

NCBiotech Bio Defense Initiative – FY 16 - 17

Background

North Carolina has tremendous strengths in life science research and industry. Life science companies and institutions generate \$73 billion in economic activity for the state and account for 228,259 direct and indirect jobs – 5 percent of all employment in the state.ⁱ

North Carolina also has a significant federal investment in military assets deployed in the state. More than half a million jobs and approximately 10 percent of all economic activity in N.C. result from the military.ⁱⁱ

Despite these facts, NC has not been particularly strong in combining these two assets in a way that creates a vibrant Bio Defense sector.

Wide-Reaching Approach

NCBiotech is thinking broadly about Bio Defense opportunities for universities, small companies, and large companies. Applications range from providing vaccines for soldiers and protecting the food supply to deploying novel technologies that will protect our soldiers and heal those who sustain wounds in battle.

We are working closely with partners to increase defense funding in North Carolina by aligning the state's well-recognized strengths in the life science sector with the Department of Defense (DoD) and national security strategic priorities. This initiative is an opportunity for the broader NC life science community to bring innovative technical expertise to bear on critical challenges faced by the military and national security agencies on behalf of our state and country.

Activities

- Provide support for university-based researchers and small businesses that have a technology that addresses a need in the Bio Defense arena and educate and support their efforts in seeking DoD or homeland security relationships and funding.
- Promote and represent North Carolina at targeted military and federal Bio Defense conferences throughout the United States and promote our state's life science capabilities.
- Host or sponsor conferences where military, government, academic and industry experts can network and collaborate (See NCBiotech Events).
- Connect military, industry and academia partners to promote North Carolina's Bio Defense capabilities at the state and federal level.

NCBiotech Events

Medical, Biomedical and Biodefense: Support to the Warfighter Symposium – (June 14, 2017) US Senators Richard Burr and Thom Tillis, the North Carolina Military Business Center, the NCBiotech Center, and the University of North Carolina hosted this symposium on June 14 at the University of North Carolina Chapel Hill, Friday Conference Center.

Coordinate visits with industry-focused groups from the National Defense University, Eisenhower School, U.S. Department of Defense Senior Service School - (March 18 and April 4, 2016, and March 16, 2017) Senior military officers and government executives visited to learn more about the biotechnology and AgBiotech industries and their ability to help the nation achieve its economic and security goals.

Medical, Biomedical and Biodefense: Support to the Warfighter Symposium – (June 7-8, 2016) US Senators Richard Burr and Thom Tillis, the North Carolina Military Business Center, the NCBiotech Center, the North Carolina Military Foundation and the University of North Carolina hosted this symposium on June 7 in Raleigh and June 8 at the NCBiotech Center

Workshop: Biomedical Science & Technology for Special Operations Forces (SOF) – (June 9, 2016) Human Performance and Portable Lab Diagnostics was an invitation-only event held on June 9. Coordinated by UNC-GA's Defense Applications Group and supported by NC Biotech, this daylong workshop focused on specific need areas with the SOF community and directly connecting personnel with NC-based investigators and companies.

Examples of NCBiotech Bio Defense Funding – (full list available on request)

Grants

Elon University – Development of a Thermo Regulated Electrical Stimulation Device for Healing Diabetic Ulcers (Biotechnology Innovation Grant - 2017)

NC State University – Massively paralleled engineering of antibiotic-producing microbes via made-to-measure genetically encoded biosensors (Biotechnology Innovation Grant - 2017)

NC State University – Novel application of Xylanase with direct fed microbials to manage emerging challenges in growth and gut health of young pigs (Biotechnology Innovation Grant - 2017)

University of North Carolina – Support for UNC faculty attendance at the U.S. Army Medical Research and Materiel Command Conference held in Maryland (Grantsmanship Training Grant –2016 and 2017)

Wake Forest Innovations – LacunaDx: A Novel Nucleic Acid-Based Point-of-Care diagnostic for Infectious Disease (Technology Enhancement Grant – 2017)

Loans

Clinical Sensors, Inc. – Accelerated development of a point-of-care device to identify and manage sepsis in the intensive care unit (Small Business Research Loan - 2017)

InnAVasc Medical, Inc. – A New Vascular Access Graft for Hemodialysis (Small Business Research Loan - 2017)

Locus Biosciences – Discovery, development, and delivery of novel sequence-specific antimicrobials for critical-need infectious diseases. (Company Inception Loan – 2016, Small Business Research Loan – 2016)

Locus Biosciences – Pre-IND Preparations for *C. difficile* – targeting CRISPR – Phase (Strategic Growth Loan – 2017)

MAA Laboratories, Inc. – Nanodrug delivery for enhancing the solubility and bioavailability of small molecules (Small Business Research Loan - 2017)

Mimetics – Market of a new type of anti-fungal treatment (Small Business Research Loan - 2016)

RFPi – Development of a Downsized iCertainty Device for the Clinical Setting (Small Business Research Loan – 2017)

ⁱ 2014 Evidence and Opportunity: Impact of Life Sciences in North Carolina by Battelle Technology Partnership Practice for the North Carolina Biotechnology Center, http://www.ncbiotech.org/sites/default/files/pages/2014%20Battelle%20Report_Full.pdf

ⁱⁱ The Economic Impact of the Military on North Carolina by North Carolina Department of Commerce Labor and Economic Analysis Division, [http://www.nccommerce.com/Portals/47/Publications/Industry%20Reports/The%20Economic%20Impact%20of%20the%20Military%20on%20North%20Carolina%20\(3\).pdf](http://www.nccommerce.com/Portals/47/Publications/Industry%20Reports/The%20Economic%20Impact%20of%20the%20Military%20on%20North%20Carolina%20(3).pdf)