



2018 NSPAA Workshop

Dr. Jaret C Riddick
Director, Vehicle Technology
U.S. Army Research Laboratory



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U.S. Army Research Laboratory

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Mission

DISCOVER, INNOVATE, and TRANSITION Science and Technology to ensure dominant strategic land power



Making today's Army and the next Army obsolete

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The Nation's Premier Laboratory for Land Forces



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ARL Leadership

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**Director
Plans & Programs**
Mr. Todd Rosenberger



**Director
Laboratory
Operations**
Ms. Teresa Kines



**Associate
Director
Executive Staff**
Ms. Kelly Foster



Director
Dr. Philip Perconti



Military Deputy
COL Kevin Ellison



Sergeant Major
Keith Taylor

Chief Scientist



Dr. Alexander Kott

**Deputy Director
Basic Science
Director ARO**



Dr. David Skatrud

ARO – Extramural Basic Research

- Engineering Sciences
- Information Sciences
- Physical Sciences

**Computational &
Information Sciences**



Ms. Cynthia Bedell

**Human Research
& Engineering**



Dr. Corde Lane (A)

**Sensors &
Electron Devices**



Mr. Andrew Ladas (A)

**Survivability/
Lethality Analysis**



Dr. Patrick Baker

**Vehicle
Technology**



Dr. Jaret Riddick

**Weapons &
Materials Research**



Dr. Jeffrey Zabinski

Information & Computational Sciences

- Predictive Simulation Sciences
- Data Intensive Sciences
- Computing Architectures
- Computing Sciences
- Sensing & Effecting
- System Intelligence & Intelligent Systems
- Human & Information Interaction
- Networks & Communications
- Cyber Security

Human Sciences

- Human Behavior
- Enhancing Human Capabilities
- Integration of Humans and Systems

Materials Research

- Structural Materials
- Electronics
- Photonics
- Energy & Power
- Biotechnology & Bio-Inspired
- High Strain Rate & Ballistic Materials
- Manufacturing Science, Processing & Sustainment

Assessment & Analysis

- Assessment of Science & Technology
- Science & Technology of Assessment
- Assessing Mission Capability of Materiel
- Materiel Capable of Assessing Mission Capability

Sciences For Maneuver

- Energy & Propulsion
- Platform Mechanics
- Platform Intelligence
- Logistics & Sustainability

Sciences for Lethality & Protection

- Lethality Research for Soldiers & Army Platforms
- Protection Research for Soldiers & Army Platforms
- Battlefield Injury Mechanisms

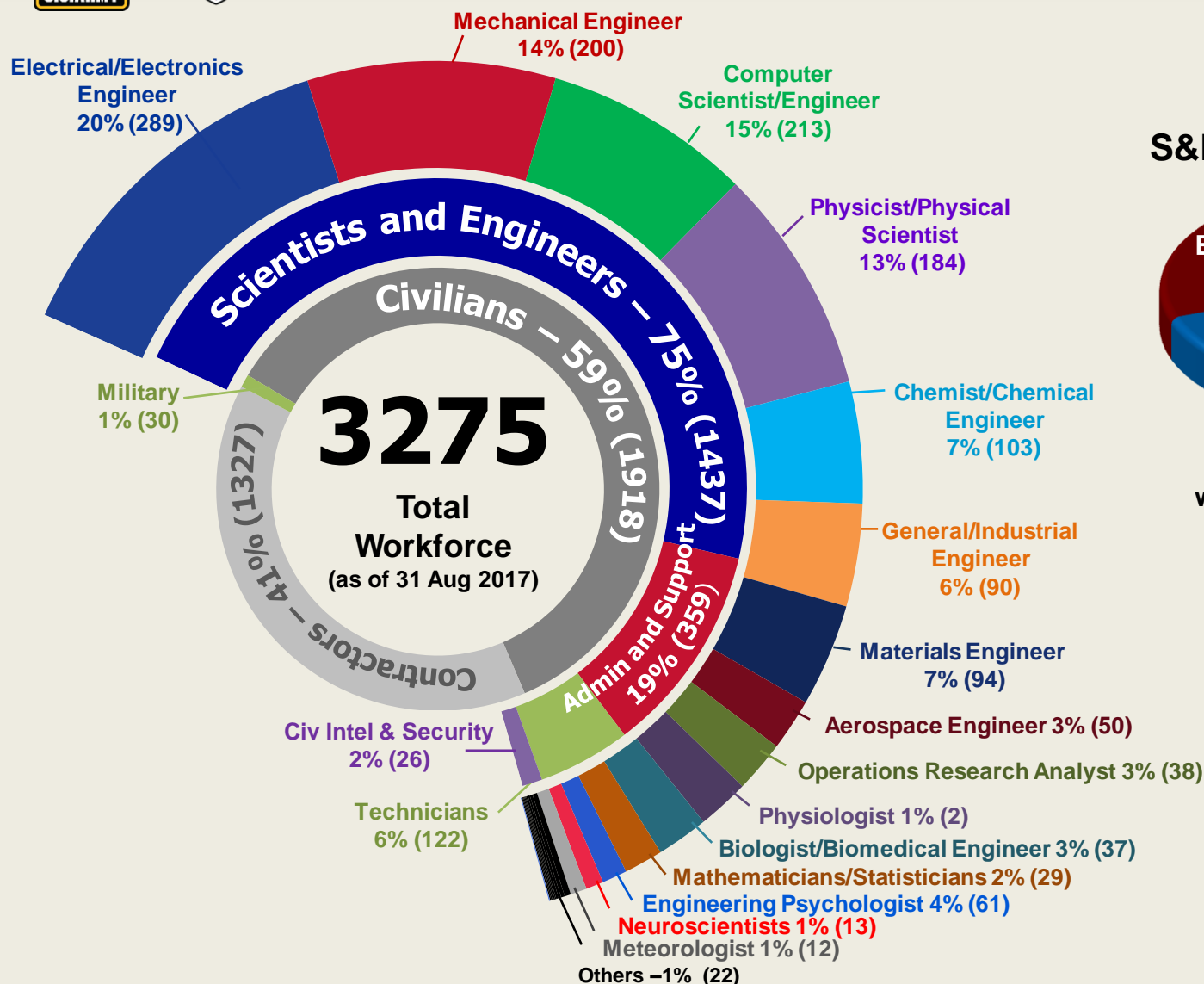


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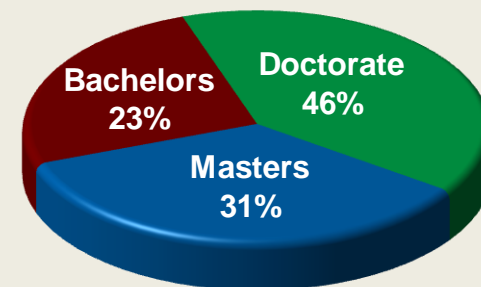
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Talented Workforce

ARL



S&E Degree Distribution



Increased civilian S&Es
with PhDs from 434 to 656
(FY06-FY17)



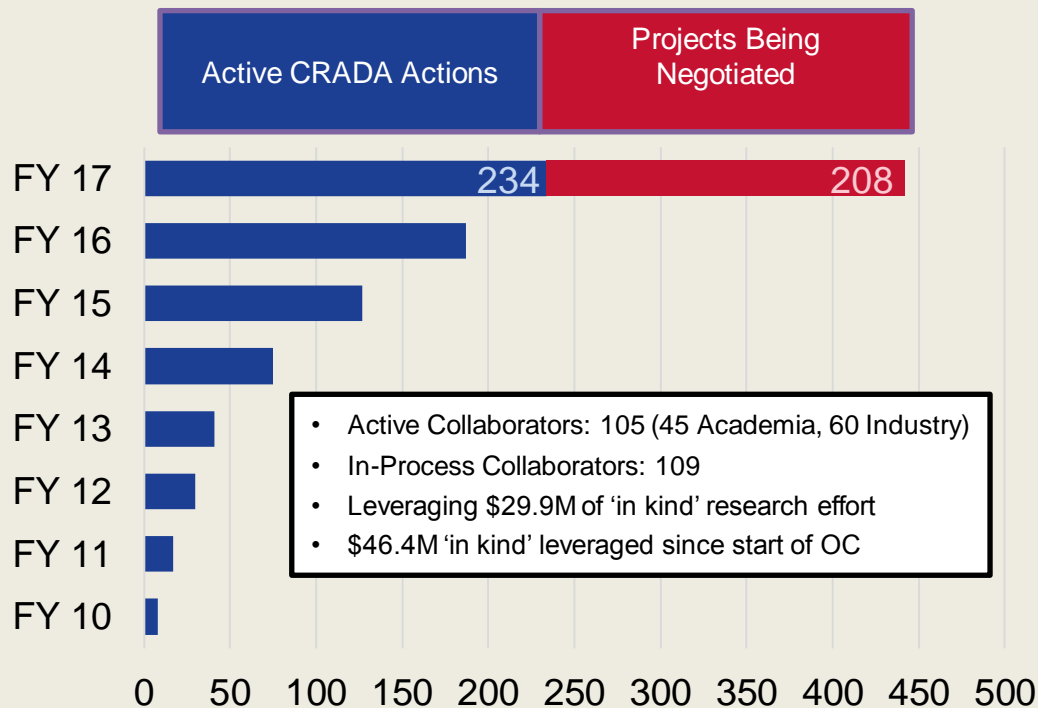
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Open Campus: Route for Collaboration

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Collaborative Mechanisms

- Cooperative Research and Development Agreements (CRADAs)
- Patent License Agreements
- Educational Partnerships
- Partnership Intermediary Agreements



International CRADAs

- Four Active
- Eleven Pending

Australia - University of Wollongong

Australia - Australia National University

Australia - University of Sydney

Australia - Corrosion Technical Products (Extrin)

Brazil - Pontifical Catholic University of Rio de Janeiro

Canada - RightBlue Labs

Germany - Fraunhofer

Hungary - Budapest University of Technology and Economics

Israel - Ben Gurion University

Mexico - CONACyT

New Zealand - University of Auckland

Norway - University of Oslo

Singapore - Nanyang Technological University

South Korea - Korea Institute of Ocean Science and Technology

United Kingdom - University of South Hampton

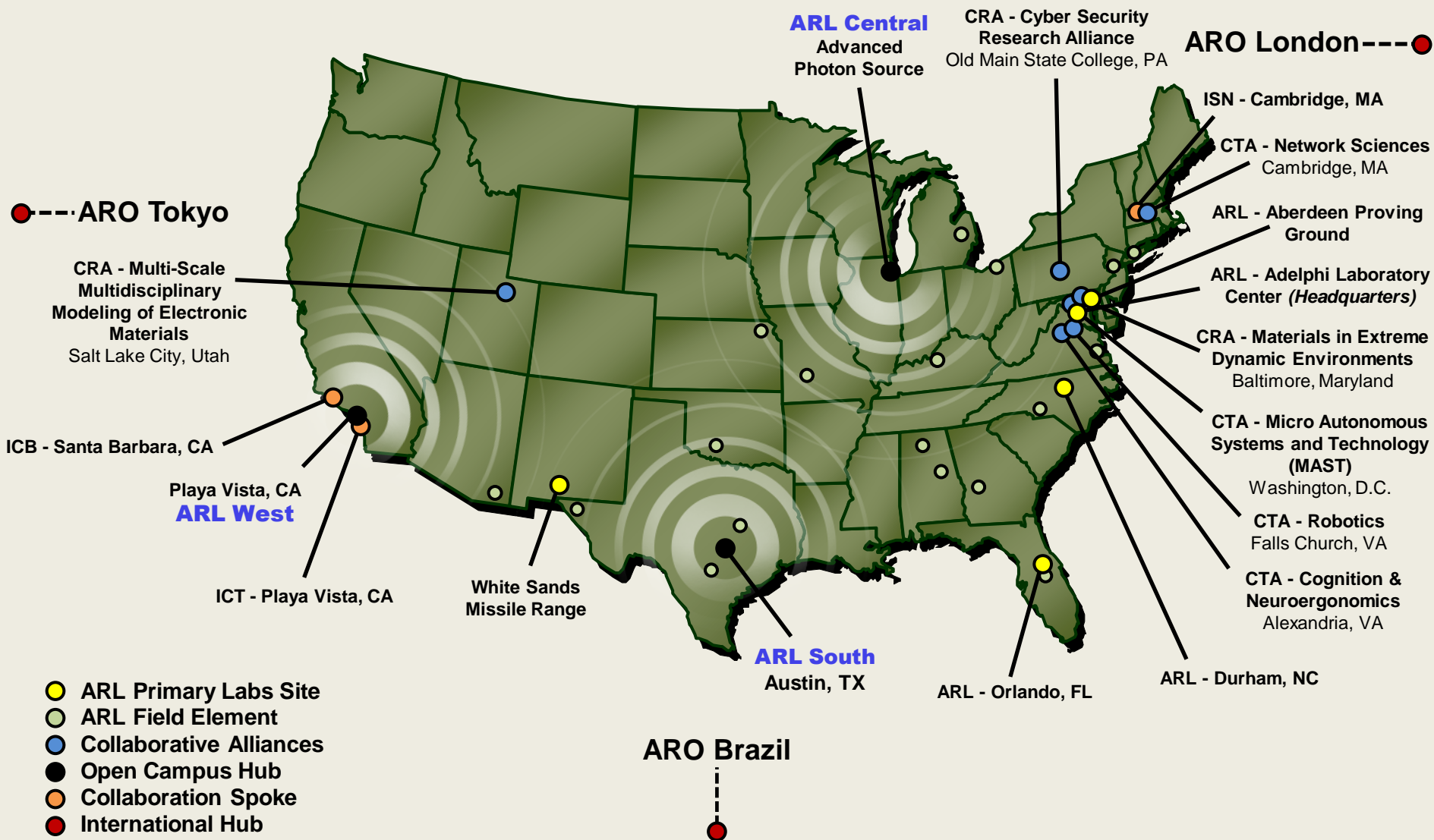


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Developing a Hub and Spoke S&T Global Network

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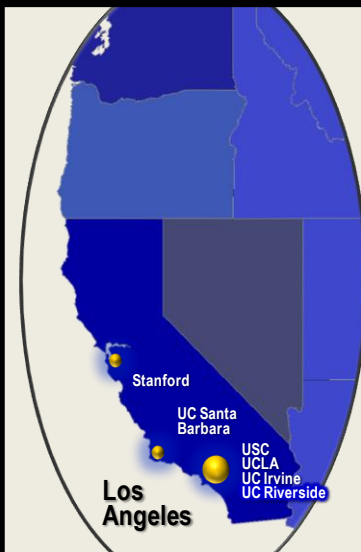


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VTD Strategic Focus for Extended

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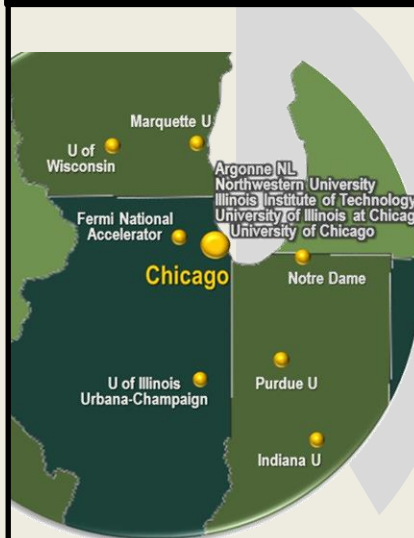
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VTD Strategic Focus Area: Autonomy

- Robotics research in perception, intelligence, and locomotion.
- LLAMA platform
- DCIST Performers: UCB, UCSD, USC

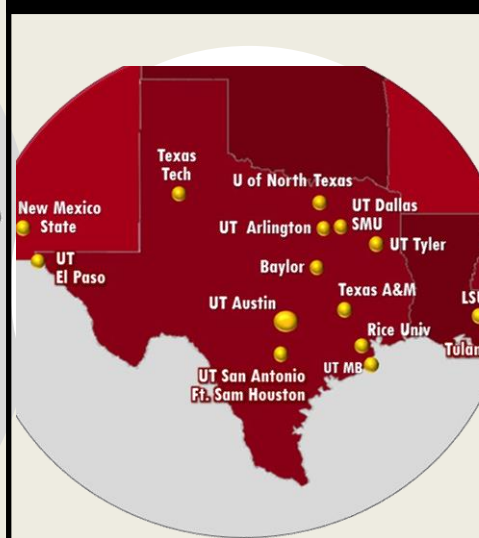
ARL CENTRAL



VTD Strategic Focus Area: Propulsion

- Small combustion and hybrid electrics for the Multi-fuel Hybrid Electric Propulsion Program

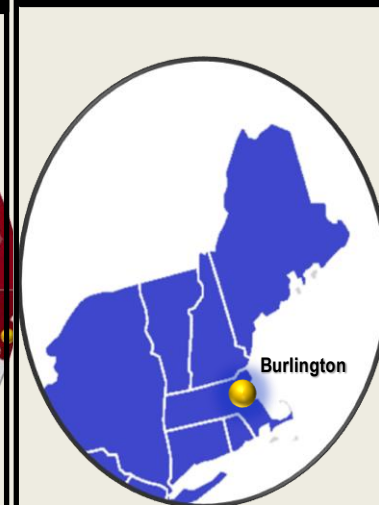
ARL SOUTH



VTD Strategic Focus Area: Platform Mechanics

- Aeromechanics and structural dynamics for small unmanned systems research

ARL NE



VTD Strategic Focus Area: Sustainability

- Sustainability with research covering structural state awareness at multiple scales

Essential to accelerate delivery of technology to the Soldier, where industry engagements provide avenues to quickly spin-out exceptional technical outcomes



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Questions?