Medical Technology Enterprise Consortium

Status Report August 2017

MISSION

Make the wounded whole again by fostering research partnerships that accelerate the availability of solutions to warfighters, veterans, and civilians

ESTABLISHMENT

- Headquartered just west of Charleston, South Carolina
- Incorporated as a non-profit organization in August 2015 and received tax-exempt status in April 2016
- Has over 100 member institutions from across the country and around the world (academia, industry, and nonprofits), that are poised to collaborate and contribute to innovative biomedical R&D
- Pushes technological innovation through the "valley of death" between concept and viable product
- Facilitates the transition of promising technologies into the hands of industry leaders who can take the final steps toward regulatory clearance and market production
- Operates under a Prototype Other Transaction Agreement with the U.S. Army Medical Research and Materiel Command (USAMRMC)

MEDICAL TECHNOLOGY FOCUS AREAS

INFECTIOUS DISEASE (ID)
Prevention, diagnosis, and treatment of ID encountered by service members during deployment and those that can significantly impact performance

COMBAT CASUALTY CARE
Development of medical interventions that can be used on the battlefield to reduce morbidity and mortality

MILITARY OPERATIONAL MEDICINE
Development of effective countermeasures against stressors to maximize health, performance, and fitness

CLINICAL AND REHABILITATIVE MEDICINE
Innovation in definitive and rehabilitative care to reset wounded Service members in terms of duty, performance, and quality of life

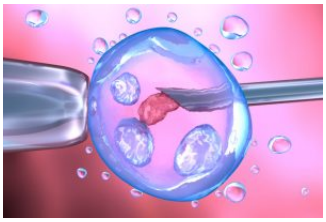
MEDICAL SIMULATION AND INFORMATION SCIENCES
Exploration of the use of technology for medical training and for the provision, management, and support of health services in the military

ADVANCED MEDICAL TECHNOLOGIES
Development of initiatives and products that will increase medical mobility while ensuring access to essential medical expertise and support regardless of the operating environment

FUNDED RESEARCH

REGENERATIVE MEDICINE: Regenerative medicine technologies hold great promise for treating those who are severely injured, both military and civilians. The objective of this program is to develop scalable, production ready, commercial prototypes and processes for cell, tissue, or organ bioengineering technologies that will enable successful cGMP manufacturing and clinical translation of regenerative medicine based therapies. The MTEC awarded $20,000,000 in federal funds with more than $11,000,000 in non-federal contributions to support this goal.

Commercial Scale Up of Bone Marrow-Derived Mesenchymal Stem Cells



BioBridge Global; Rooster Bio, Inc.; U.S. Army Institute for Surgical Research

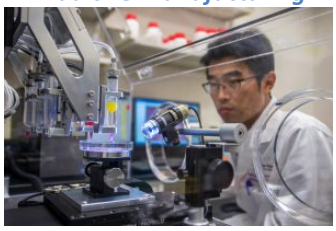
Manufacture of a Settable Nanocrystalline Hydroxyapatite/Polymer Composite Bone Graft

Vanderbilt University; Medtronic, Inc.

Development of Universal Media for the Support and Expansion of Human Cells

RegenMed Development Organization

Development of a Universal Bioink with Tunable Mechanical Properties for Additive Manufacturing



RegenMed Development Organization

VISION RESTORATION: Among the most prevalent injuries are those related to the eye, which account for 12-15% of all battlefield wounds. Early work has shown that stimulation of the brain can restore a level of vision to human patients. An image can be captured through camera-mounted glasses and forwarded to a computational device that translates stimuli to the brain through a microelectrode array implanted in the visual cortex. Though not a true aesthetic repair of the eye, the interim solution of a visual prosthesis provides basic sight function, such as the ability to navigate, identify faces and objects critical to daily life, and read large print. The MTEC made four awards totaling more than $3,300,000 focused on the development of a brain-machine interface, a major component of a visual prosthesis system.

- Massachusetts General Hospital; Bionic Eye Technologies, Inc.
- Scientific and Biomedical Microsystems; Cambridge Neuro; Oxford University; University of Pennsylvania
- Arizona State University; Second Sight Medical Products, Inc.
- University of Maryland, Baltimore

UPCOMING RESEARCH TOPIC AREAS

- Technologies that combat **antibiotic-resistant bacteria**
- **Systems biology** approaches to treat disease
- Diagnosis and treatment of **traumatic brain injury**
- **Telehealth** technologies and tools
- Regeneration or preservation of the **optic nerve**
- Medical simulation and modeling
- Interventions to promote **sleep and cognition**
- Technologies that provide **prolonged field care**
- Autonomous and unmanned patient support systems
- **Behavioral health**, e.g., suicide, substance abuse
- **Hearing** restoration or preservation technologies
- Treatment of **spinal cord injury**
- Systemic peripherally acting analgesics for **severe pain**
- Treatment of **post-traumatic stress disorder**
- Wearable physiological and performance sensors
- Health information technologies
- Precision medicine
- Predict and characterize environmental health hazards

SOLICITATION PROCESS – MULTIPLE CONTRACTING APPROACHES

The MTEC has developed several proposal solicitation processes that promote a streamlined, interactive approach for acquisition. They are tailored to the complexity of the research goals, the size of the efforts, and the maturity of the technologies; so rather than a one size fits all, the MTEC has developed multiple contracting approaches to better meet the needs of the Government and our consortium. For example:

- ***Information Paper:*** A means to influence the Government's funding strategy and raise awareness of consortium capabilities. It explores technology approaches where a lack of current knowledge may exist.
- ***Direct to Full Proposal:*** Provides the fastest means to award where market research has validated strong technological maturity and a sufficient number of participant organizations.
- ***White Paper to Full Proposal:*** Provides a means to identify approaches where a high level of confidence exists in availability of technical solutions.
- ***Commercial Solutions Brief:*** An iterative approach for highly complex requirements that allows for frequent discussions with the Government to provide a better understanding of end goals without significant consortium effort.

No. of	Year 1 (Actual)	Year 2 (Projected)
Research topics	2	52
Project awards	8	32
Available funds (millions)	$34.5	$54.5
Consortium Members	100	130
Solicitations	2	11

HOW CAN *YOU* BE INVOLVED?

AS A CONSORTIUM MEMBER

Membership offers many benefits, including:

- Authorization to submit proposals in response to funding opportunities
- Access to the Federal market by small and emerging firms
- Insight into the Government's medical needs
- Networking

AS A FUNDER

It's easy for any Government agency or private entity to contract R&D and technology development through the MTEC contract vehicle, in order to:

- Fund a new research project
- Incrementally fund an existing initiative
- Award previous source selection approved proposals
- Grant out-of-cycle requests

AS AN INDIVIDUAL

Make a donation in support of the MTEC's mission to make our wounded Warfighters and veterans whole again. Your generous donation allows us to develop and apply innovative technologies to help those who selflessly serve our Nation.

DONATE NOW!

LIST OF CONSORTIUM MEMBERS

- AbViro LLC
- Aequor, Inc.
- American Type Culture Collection
- Appili Therapeutics Inc.
- Applied Research Associates, Inc.
- Applied Research Center
- Arizona State University
- Armed Forces Institute for Regenerative Medicine
- ARMR Systems LLS
- Battelle Memorial Institute
- BioBridge Global
- BioMed SA
- BioTime, Inc.
- Brainpaths LLC
- Brown University
- Carnegie Mellon University
- Cedars-Sinai Medical Center
- CFD Research Corporation
- Change Ventures GP, LLC
- Chenega Healthcare Services, LLC
- Chimerix, Inc.
- Cole Engineering Services, Inc.
- Combat Wounded Veteran Challenge
- Compass Biomedical
- Corvid Technologies
- Critical Innovations LLC
- CUBRC, Inc.
- East Carolina University
- Ellipsis Technologies
- Embody LLC
- Emergent BioSolutions
- FirstString Research, Inc.
- Full Spectrum Omega, Inc.
- General Electric Company
- Georgia Tech
- GeoVax, Inc.
- Global Virus Network
- Health Research, Inc.
- Henry M. Jackson Foundation
- Humacyte, Inc.
- Human Biomed, Inc.
- Indiana University
- Infinite Arthroscopy, Inc.
- Information Visualization and Innovative Research Inc.
- InnoVital Systems, Inc.
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- LambdaVision Incorporated
- LifeLink Foundation, Inc.
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- Lynntech, Inc.
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- NovaHep AB
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- QBiotics Limited
- Qool Therapeutics, Inc.
- RegenMed Development Organization
- Ripple LLC
- Rhythmlink International LLC
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- SIMETRI, Inc.
- SimQuest
- SpherIngenics, Inc.
- Spherium Biomed
- Southwest Research Institute
- StemBioSys Inc.
- Strategic Marketing Innovations,
- SUNY Upstate
- Tallin University of Technology
- Techulon Inc.
- The Conafay Group
- The Metis Foundation
- The North Carolina Biotechnology Center
- The Ohio State University
- The Trustees of Columbia University in the City of New York
- The University of Texas Health Science Center at Houston
- The University of Texas Health Science Center at San Antonio
- The Zucker Institute for Applied Neurosciences (ZIAN)
- Tonix Pharmaceuticals
- Trideum BioSciences
- Triton Systems Inc.
- Upside Biotechnologies
- University of California, Irvine
- University of Cincinnati, Department of Surgery
- University of Illinois at Chicago
- University of Maryland, Baltimore
- University of Miami
- University of Nebraska
- University of Pittsburgh
- University of South Carolina
- University of Tartu
- University of Texas at Arlington Research Institute (UTARI)
- University of Utah
- University of Virginia
- Vanderbilt University School of Engineering
- Vapogenix, Inc.
- Virtech Bio, LLC*
- Wake Forest University Health Sciences
- Weinberg Medical Physics LLC*

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