On November 12, 2016, the University of Nebraska hosted the annual Huskers Military and Veterans’ Recognition game. NU President Hank Bounds (left) hosted top leaders from USSTRATCOM, including new commander General John Hyten (2nd from left). Other special guests included NSRI Executive Director LT. General (Ret.) Bob Hinson (3rd from left) who was recognized for being an outstanding NU partner. Others hosted included UNO researcher Dr. Gina Ligon and State Senator Jim Smith, Nebraska best Minnesota 24 to 17. Pictured on the right is Shawn Eichorst, Director of Athletics, University of Nebraska–Lincoln.
Over the past three years, Admiral Cecil Haney, previous Commander, USSTRATCOM, served as a principal advocate for the command’s UARC saying “NSRI at the University of Nebraska in partnership with the U.S. Strategic Command and Department of Defense is providing our nation with cutting edge mission-essential research and development capabilities in combating weapons of mass destruction.” In November 2016, General John Hyten took command at USSTRATCOM, offering his continued advocacy for working with academia. He emphasized the continued Strategic Command support for combating weapons of mass destruction ahead of our adversaries, and the need for academic insight to increase the effectiveness of our mission capabilities.

Dr. Prem S. Paul served as one of the founding members of the NSRI board of directors. He was very instrumental in the establishment of the nation’s newest University Affiliated Research Center. The NSRI was stood up with a passionate vision, thanks in part to his leadership.

Prem’s guidance transformed the NSRI and influenced its progressive direction. Prem was affectionately known across the University of Nebraska–Lincoln campus as the Vice Chancellor for Enthusiasm. “If we can win national championships in football and volleyball, why not in research,” said Paul. Under Paul’s leadership, the university was one of the fastest-growing research universities in the nation from 2001 to 2009. Research funding surpassed $100 million in 2006, marking the first time the university’s external funding reached that milestone. Most recently, sponsored campus research in the fiscal year ending June 30 increased more than 23 percent from the previous year, setting an all-time university record of $267.8 million.

“Thanks to Prem’s vision and leadership, our contributions to CWMD research have transformed us as a UARC. Prem’s impact on the NSRI cannot be overstated,” said NSRI Executive Director, Lt. Gen. (Ret) Robert Hinson.

The NSRI honors the accomplishments, advancements and life of Dr. Prem Paul, NSRI board member and innovative leader. His legacy will continue through the upward growth of our institute and the University of Nebraska.

A memorial fund honoring Prem Paul has been established at the University of Nebraska Foundation. Donations may be sent to:

Prem S. Paul Fund for Research Excellence
University of Nebraska Foundation
1010 Lincoln Mall
Lincoln, NE 68508
Phone: 800-432-3216

IN MEMORIAM
Dr. Prem S. Paul
UNL Vice Chancellor for Research and Economic Development
1947 - 2016

Robert Hinson, USAF, Lt Gen (Ret.)
NSRI Executive Director
NSRI RESEARCH ACCOMPLISHMENTS

PROGRESS

The National Strategic Research Institute is only a few years old and already it is a success story for our university and state. Nebraskans might be surprised to learn that some of the most important national security research in the country is happening in their own backyard. We have great opportunities ahead—a credit to capable NSRI leadership and, most of all, the faculty whose expertise and commitment make an ambitious effort like this possible.

Hank Bounds, Ph.D.
President, University of Nebraska

The adversaries and potential adversaries and challenges we face in the 21st century have global ramifications. Partners like the National Strategic Research Institute make sure we think about those challenges every day and make sure we're doing business the right way. The collective intellect and legal expertise they have assembled, whether they work for the military, academia or industry are essential to that effort.

Gen. John E. Hyten
Commander, USSTRATCOM

NSRI RESEARCH ACCOMPLISHMENTS

FROM THE CHIEF TECHNOLOGY OFFICER

Eric Van Gieson, Ph.D.

In 2016, the U.S. Department of State selected NSRI to develop the National Strategic Research Institute’s state-of-the-art Containerized Bio-containment System (CBS), used to transport critically ill patients by air, in complete isolation. The exercise took place across four locations including Washington, D.C., Centerville, Georgia, Monroe, Liberia, and Omaha, Nebraska.

The challenges that our Nation faces from asymmetric and technological threats has eclipsed our ability to develop technology solutions to mitigate those threats. In response to this, the Defense Innovation Board (established under the Office of the Secretary of Defense) has been formed and has recently made a set of recommendations in October of 2016 to include “increase investment in the Defense Advanced Research Projects Agency, the Defense Innovation Unit Experimental, rapid equipping units and other small, agile, innovative organizations and create more connections among them.” NSRI fits into the small, agile, innovative category of organizations, and in 2016 our team has worked intensely to make our organization even more responsive in all of those categories.

I am extremely excited to be working with such a talented, committed team and am highly impressed with how well the University partnerships have evolved even in the short time that I have been part of NSRI. I can’t wait to see how much more we can accomplish in the next year and we intend to exceed expectations with our innovative solutions to difficult problems.

Peter J. Holsapple
Chief Technology Officer
NSRI
NSRI is sponsored by USSTRATCOM and receives funding on specific projects from USSTRATCOM and other DoD agencies through task orders on a pre-competed Indefinite-Delivery Indefinite-Quantity (IDIQ) contract. This contract allows funds to be received and quickly tasked for execution. Since this IDIQ contract has been pre-competed in a set of core competency areas, it allows government agency sponsors to award projects in those competencies without going through an additional bidding process. NSRI may also compete for additional science and technology work through other contractual mechanisms where appropriate.

- U.S. Strategic Command (USSTRATCOM)
- Army National Guard Civil Support Teams (ARNG CST)
- Defense Health Agency (DHA)
- Defense Threat Reduction Agency (DTRA)
- Department of Defense (DoD), other
- Department of Homeland Security (DHS)
- Joint Program Executive Office for Chemical and Biological Defense (JPEO-CBD)
- Landstuhl Regional Medical Center (LRMC)
- National Nuclear Security Administration (NNSA)
- Office of Naval Research (ONR)
- Office of the Secretary of Defense, Rapid Reduction Technology Office (OSD) (RRTO)
- Surface Deployment and Distribution Command (SDDC)
- U.S. Air Force Office of the Surgeon General (USAF SG)
- U.S. Air Force School of Aerospace Medicine (USAFSAM)
- U.S. Army Corps of Engineers (USACE)
- U.S. Army Medical Research Institute for Infectious Diseases (USAMRIID)
- U.S. Army Research Laboratory (ARL)
### TOP 5 LARGEST NSRI SPONSORS IN 2016

<table>
<thead>
<tr>
<th>Rank</th>
<th>Sponsor</th>
<th>Amount</th>
<th>Project Details</th>
<th>Principal Investigators</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Defense Threat Reduction Agency (DTRA)</td>
<td>$10,080,151</td>
<td>International Biological Field Support &amp; International Next Generation Sequencing Training</td>
<td>Dillan Cunningham, NSRI</td>
</tr>
<tr>
<td>2</td>
<td>U.S. Army Medical Research Institute of Infectious Diseases (USAMRIID)</td>
<td>$2,399,763</td>
<td>Traffic Calming Elements for Entry Control Facility Threat Delay and Containment</td>
<td>Dr. Larry Rilett, University of Nebraska Transportation Center, University of Nebraska–Lincoln</td>
</tr>
<tr>
<td>3</td>
<td>U.S. Air Force Surgeon General Office (USAF SG)</td>
<td>$2,188,414</td>
<td>Microbubble Oxygenation for Emergency Transport</td>
<td>Dr. Keely Buesing, University of Nebraska Medical Center</td>
</tr>
<tr>
<td>4</td>
<td>U.S. Army Medical Research Institute of Infectious Diseases (USAMRIID)</td>
<td>$1,277,246</td>
<td>Target Enrichment Studies Furthering Capabilities in Countering Emerging Biological Threats</td>
<td>Dr. Mike Wiley, University of Nebraska Medical Center</td>
</tr>
<tr>
<td>5</td>
<td>Department of Defense (DOD)</td>
<td>$749,697</td>
<td>Cyberbiosecurity</td>
<td>Dr. Randall Murch, Virginia Tech</td>
</tr>
</tbody>
</table>

CO-PIs: Dr. Marilynn Larson, University of Nebraska Medical Center, Dr. Mike Wiley, University of Nebraska Medical Center.
DEVELOPING AND MAINTAINING THE CWMD WORKFORCE

COMBATTING WEAPONS OF MASS DESTRUCTION

requires a diverse, world-class workforce that is both
highly trained and passionate about the mission.
NSRI is developing solutions that involve strategic,
technological, and human capital initiatives working
together toward a common goal: to develop and
maintain an adaptable, intelligent, and responsive
human capital pipeline that will enable the future
CWMD mission.

NSRI is committed to the recruitment and education of new
human capital. Throughout 2016, NSRI employed over 60
undergraduate and graduate students on CWMD research
projects including placement of interns at USAMRIID.

NSRI is dedicated to the training of current
workforce and mid-career transitions to ensure they are ready for the mission. Throughout 2016, NSRI has conducted multi-discipline programs and training for Army National Guard Civil Support Teams, government agencies, law enforcement, public health and first responder personnel across the nation.

NSRI is charged with continuing education initiatives
to maintain and retain a passionate CWMD workforce.
NSRI sponsors the Strategic Leadership Fellows Program
which provides continuing graduate-level education for
USSTRATCOM civilian employees.

As we move to the future, NSRI will continue to develop
programs for strengthening the human capital pipeline
including working with Air Force Global Strike Command
to provide education for the nuclear enterprise workforce.

THE USSTRATCOM FELLOWS PROGRAM

for the Commander of USSTRATCOM.
This experience provided the stimulus

NSRI, University of Nebraska at Omaha and U.S. Strategic Command launched the Strategic Leadership Fellows Program in March 2014 as a first-of-its-kind initiative under the NSRI, a UARC dedicated to delivering solutions for Combating Weapons of Mass Destruction (CWMD). The program includes classroom-based
and hands-on learning opportunities to provide graduate-level leadership
development to civilian leaders within USSTRATCOM.

"This Program has become an important part of developing our
workforce to better understand the challenges and create innovative
approaches for 21st century deterrence in an extremely complex
global security environment. We began this graduate fellowship
program with the University of Nebraska at Omaha two years ago,
and it continues to make a positive difference."

--Cecil D. Haney, U.S. Navy Adm., previous USSTRATCOM commander

"The USSTRATCOM Fellows program provided me a diverse network of
experts in academia, the business sector, in the government sector, and
across USSTRATCOM that I constantly leverage to develop more effective
and efficient national security options for the Commander of USSTRATCOM.
This experience provided the stimulus for greater collaboration across
the organization by creating these collaborative-friendly packets."

--Dan Lewis, Strategic Leadership Fellows Program Graduate, 2016

U.S. Navy Adm. Cecil D. Haney (center), U.S. Strategic Command (USSTRATCOM) previous commander, speaks to Dr. John Christensen (left), University of Nebraska at Omaha (UNO) chancellor, and Dr. Louis Pol, Dean of UNO’s College of Business Administration, during his
arrival at the USSTRATCOM Leadership Fellowship Program.

(Upper) Dan’s Welcome by Dr. Hasham Ali, Dean, College of Information Science and Technology, University of Nebraska at Omaha.

(Below) Dr. Bill Mahoney, Associate Professor, Cybersecurity, University of Nebraska at Omaha (UNO) (left); U.S. Air Force Lt. Gen. Stephen W. Wilson, previous U.S. Strategic Command (USSTRATCOM) deputy commander (center); and Dr. John Christensen, UNO Chancellor (right); observe a demonstration on the Industrial Control Systems (ICS) Resiliency Education Project at the Peter Kiewit Institute, Omaha, Neb., April 22, 2016.

CBA

COLLEGE OF BUSINESS ADMINISTRATION
Without our research superstars across the University of Nebraska, none of our successes would be possible. Our research scientists promote the research capabilities of the University of Nebraska and directly contribute to the missions supporting our national security and the readiness of our military personnel.

- Robert Hinson, Lt Gen (Ret)
NSRI Executive Director
At the NSRI, both undergraduate and graduate students have the ability to participate in groundbreaking research. Students work on tech, bio, and science-related awards, which enhances their understanding of modern technologies critical for infectious disease research. During the academic year, students are immersed in cutting-edge research, gaining valuable experience and preparing for careers in the DoD and other agencies.

**Biodefense Research Education Pipeline (BREP)**

**Program Overview**

To provide a pool of talent, the NSRI has partnered with the University of Nebraska, the University of California, San Francisco, and other institutions to develop a Biodefense Research Education Pipeline (BREP) program. The program aims to develop a group of talented young scientists who are prepared to join the DoD workforce and pursue advanced degrees in biomedical research.

**BREP Undergraduate Training**

- Recruit sophomores and require two-year commitment
- Integration of undergrads into mentor research
- Research projects of interest to DoD
- BREP undergrads work at Ft. Detrick in the summer

**BREP Graduate Education**

- Research mentors at UNMC
- BREP students associated with the INBRE program
- First year would need to be in Omaha, but second year could be remote
- BREP students would be required to submit UNMC fellowship proposals and then an NIH fellowship application to cover the duration of their graduate education

**Research Impact**

Maggie Bartlett is a UNMC student studying Immunology, Pathology, and Infectious Disease (IPID) in the Interdisciplinary Graduate Program in Biomedical Sciences (IGPBS) program. Bartlett participated in the NSRI Biodefense Research Education Pipeline (BREP) program at the United States Army Medical Research Institute of Infectious Diseases (USAMRIID) over the summer of 2016.

Bartlett focused on learning about the application of immunomics, a process that characterizes the immune response to vaccinations and infections utilizing high-throughput sequencing. During her rotation at USAMRIID, she described the B cell repertoire longitudinal response to a VSV-EBOV-GP vaccine administered in non-human primates (cynomolgus macaques) and human volunteers, examining the epitopes recognized by the humoral response (IgM and IgG), and worked on isolation and characterization of the T cell response to the same vaccine. The application of the Immunomics tools allowed her to describe the humoral and cellular immune response to the VSV-EBOV-GP vaccine.
NSRI’s All Hazards Response Training (AHRT) is the only program combining the best CWMD academic research in the nation with the strength of seasoned chemical, biological, radiological, nuclear and explosive (CBRNE) industry talent. NSRI’s AHRT team can design almost any training and education around specific mission requirements and objectives.

The mission of protecting warfighters and emergency responders is in the crosshairs of research efforts at the NSRI. From the laboratory to the field, the NSRI is bridging the CWMD mission space.

"Being able to collaborate, plan and execute such a large-scale event in the Los Angeles area is no easy task. Despite this, the NSRI team was able to craft an event that challenged each agency's approach to a WMD incident, highlighting the fact that the 9th CST is ready, willing and able to conduct complex entry and sampling operations in support of local, state and federal response partners."

- US Government Client, 2016 AHRT National Level Exercise

NSRI personnel use multi-discipline programs to provide CBRNE training scenarios across the nation and internationally, using actual or simulated environments inside operational facilities, orchestrated by a cadre of subject matter experts. NSRI’s precision in AHRT National Level Exercises (NLEs) improves the CWMD preparedness of government agencies, law enforcement, public health and first responder personnel.

Established primarily to increase collaboration between Civil Support Teams (CSTs) and their local, state and federal assets that would normally respond to an act of terrorism in their home states.

Participating agencies benefit through improving communication and increasing cooperation between agencies while decreasing the number of non-credible samples collected by the responding agency.

Throughout 2016, NSRI AHRT instructors provided multi-discipline training, exercise venue and guidance on all aspects of CWMD response for over 60 agencies and over 500 personnel across the nation.

Uniquely situated between CWMD academic research and Department of Defense sponsors, the NSRI has initiated an Academic Wargaming Center to provide NU/NSRI faculty and researchers with a cutting-edge tool to investigate processes, organize ideas, explore issues, highlight consequences of decisions and identify future research opportunities in the CWMD mission area. This tool will provide CWMD sponsors with the means to engage academic and private industry on real-world problems of national security interest. As an academic tool, wargames can help students gain understanding of decision-making complexities through experiential learning; explain how and why events unfold, and explore unknowns through role-based discovery.

Academic Wargaming, which ranges from complex, multi-sided computer-assisted games to more fundamental, single-sided seminar games, can address issues from a number of areas, including homeland security, defense, space, cyber, command and control, and interagency coordination. Insights gained from wargames can provide stakeholders with information and understanding that will assist in future decision making and policy-related issues.

**MISSION OBJECTIVES**

**EDUCATION & TRAINING**

+ Build mutual trust and understanding between the academic and military communities, especially those that align with the National Strategic Research Institute’s (NSRI) core competencies
+ Expose University of Nebraska (NU) faculty and students to wargaming concepts that build capacity in decision making, critical thinking, and creative problem solving
+ Develop innovative wargaming tools and concepts to provide more experiential learning opportunities in the classroom

**ACADEMIC WARGAMING FACILITY DEVELOPMENT**

Provide resources and facilities for wargaming events, including interactive seminars, rehearsal of concept exercises, table-top exercises, and simulations at NSRI’s Nebraska and Maryland facilities

**RESEARCH IMPACT**

+ Encourage NU/NSRI faculty and researchers to explore how wargaming can be used as a research tool that can help test research theories and their underlying assumptions
+ Explore novel, interdisciplinary approaches for decision making, crisis management, deterrence, and solving complex problems
+ Enhance the art and science behind wargaming to develop more immersive environments that engage participants and allow for more flexible player inputs that drive realistic responses from the game environment and other players
In 2016, the NSRI announced the opening of its new National Capital Region (NCR) Field Office, in support with the University of Nebraska. The National Capital Region Office will provide digital connectivity to collaborative centers in Nebraska, enabling University of Nebraska faculty and staff to interact with sponsors and collaborators in the National Capital Region.

With this facility, the NSRI and NU are expanding their national footprint and industry leader recognition as a UARC, while growing across multiple, national locations. The NCR field office provides a strong foundation for engaging Department of Defense (DoD) and other Government agencies that are looking for solutions to reach the demands of national security threats. The rapid growth of both staff and physical facilities within the NSRI further increases UARC capabilities for providing expanded research & development services thereby increasing the impact of the NSRI and NU missions.

NU President Hank Bounds stated that "the University of Nebraska is dedicated to research in a broad range of disciplines and service to not only our state’s citizens, but the citizens of the nation and the world. Our NSRI and NU presence in the nation’s capital area will be a catalyst to further research at Nebraska and expand the university’s research mission among collaborations with federal agencies, businesses nationwide and across other institutions of higher education."

Lt. Gen. (Ret) Bob Hinson, Executive Director of the NSRI expanded, "our NSRI Washington DC-based staff are truly human capital assets who possess hybrid skill sets. Having them on board in our new facility results in an evolving service for NSRI, offering enhanced solutions across all of NSRI’s competencies. A state-of-the art facility and the leadership of the sharp minds working there will be key to driving agency relations and furthering research solutions for combating weapons of mass destruction at the University of Nebraska, for USSTRATCOM, the DoD and the nation."

NSRI and the University of Nebraska expand footprint with National Capital Region Field Office
FEATURED NSRI AND UNIVERSITY OF NEBRASKA RESEARCH PROJECTS IN THE CWMD MISSION

RESEARCH PROJECT: Traffic Calming System Design
CORE COMPETENCY: Consequence Management
RECOGNIZED IMPACT: United States Transportation Command (USTRANSCOM) required research to conduct physical testing and modeling and provide design recommendations for the modified MGS system for passive barrier use at Entry Control Facilities.

RESEARCH PROJECT: Extreme Light Laboratory: Laser-driven Variable Energy X-Ray Source
CORE COMPETENCY: Nuclear Detection and Forensics
RECOGNIZED IMPACT: New X-ray source to conduct nuclear and chemical compound detection and forensics that produces a high intensity focused beam using a dramatically smaller technology footprint and power requirements. New design offers potential for ground and air mobile high energy beam sources.

RESEARCH PROJECT: The Femtosecond Laser Surface Processing
CORE COMPETENCY: Consequence Management
RECOGNIZED IMPACT: Produce materials with new desirable properties:
• Increased heat transfer for high-temperature energy systems
• New heat pipe technologies
• Reduction in growth of bacteria on surfaces
• Medical implants
• Low drag projectiles in water
• Materials which are virtually invisible to visible, infrared, and UV light
• Medical supplies that cannot be contaminated by blood or other fluids

RESEARCH PROJECT: Immunomics
CORE COMPETENCY: Medical Passive Defense against Weapons of Mass Destruction
RECOGNIZED IMPACT: Immunomics research for the U.S. Army Medical Research Institute of Infectious Diseases (USAMRIID) is aiding the Department of Defense and other federal agencies to use genomics and bioinformatics tools to monitor infectious disease threats and to help guide the development of therapeutics to fight pathogens in the future. This work supports the USAMRIID mission to conduct research on current and emerging biodefense threats, resulting in medical solutions to protect the warfighter.

RESEARCH PROJECT: United States Transportation Command (USTRANSCOM) required research to conduct physical testing and modeling and provide design recommendations for the modified MGS system for passive barrier use at Entry Control Facilities.
RESEARCH IMPACT

2016 RESEARCH PROJECTS:

Research being conducted through NSRI by researchers across the University of Nebraska include development of a system that can detect nuclear materials hidden within more than a foot of steel; development of vaccines for infectious diseases like Ebola and anthrax; identifying novel treatments for exposure to neurotoxins and engineering systems to defend military installations from weapons of mass destruction; and the study of the psychology of terrorist groups like ISIS. These and other areas—including combating emerging and persistent threats to the United States and its allies, like chemical, biological, radiological and nuclear weapons—mean NSRI's work is timely and relevant.

RESEARCH FOCUS AREAS

Deterrence and Dissuasion
Nuclear, Chemical, and Biological Weapon Proliferation
CBRN Threat and Vulnerability Assessment
Detection of Nuclear and Radiological Materials
Detection of Chemical and Biological Agents
Interdiction of CBRN Threats
Nuclear Explosion Monitoring
Biocountermeasures
Bioinformatics and Epidemiology
Antibiotics, Antiviral Drugs, and Vaccine Development
Medical Innovations against WMD Threats
Emergency Response to Nuclear, Radiological, Chemical and Biological Events
Remediation of Biological, Chemical, and Radiological Contamination
Nuclear Forensics and Attribution
Space, Cyber, and Telecommunications Law

2016 ACTIVE CONTRACTS, GRANTS AND TASK ORDERS

Screening for BoNT/A inhibitors using the BoTest A/E BoNT1 Detection Assay
Principal Investigator: Ken Bayles, Ph.D.
Sponsor: USAMRIID

Manufacture of Recombinant Ricin Vaccine
Principal Investigator: Wally Buchholz, Ph.D.
Sponsor: USAMRIID

Intelligence Support to Deterrence Operations
Principal Investigators: Gina Ligon, Ph.D., Mario Scalora, Ph.D.
Sponsor: USSTRATCOM

Risk Analysis for Extended Nuclear Deterrence
Principal Investigator: Rupal Mehta, Ph.D.
Sponsor: USSTRATCOM

Development and Assessment of Narrative and Counter-Narrative within a Deterrence Framework
Principal Investigators: Gina Ligon, Ph.D., Mario Scalora, Ph.D.
Sponsor: USSTRATCOM

Functionalized Metallic Surfaces for Enhanced Heat Transfer, Drag Reduction, and Novel Power Sources
Principal Investigator: Dennis Alexander, Ph.D.
Sponsor: ONR

Immunomics Unit Research Support of USAMRIID Center for Genome Sciences
Principal Investigator: Mariano Sanchez-Lockhart, Ph.D.
Sponsor: USAMRIID

Strategic Leadership Fellows Program
Principal Investigator: Gina Ligon, Ph.D.
Sponsor: USSTRATCOM

Next Generation Sequence Training Module
Principal Investigator: Michael Wiley, Ph.D.
Sponsor: JPEO-CBD

Exploration of Horizontal and Vertical Nuclear Proliferation
Principal Investigator: Rupal Mehta, Ph.D.
Sponsor: USSTRATCOM

Decision Support Capabilities for National Leadership – Phase II
Principal Investigator: Dr. Douglas Derrick, Ph.D.
Sponsor: USSTRATCOM

Traffic Calming Elements for Entry Control Facility Threat Delay and Containment – Phase 2
Principal Investigator: Lawrence Rilett, Ph.D.
Sponsor: USTRANSCOM

Critical Infrastructure Resilience and Supervisory Control and Data Acquisition (SCADA) Research on Vulnerability Discovery and Risk Mitigation
Principal Investigator: William Mahoney, Ph.D.
Sponsor: USSTRATCOM

Intelligence Support to Deterrence Operations - Phase 2
Principal Investigator: Gina Ligon, Ph.D.
Sponsor: USSTRATCOM

Pavement Friction and Vehicle Performance Limits Evaluation
Principal Investigator: Lawrence Rilett, Ph.D.
Sponsor: USAACE

Traffic Calming Elements for Entry Control Facility Threat Delay and Containment – Phase 3
Principal Investigator: Lawrence Rilett, Ph.D.
Sponsor: SDDC

Advanced Collaboration Enterprise Services (ACES)
Principal Investigator: Douglas Derrick, Ph.D.
Sponsor: RTTO

Fundamental Studies on Functionalizing Metallic Surfaces with Applications to Enhanced Heat Transfer and Drag Reduction; Novel Power Sources
Principal Investigator: Dennis Alexander, Ph.D.
Sponsor: Office of Naval Research

Verification and Validation of a Dynamic Internal State Variable Constitutive and Failure Model for Glassy Polymers
Principal Investigator: Mehrdad Negahban, Ph.D.
Sponsor: ARL

Biological Field and Laboratory Support
Principal Investigator: Dillan Cunningham
Sponsor: DTRA

Strategic Leadership Fellows Program
Principal Investigator: Gina Ligon, Ph.D.
Sponsor: USSTRATCOM

Endovascular Skills for Trauma and Resuscitative Surgery (ESTARS) Curriculum Analysis and Development of Strategic Transition Plan
Principal Investigator: Jason MacTaggart, M.D.
Sponsor: USAMRMC

Traffic Calming Elements for Entry Control – Phase 4
Principal Investigator: Lawrence Rilett, Ph.D.
Sponsor: SDDC

Target Enrichment Studies
Principal Investigator: Ken Bayles, Ph.D.
Sponsor: USAMRIID

En Route Care Technology Development
Principal Investigators: Mark Borden, Ph.D., William Mahoney, Ph.D.
Sponsor: USSTRATCOM

Cyberbiosecurity
Principal Investigators: Wally Buchholz, Ph.D., Randall Much, Ph.D.
Sponsor: DoD

Identification of Stability Indicating Assays to Support Formulation Development Work
Principal Investigator: James Talmadge, Ph.D.
Sponsor: Battelle

Assessing the Benefits and Burdens of Nuclear Latency
Principal Investigator: Rupal Mehta, Ph.D.
Sponsor: Battelle

https://nsri.nebraska.edu/publicationsandreports

SCHOLARLY JOURNAL ARTICLES & PUBLICATIONS SINCE 2013.

2016 ANNUAL REPORT
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Assistant Professor, University of Nebraska Medical Center

Nick Markin, M.D.
Assistant Professor, University of Nebraska Medical Center

Danielle Miller, J.D.
Research Associate, University of Nebraska–Lincoln
The NSRI Board of Directors serve in an advisory role and have the authority and responsibility to commit personnel, facilities and other required resources to support the needs of NSRI in completing projects awarded by USSTRATCOM and other DoD and federal agencies. Board members are appointed with proven leadership and expertise in government, military, industry and university sectors.

Three board positions are held by the University of Nebraska’s chief research officers—Vice Chancellor of Research and Economic Development at the University of Nebraska–Lincoln, Associate Vice Chancellor for Research and Creative Activity at the University of Nebraska at Omaha and Vice Chancellor for Research at the University of Nebraska Medical Center. This ensures the integration of NSRI and NU research strategies in support of the NSRI mission.

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The National Strategic Research Institute (NSRI) at the University of Nebraska is one of 13 University Affiliated Research Centers (UARCs) in the nation. Established in 2012, NSRI is engaged in a long-term, strategic partnership with our Department of Defense (DoD) sponsor, United States Strategic Command (USSTRATCOM). The NSRI provides mission-essential research and development capabilities for combating weapons of mass destruction in five core competencies:

1. Nuclear Detection and Forensics
2. Detection of Chemical and Biological Weapons
4. Consequence Management
5. Space, Cyber and Telecommunications Law
NSRI VISION:
To be the Lead Combating Weapons of Mass Destruction academic research institution, delivering relevant mission essential research and development solutions to the warfighter, Department of Defense and other national security agencies.

NSRI MISSION:
To provide innovative and customer-focused research and development solutions for complex national security requirements to combat weapons of mass destruction.

SPONSORS:

UNITED STATES OF AMERICA DEPARTMENT OF DEFENSE (DOD)
The mission of the Department of Defense is to provide the military forces needed to deter war and to protect the security of our country.

UNITED STATES STRATEGIC COMMAND (USSTRATCOM)
USSTRATCOM is one of nine DoD Combatant Commands. Its mission is to employ tailored nuclear, space, cyberspace, global strike, joint electronic warfare, missile defense, and intelligence capabilities that deter aggression, decisively respond if deterrence fails, assures allies, shapes adversary behavior, defeats terror, and defines the force of the future.

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