



**TO:** President Eric J. Barron

**FROM:** Robert Bradley *RB*

**DATE:** January 28, 2011

**SUBJECT:** Proposed Ph.D. in Materials Science and Engineering  
**Request for Implementation**

Addressing the increasing need for materials scientists by high-technology industries, the proposed Ph.D. program in Materials Science and Engineering will train students in the broad fields of materials science and engineering through a balanced interdisciplinary approach. Administered by The Graduate School, the program will involve faculty members from nine departments (Biological Science, Chemical and Biomedical Engineering, Chemistry and Biochemistry, Civil and Environmental Engineering, Electrical and Computer Engineering, Industrial and Manufacturing Engineering, Mechanical Engineering, Physics, and Scientific Computing) spanning two traditional colleges (Arts & Sciences and Engineering). Core faculty members are actively participating in the new Master of Science in Materials Science program and have already brought in more than \$31M in materials-related contracts and grants since 2005.

Through the development of new and useful materials, materials science and engineering research has a major impact on modern society. Materials research promotes the development of new technologies in medicine, energy, transportation, electronics, communications, information, building, construction, homeland security and national defense. All major federal funding agencies, including the National Science Foundation, Department of Energy, Department of Defense, and National Institutes of Health, support large research programs in materials science and engineering. Graduates will be employed doing research in the manufacturing industry, industrial and national research laboratories, as well as teaching and research in academia.

Florida State University has made significant investments in hiring as well as equipment acquisition to fully support an interdisciplinary MS&E Ph.D. program. Therefore, developing the Ph.D. program will require only modest additional financial support from the College of Art & Sciences, the College of Engineering, and the Office of the Provost.

This initiative is consistent with state and federal calls to increase competencies and enrollment in science, technology, engineering, and math (STEM) programs, as well as promote interdisciplinary approaches to solving fundamental problems in a global environment. The proposed Ph.D. program builds on the Master of Science in Materials Science degree program that has been in place since 2008. More than half of the students currently enrolled in this program have expressed a strong interest in continuing with Ph.D. studies at FSU in MS&E if a program can be created soon.

The Graduate School is currently working with FAMU to explore possible implications of the program for the joint FAMU/FSU College of Engineering.