



APPLIED RESEARCH LABORATORY FOR
INTELLIGENCE
AND SECURITY

ARLIS & INSURE: **Strengthening the** **Intelligence and Security University** **Research Enterprise**

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A UARC's Objectives

- Develop and maintain **essential government-defined research, development or engineering capabilities** and provide those to DoD through a long-term strategic relationship.
- Develop a **strategic relationship with their sponsor** that gives them **knowledge of their sponsor's needs and access to their information**;
- Operate in the **public interest as strategic partners** with their DoD sponsors, rather than in the interest of corporate shareholders, and conduct its business in a manner befitting its special relationship with DoD, combining **technical excellence with objectivity**.
- **Respond quickly** to sponsor needs, serving as subject matter experts that function as **independent, trusted advisors** and honest brokers, **answerable only to their DoD customers**.

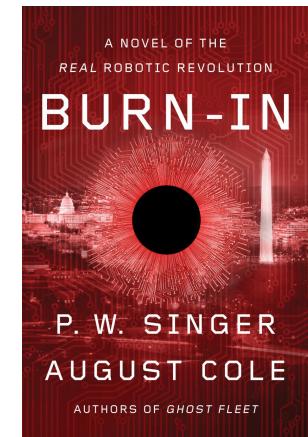
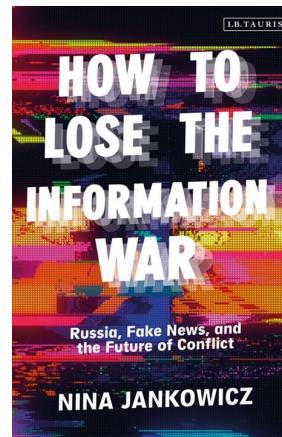
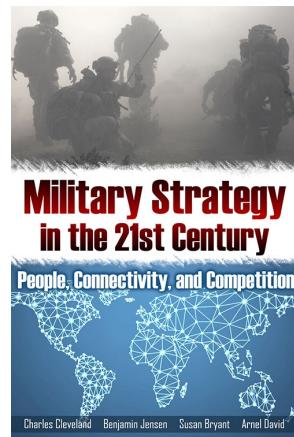
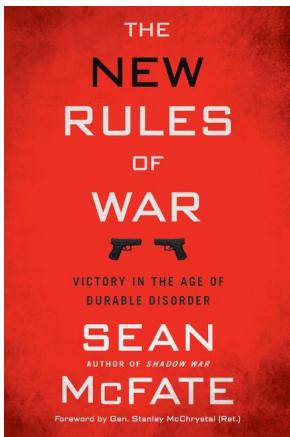
from *Engagement Guide Department of Defense University Affiliated Research Centers*, informational doc released April 2013



From the electro-magnetic to the information spectrum

From kinetic warfare to the Human Domain

Conflict among great powers is an all of nation and whole of government challenge; new science, technology, and capabilities are needed.



New threat surfaces emerging from complex, digitized human-technology interactions increasingly challenge our capabilities to defend the US, our people, our societal systems, and our allies.

New thinking, skillsets, and RDT&E are required for the Information Spectrum & the Human Domain.

WHY

Providing Sociotechnical Solutions for US Advantage in the “Human Domain”

HOW

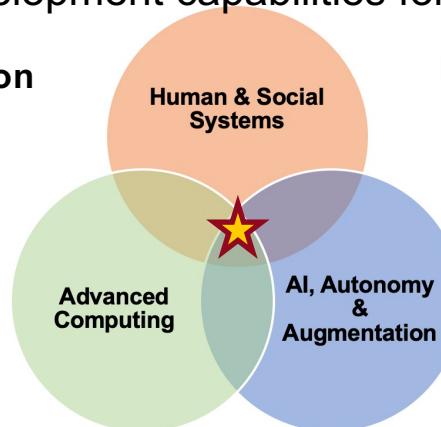
Integrating social and behavioral sciences, AI/ML, and computing for new applied research and development capabilities for Sociotechnical Systems

Test and Evaluation

INSURE Consortium

Other partnership

Trusted Services/SMEs



Ethical, Legal, Societal Implications Panel

Computational Infrastructure

Workforce Development

WHAT

Analytics & Tools for Languages and Social Systems

Augmenting Collective Intelligence

Enabling Cognitive Security

Ensuring Trustworthy Supply Chains

Operationalizing AI, Autonomy, & Augmentation

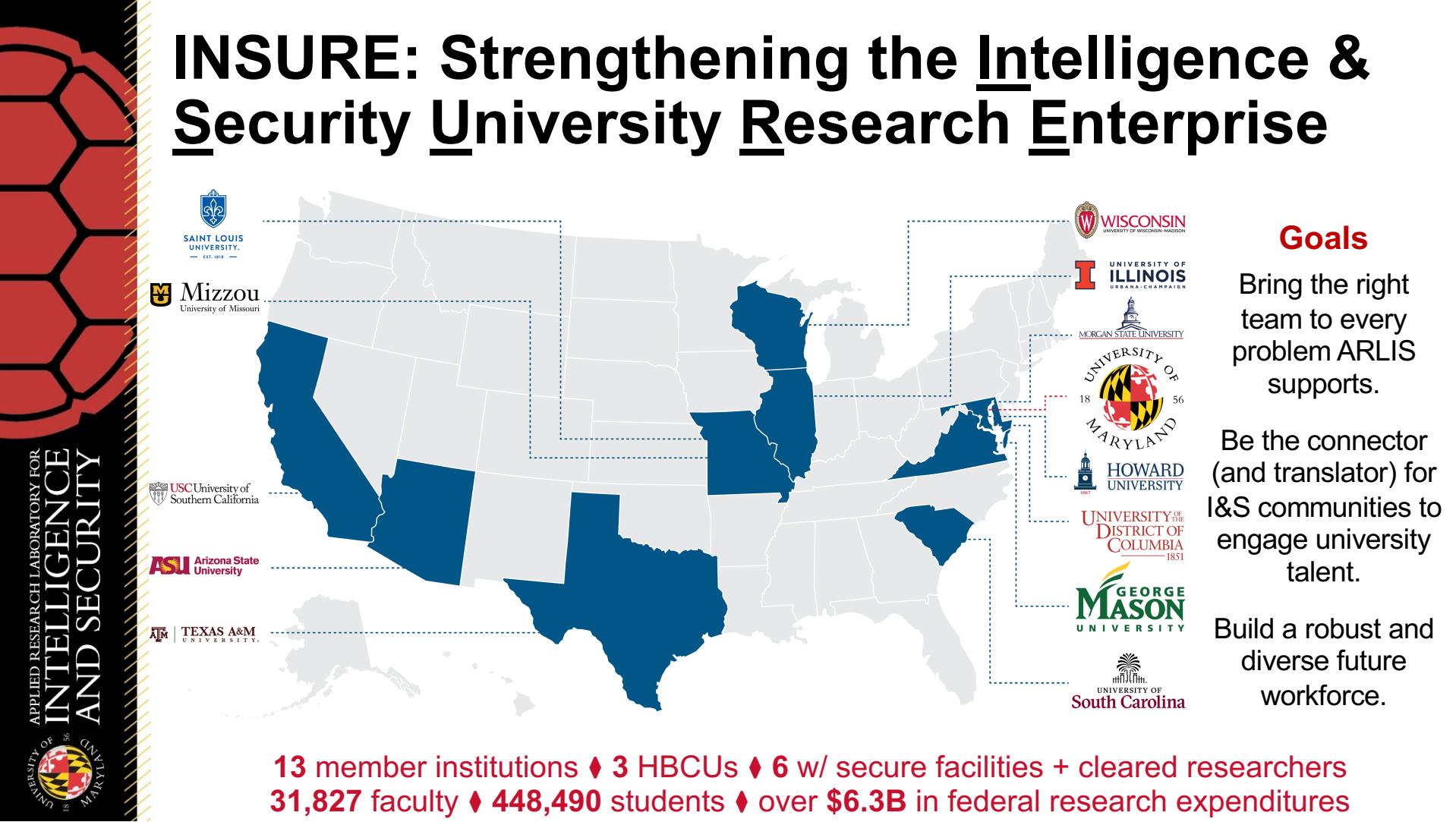
Modeling & Mitigating Insider Risk



ARLIS by the numbers

- **75+ active projects**
- **80+ FTE scientists and engineers**
psychology, linguistics, rhetoric, computer science, anthropology, social science, information science, human-machine interaction, systems engineering, manufacturing
- **50+ ARLIS affiliates and associates**
- **45+ Summer Students**
- **5 involved Colleges at the University of Maryland**
- **12+ INSURE member Universities**
- **100+ DoD/IC professionals trained in
Insider Risk, Technology-Law, Tradecraft, etc**
- **Supported by ~15+ DoD/DNI agencies, State of Maryland,
private philanthropy**

INSURE: Strengthening the Intelligence & Security University Research Enterprise





Who, What, and How

Partners are admitted to INSURE based on:

- **Institutional strengths**
- Track record conducting **applied, quick-turn, mission-relevant R&D**
- Existing relevant intelligence and security **partnerships to integrate** into INSURE stakeholder community
- Capabilities for training the current workforce and expanding the **workforce of the future**
- **Institutional leadership engagement** and buy-in

INSURE projects:

- Must be within scope of ARLIS core competencies and of UARC character
- Must include an ARLIS lead to track progress, connect relevant stakeholders, and integrate the effort into the corresponding ARLIS portfolio

Pathways to funding:

1. Member(s) engage potential sponsor directly about work and jointly develop programming
2. Members conduct joint program development, leveraging interinstitutional strengths
3. USG agency requests R&D effort needing ARLIS partners' strengths



Ways Applied/UARC Work is Different

- Proposals **generated in coordination with USG** informed by their needs, not ground-up.
- Most projects are 12-18 months duration.
- Many projects have **limitations on non-US citizen involvement** and require security review before publication.
- Projects are **contracts** -- finite duration, quantifiable metrics and goals to measure progress, and **success noted with milestones and deliverables**

— but —

- Scale tends to be bigger.
- More direct impact on today's challenges.
- Work with operational organizations otherwise inaccessible.
- Potential role of trust with the USG sponsor.
- **Build 1:1 relationships with government funders.**



UARC Project Types

- Seedlings
(9mo or less)
- Studies
(9-12mo)
- Pilots
(12-18mo)
- Multi-year projects
(12+ mo)
- Education/Training &
National Security Pipeline
(12+ mo)
- Prototyping
- Testbeds & sandboxes
- Instrument development
- Services
 - USG Support
 - Test & Evaluation
 - Cyber-infrastructure
 - Data curation



HBCU Partners in the Current INSURE Portfolio

ARLIS Portfolio Link

Information and Influence	Chatbot Testbed Pilot Project (DDR&E HBCU/MSI Office) Lead: Amit Arora, University of District of Columbia (with Howard and Morgan State)
Applied AI, Autonomy, and Augmentation	Synchronized Analysis of Video, Imagery and Audio (OSD Test Resrc Mgmt Ctr) Lead: Kofi Nyarko, Morgan State University AI Engineering Initiative Seedlings (Office of the Director of National Intelligence) Lead: Kofi Nyarko, Morgan State University AL/ML Systems Engineering Workbench Pilot Project (DDR&E HBCU/MSI Office) Lead: Kofi Nyarko, Morgan State University (with Howard) Machine Learning Experimentation Pilot Project (DDR&E HBCU/MSI Office) Lead: Paul Cotae, University of District of Columbia Cyber Assessment of AI Tools Pilot Project (DDR&E HBCU/MSI Office) Lead: Gloria Washington, Howard University (with Morgan State)
Defense Security	5G Technology Assessment Pilot Project (DDR&E HBCU/MSI Office) Lead: Kevin Kornegay, Morgan State University (with Howard University) Acquisition and Industrial Security and 5G (OUSD (Intelligence & Security)) Lead: Kevin Kornegay, Morgan State University (with UMD)



The ARLIS RISC Initiative: Research for Intelligence & Security Challenges

- Flagship effort to engage students in mission-driven research for the Defense Intelligence & Security Enterprise
- Virtual program supports teams of students nationwide, from undergraduate to PhD and across a breadth of disciplines
- Two components:
 - 10-week summer internship program
 - Third summer internship coming Summer 2022 – growth from 38 to ~110!
 - Culminating with a classified capstone briefing; all interns will be considered for a SECRET clearance
 - Continuation into the academic year
AY 2021-2022: 14 of 38 interns continued work; 8 cleared.
- Topics driven by USG mission needs and USG mentors
- HBCU connections: recruited interns, recruited faculty mentors



Thank you!

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