



The National Space Biomedical Research Institute (NSBRI) is a unique, non-profit scientific partnership with NASA committed to implementing the Vision for Space Exploration by providing practical, validated and effective solutions to support and maintain human health and performance during long-duration spaceflight. NSBRI engages academic, industrial and government researchers and educators, and the resources of the nation's leading biomedical research institutions, in a team-based effort to reduce the significant health risks associated with human space travel. The Institute's goal-directed, cost-efficient science, technology and education programs strongly impact both the safety of human space travel and the quality of life on Earth.

Mission

The Institute leads a national effort for accomplishing the integrated, critical path, biomedical research necessary to support the long-term human presence, development, and exploration of space and to enhance life on Earth by applying the resultant advances in human knowledge and technology acquired through living and working in space.

Overview

- **Public-Private Partnership.** NSBRI is a NASA-supported corporation that is responsive to NASA's needs. The Institute draws readily upon competitively-selected resources in universities and industry to address specific problems and provide a targeted, product-oriented research and development program.
- **Countermeasure Production.** Each project is part of an integrated plan to produce enabling technologies and countermeasures. Our directed approach links the knowledge base of academia with the expertise of spaceflight operations to identify, develop and deliver technology and countermeasure strategies that meet the needs of space exploration. The Institute has an Industry Forum to assist with the Earth-based applications of these advances.
- **Prioritized Team Approach.** The Institute is organized into teams that address major physiological or medical issues (e.g. bone loss, muscle alterations, smart medical care). Team efforts are concentrated on overarching programmatic goals for the development of risk-mitigation strategies to support exploration needs. Partnerships within and between teams provide integrated project suites addressing multiple aspects of human health and performance concerns.
- **Operational Focus.** The Institute's User Panel comprised of flight surgeons and astronauts ensures that the deliverables for reducing human risks are focused on operational NASA requirements and support directly the goals of the Vision for Space Exploration. NSBRI can test candidate strategies in analog environments to validate preflight readiness.
- **Strong Program Oversight and Management Rigor.** A Board of Scientific Counselors and an External Advisory Council composed of engineers, physicians and scientists with national and international reputations review progress and provide advice for continued program excellence.

Organization

- NSBRI program involves investigators from more than 70 universities and institutions across the United States.
- National education and outreach activities at all levels.
- Governed by a consortium consisting of Baylor College of Medicine, Brookhaven National Laboratory, Harvard Medical School, The Johns Hopkins University, Massachusetts Institute of Technology, Morehouse School of Medicine, Mount Sinai School of Medicine, Rice University, Texas A&M University, University of Arkansas for Medical Sciences, University of Pennsylvania Health System and University of Washington.
- Productive collaborations between the NSBRI and NASA centers, as well as with international partners, provide the best possible chance of solving complex biomedical problems related to a human presence in space.

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