

**TERMS OF REFERENCE
of the
MULTI-AGENCY TISSUE ENGINEERING SCIENCE (MATES)
INTERAGENCY WORKING GROUP
NATIONAL SCIENCE AND TECHNOLOGY COUNCIL**

Background

Tissue engineering is *the application of principles and methods of engineering and life sciences toward fundamental understanding of structure-function relationships in normal and pathological mammalian tissues and the development of biological substitutes to restore, maintain, or improve tissue functions*. An overlapping field, regenerative medicine, encompasses some of the knowledge and practice of tissue engineering but also includes *self-healing through endogenous recruitment or exogenous delivery of appropriate cells, biomolecules, and supporting structures*. Moving forward, various agencies within the Federal research and development (R&D) enterprise acknowledge that the state-of-the-art has evolved, and suggest a new phrase to define this broad, interdisciplinary field:

Tissue Science and Engineering -- the use of physical, chemical, biological, and engineering processes to control and direct the aggregate behavior of cells

Diverse areas of science and technology are involved in the development of biological substitutes for the repair or regeneration of tissue or organ function, and have led to a broad range of products with both medical and non-medical applications. Some of these medical products have been approved by the U.S. Food and Drug Administration while many are under preclinical investigation or evaluation. An emerging tissue engineering and regenerative medicine industry is now a multi-billion dollar worldwide R&D effort, led by private investment in biotechnology startups and business units. Federal funds have played and continue to play a significant role in providing the base of fundamental and pre-competitive applied research needed to move the industry-funded R&D from bench to bedside to practical applications in the marketplace. In addition, regulatory agencies play a vital role in supporting these applications through the timely review of safety and efficacy of tissue-engineered products as well as decisions concerning eligibility for reimbursement under Medicare and Medicaid.

Goal

The overarching goal of the Multi-Agency Tissue Engineering Science (MATES) Interagency Working Group (IWG) is to maximize the benefit to society of the Federal investment in tissue science and engineering. Specifically, the MATES IWG will provide a means for the various Federal agencies involved in this field to stay informed of each other's activities and better coordinate their efforts.

Scope

The breadth and depth of tissue science and engineering is large and growing, as basic research and technology developments both rely upon and propel the field. The strategies by which the MATES IWG will accomplish its goals include the following:

- Facilitate communication across departments/agencies by regular information exchanges
- Provide a centralized source of non-proprietary information (e.g., via a common website) for the public and the research community concerning the Federal Government's activities relevant to tissue science and engineering
- Enhance cooperation through co-sponsorship of scientific meetings and workshops and interagency personnel exchanges (e.g., research collaborations, postdoctoral programs, details, sabbaticals, and cross training activities)
- Promote the formulation of standards for the development of products based on tissue science and engineering
- Monitor technology by undertaking cooperative assessments of the status of the field
- Provide support for tissue science and engineering research through coordinated development of agency-specific and interagency funding opportunity announcements (FOAs) or other funding vehicles in targeted areas
- Foster technology transfer and translation of research advances in tissue science and engineering

Membership

Membership is open to all Federal agencies and their component organizations that have interests or activities related to tissue science and engineering. Current membership includes the Departments of Commerce (NIST), Defense (Army, Navy, DARPA), Energy, and Health and Human Services (NIH, FDA, CMS, CDC); the Environmental Protection Agency; the National Science Foundation; the National Aeronautics and Space Administration; and the Office of Science and Technology Policy. New members may be added at the discretion of the IWG Chair. The Chair shall appoint an Executive Secretary for the working group who shall keep official records, including an up to date roster of member agencies and their representatives and meeting records, including minutes.

Termination

The Interagency Working Group will terminate on March 31, 2009, unless renewed by the Subcommittee on Biotechnology.

Determination

I hereby determine that the formation of the Multi-Agency Tissue Engineering Science Interagency Working Group is in the public interest in connection with the performance of duties imposed on the Executive Branch by law, and that such duties can best be performed through the advice and counsel of such a group.

Approved:



 Chair, Subcommittee on Biotechnology

7.10.07
 Date