To truly optimize military performance, you must look at the whole human to understand how physical, cognitive, and psychological health factors influence the overall well-being of Service members. And more than just understanding these factors, you must be able to put those findings into practice and deliver actionable solutions.

The North Carolina Center for Optimizing Military Performance (NC-COMP) provides a unique, collaborative environment where world-class academic, industry, and government partners combine research, testing and evaluation, and commercialization to create a robust innovation ecosystem that offers solutions for optimizing the health and performance of Service members.

NC-COMP is a trusted partner to Department of Defense (DOD) agencies. Utilizing our demonstrated successes, we serve as a centralized gateway for military partners to access cutting-edge research and technology development in human performance and influence efforts that result in capabilities for mission effectiveness.

How We Support Service Members

NC-COMP relies on its expansive network of partners for research and development, facilitation of problem solving, and data-driven decision making. This approach allows for accelerated deployment of innovative solutions directly to Service members.

Collaborations and Partnerships

The NC-COMP team comprises scientists, engineers, technologists, clinicians, and entrepreneurs; together, team members have developed a variety of solutions and led partnerships with numerous defense agencies.

- **RTI International** has expertise in DOD consortium management, data collection and management, and research efforts in collaboration with DOD units and facilities—including Womack Army Medical Center.

- **Fort Bragg Research Institute** partnership with U.S. Army Special Operations Command (USASOC) and Womack Army Medical Center to assess Service member readiness, resilience, treatment, and rehabilitation.

- **Emerging Technology Institute** testing and evaluations conducted by USASOC, U.S. Special Operations Command, 82nd Airborne Division, Joint Special Operations Command, and other units.

- **University of North Carolina System** partnership with USASOC and Army Research Office for more than 12 years, providing research and educational support through basic and applied research, student internships, engineering design projects, faculty subject matter expertise, and custom-designed educational programming.
Core Expertise

- Cognitive skill training (augmented-, virtual-, and mixed-reality gaming)
- Exercise science
- Mental fitness/resilience
- Microbiomes
- Nutrition
- Sleep
- Pharmaceuticals
- Nutraceuticals
- Genomics
- Epidemiology
- Kinesiology and biomechanics
- Physical and occupational therapy
- Strength and conditioning
- Wearables
- Energy harvesting
- Extreme environmental physiology
- Data science, artificial intelligence, and machine learning
- Data collection and management

Key Resources

- Protective clothing and smart materials test labs, including a dedicated wind tunnel aerosol exposure facility for full-scale aerosol challenge tests of military and first responder protective garments
- Hypobaric and hyperbaric chamber complex
- Remote test facility with 156,000 ft² of floor space and 50 acres of unrestricted airspace, validated parachute drop zones, and 2,000 acres of outdoor training space
- Manufacturing clusters with 600+ biotechnology and 600+ textile companies
- 10,000 ft² human performance facility focused on research-based human performance development
- 126,000+ IT industry workers
- 425+ contract research labs focused on agriculture and biotechnology development
- 20+ start-up accelerators and incubators

Sample Resources

- Increased cognitive abilities
- Faster decision making
- More accurate decisions
- Increased cognitive capacity
- Increased mental resilience
- Increased power
- Increased speed
- Increased stamina
- Improved sleep
- Microbiome efficiency
- Enhanced injury recovery
- Comprehensive rehabilitation
- Stress reduction
- Enhanced diving/altitude performance

Contact Us

Have a challenge we can help solve? Reach out to our team for more information or to discuss a partnership.

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