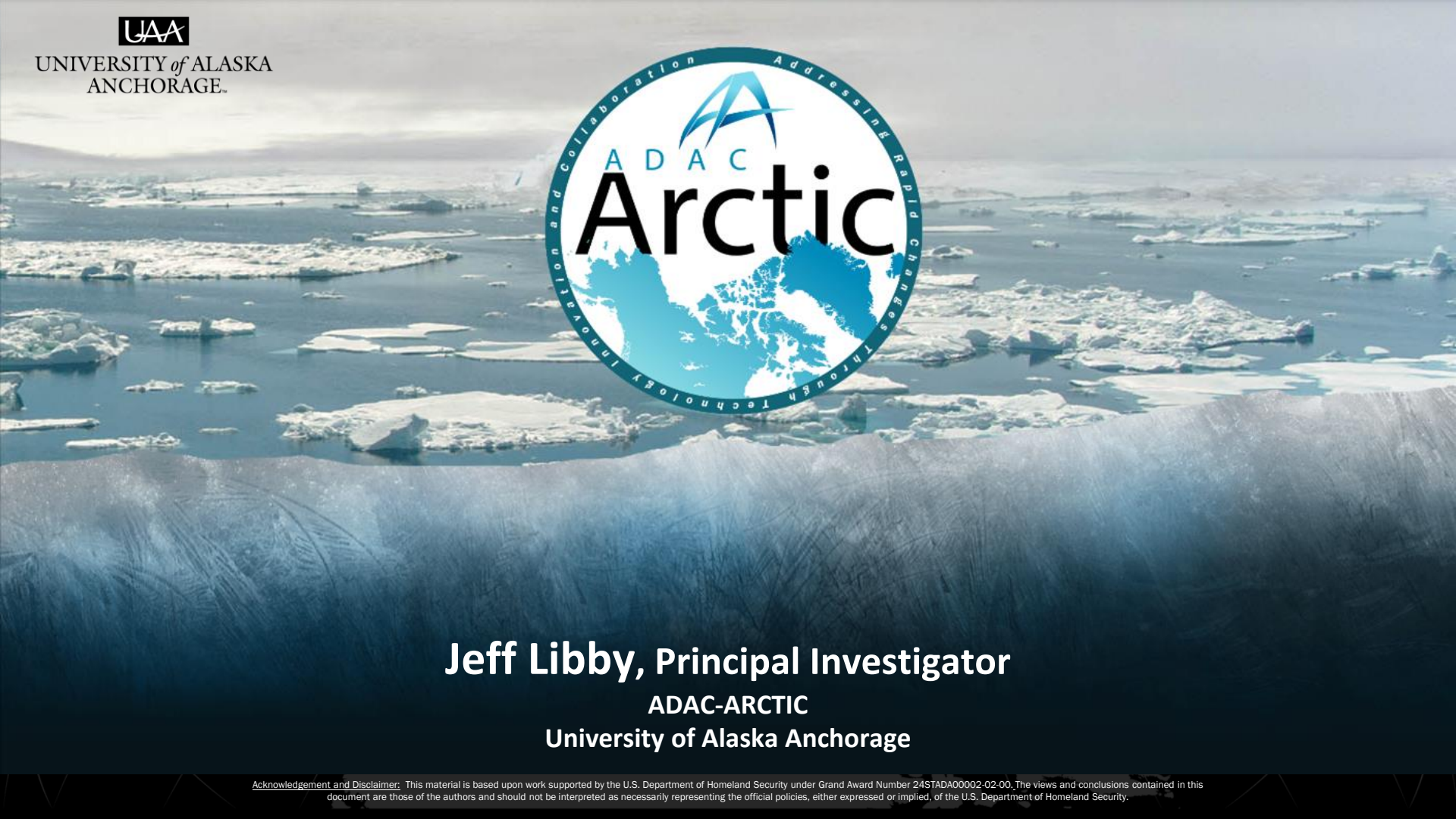

Jeff Libby, Principal Investigator
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University of Alaska Anchorage

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Mission for Alaska

Addressing

Rapid

Changes through

Technology

Innovation and

Collaboration

The Arctic Domain Awareness Center develops research, technology and human capital to advance Arctic Homeland Security.

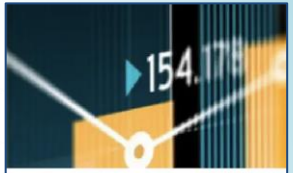

A D A C
Arctic

Homeland Security Centers of Excellence

University-led research organizations advancing solutions to challenges facing federal agencies, national laboratories, and industry partners. Centers actively collaborate with academia, policymakers and the federal government.

ADAC-ARCTIC

Led by the University of Alaska Anchorage



Center for Accelerating Operational Efficiency (CAOE)

Led by Arizona State University

Cross-Border Threat Screening and Supply Chain Defense (CBTS)

Led by Texas A&M University

Masters of Business Administration - Security Technology Transition (MBA STT)

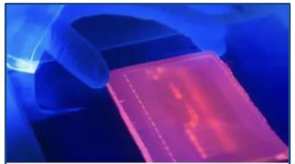
Led by George Washington University

National Counterterrorism Innovation, Technology, and Education Center (NCITE)

Led by University of Nebraska at Omaha

Soft Target Engineering to Neutralize the Threat Reality (SENTRY)

Led by Northeastern University



Criminal Investigations and Network Analysis Center (CINA)

Led by George Mason University

Critical Infrastructure Resilience Institute (CIRI)

Led by University of Illinois at Urbana-Champaign

Coastal Resilience Center (CRC)

Led by University of North Carolina at Chapel Hill

Building Legacy for Alaska

ADAC-ARCTIC provides research solutions to solve Homeland Security challenges.

Delivers innovative education and workforce development strategies.

Prepares future arctic leaders, researchers, students and policymakers.

Accomplishes mission through projects aligned with partners and key themes:

- **Advance All-Domain Situation Awareness**
- **Improve Understanding of Risks and Impacts**
- **Enable Adaptation for Resilience**
- **Expand Collaboration and Cooperation**

Structured for Success in the Arctic

Homeland Security

Homeland Security Science & Technology Directorate
Office of University Programs

ADAC-ARCTIC
Executive Counselors
(External Advisory)

ADAC-ARCTIC

UAA

ADAC-ARCTIC
Strategic Trajectory Committee
(Internal Advisory)

Research and Education Projects

UNIVERSITY of ALASKA
Many Traditions One Alaska

Addressing Pressing Challenges in the Arctic

ADAC ARCTIC

Risks and Impacts

Resilience

Collaboration

Adapting, Assessing, Mitigating Risks to Arctic

Assessing Feasibility of Wellhead Ignition Blowout

Reliable Arctic Power & Intelligent Energy Resilience

ADAC-ARCTIC Fellows

Arctic Education

Expansion of Drone Communities in Bering Strait

Workforce of the Future

Indigenous Elders

Strategic Approach

Arctic Science and Technology initiatives

Reliable Arctic Power & Intelligent Energy Resilience

Assessing Feasibility of Wellhead Ignition Blowout

Adapting, Assessing, Mitigating Risks to Arctic

Expansion of Drone Communities in Bering Strait

Empowerment and Traditional Knowledge

Workshops

Indigenous Peoples

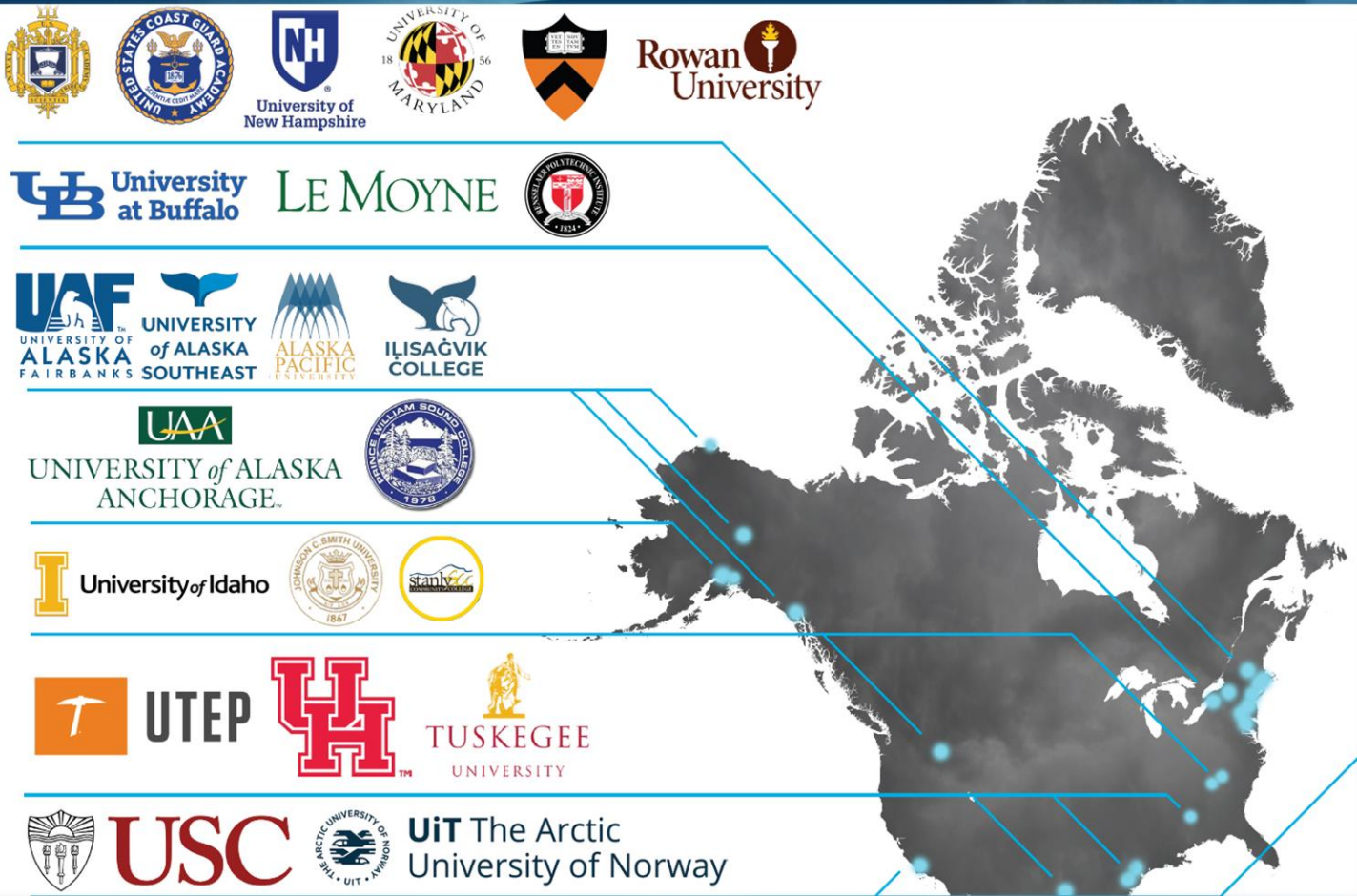
Workforce and Educational Programs

ADAC-ARCTIC Fellows

Workforce of the Future

Arctic Education

Educational Partners



Partnerships for Arctic Success

- Air Force Research Laboratory
- Arctic Slope Regional Corp.
- Bureau of Ocean Energy Management
- City of Nome
- City of Utqiaġvik
- City of Valdez
- Cold Regions Research & Engineering Laboratory
- Concord Consortium
- Don Young Port of Alaska
- EPA
- FEMA
- Idaho National Laboratory
- Interagency Arctic Research Policy Committee
- Inupiat Community of the Arctic Slope
- Kaiser Research
- Marine Exchange of Alaska
- NOAA
- North Slope Borough
- Norwegian Polar Institute
- Oak Ridge National Laboratory
- Pacific Northwest National Laboratory
- Patriot Solutions
- Port of Nome
- Rasmuson Foundation
- State of Alaska
- Ted Stevens Center for Arctic Security Studies
- UIC Science
- U.S. Arctic Research Commission
- U.S. Customs and Border Patrol
- U.S. Coast Guard

Strategic Service

Direct projects and research transition between Dept. of Homeland Security and stakeholders.

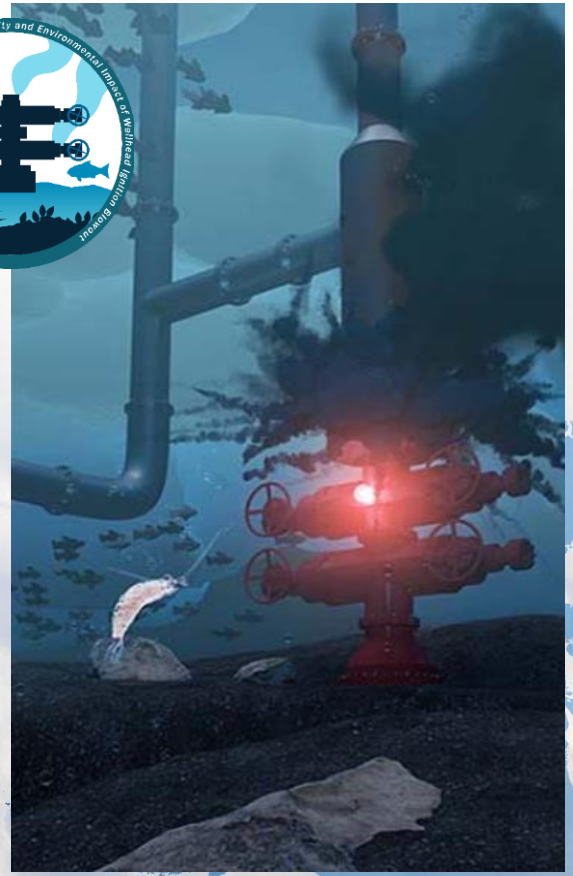
Expand research and development through new project initiatives and engagement with Dept. of Homeland Security and stakeholders.

Education and workforce solutions connect ADAC-ARCTIC, industry, students, professionals and communities.

Agency and partner outreach to inform research initiatives and advance ADAC-ARCTIC's networks.

Arctic Environmental Safety

- **Assess feasibility and impact of wellhead ignition blowouts.**
- **Develop response framework for Federal, State and Local Agencies.**
- **Advanced research methods through droplet distribution and combustion model.**
- **Modeling downwind dispersion to study potential impacts on indigenous and tribal communities in Arctic.**



Risk Management Strategy

- **Adapt, Assess, and Mitigate Risks in Arctic -- multi-stakeholder framework.**
- **Field research and workshops -- data collection, resources, constraints, and vulnerabilities.**
- **Issue-based analysis to map challenges, opportunities and sources of resilience.**
- **Case studies, exercises, and game theory modeling to inform policymakers with actionable insights for decision making.**

Arctic Energy Resilience

Reliable Arctic Power & Intelligent Energy Resilience Initiative.

- **Addresses applicability gaps for renewable and green energy in Arctic.**
- **Evaluate renewable energy sources for operation in the Arctic region.**
- **Assess regional and community Arctic resources and apply renewable technology solutions.**
- **Provides operational framework for technologies to meet objectives and metrics.**

Arctic Drone Capacity Building

Drone Community of Practice to Support Homeland Security Mission.

- Develop sustainable drone community of practice in Bering Strait region.
- Community assessments using USA-made drones to supply situational awareness before, during, and after a disaster response.
- Training agencies and partners for enhanced situational awareness and response operations in Western Alaska.

Arctic Human Capital

Investing in Future Homeland Security Professionals:

- **ADAC-ARCTIC Fellows Program Engages provides technical and professional development experiences.**
- **Fellowship is open to undergraduate, graduate, and advanced graduate students.**
- **Engages with Minority-Serving Institutions and Significant Minority Enrollment and Title III waiver institutions.**

Integrated Arctic Education

- **Develop highly skilled workforce to advance Arctic initiatives.**
- **Educational pathways to build the next generation of Arctic leaders, researchers, scientists and policymakers.**
- **Arctic-oriented internship with Arctic Field Research Mission on North Slope - align student research to student goals.**
- **Scholarship and development opportunities for undergraduates, graduate students, and professionals.**

Arctic Workforce Foundations

Building Future Workforce for the Arctic

- Attract, develop, and retain a workforce that meets needs of changing Arctic.
- Develop federally-recognized Registered Apprenticeship programs through collaboration with education partners.
- Create pathways for students and professionals to experience in Alaska and Arctic conditions related to Homeland Security challenges.

Harnessing Traditional Knowledge

Utilize knowledge and experience of Arctic Indigenous peoples

- Build connections between Elders, Knowledge Keepers, and Leaders and ADAC-ARCTIC.
- Leader-in-Residence Program strengthens stakeholder knowledge of Indigenous community-specific teachings and cultural practices.
- Engaged conversations on Indigenous traditions, languages, language revitalization, and issues impacting circumpolar health and Alaska Native communities

Thank You

Jeff Libby – Principal Investigator

https://adacarctic.com/

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