

The National Strategic Research Institute (NSRI) at the University of Nebraska (NU) seeks to develop technical capabilities and competencies for its sponsor, U.S. Strategic Command (USSTRATCOM), as well as the broader Department of Defense (DOD) community focused on detecting and countering weapons of mass destruction (CWMD).

Funding is available through the NU Collaboration Initiative to NU researchers, faculty, students and staff. All applications within the NSRI mission space will be considered; however, NSRI encourages applications that address the following priorities. Applications are also encouraged to collaborate with NSRI content area experts.

PRIORITIES

- 1.** Examination and experimentation with different machine learning methodologies and tools with the objective of creating products that USSTRATCOM can integrate in the critical area of strategic deterrence. Ideal projects will leverage faculty members across the NU campuses to direct active student participation in the creation and refinement of these tools. A successful project will simultaneously investigate and create machine learning tools that improve decision-making capabilities by improving greater access to data and analytics capabilities while training NU students to fill the workforce gap that exists.
- 2.** Address advanced workforce development, as identified in the [National Defense Strategy](#). Specifically, focus in part on developing strategies to advance workforce development within USSTRATCOM research areas, biodefense and the broader CWMD enterprise. Successful completion of these projects will ideally result in not only additional extramural funding, but also employment opportunities for NU students.
- 3.** Focus on novel explorations of Joint Electromagnetic Spectrum Operations (JEMSO) that address USSTRATCOM's identified [JEMSO readiness shortfalls](#).
- 4.** Work towards the development of advanced wearables technology that include the delivery of chemical, biological, radiological or nuclear (CBRN) medical countermeasure therapeutics. Applications responsive to this objective will accelerate the development of wearable tech that improves the delivery of medical countermeasures for the warfighter and first responder, alike.
- 5.** Development of next-generation CBRN medical countermeasures to overcome current standard-of-care shortfalls.
- 6.** Pilot studies to assess risk, including secondary and tertiary impacts, across a whole of society framework for: high-consequence agricultural pathogens impacting either animal production or crop production, and human epidemics or pandemics.
- 7.** Development of novel methodologies and risk-assessment studies for identification of actual or potential undiscovered environmental pathogens.