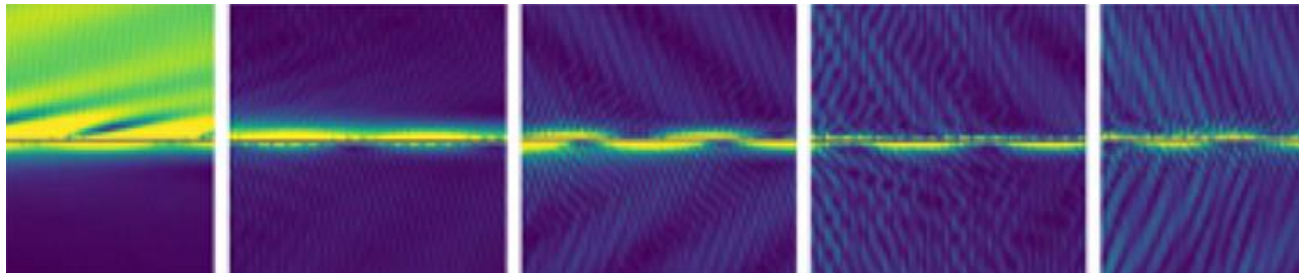
Through a team of multidisciplinary researchers, the ISN seeks to work with the Army, broader Department of Defense partners, and industry to collaborate on the discovery of new technologies based on nanoscience and field them to dramatically improve the protection, survivability, and mission capabilities of the Warfighter and of Warfighter-supporting platforms and systems.



Soldier Protection, Battlefield Care, and Sensing



Augmenting Situational Awareness



Transformational Nano-Optoelectronic Soldier Capabilities



Questions?

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