



University System of Maryland Science, Technology, Engineering and Mathematics Agenda

Preparing More Teachers

Higher education has a critical responsibility in preparing a competitive workforce for the 21st century. In recognition of this responsibility, USM Chancellor William “Brit” Kirwan appointed a presidential task force representing the system’s 11 degree-granting institutions to address the challenge. Based on the task force’s work, USM has established an ambitious agenda, which includes tripling the number of highly qualified STEM teachers produced by system institutions annually (from 120 to 360) by 2015.

To launch its STEM agenda, USM hosted a statewide STEM Symposium on April 22, 2009. U.S. Secretary of Education Arne Duncan was the keynote speaker and panelists included Norm Augustine, Professor Uri Treisman of the University of Texas, and the National Science Foundation’s Wanda Ward. More than 300 participants addressed critical issues, including:

- strategies for recruiting and retaining STEM majors and increasing underrepresented student enrollments in the STEM pipeline;
- recruiting STEM majors into teaching;
- expanding and strengthening STEM teacher development programs for existing teachers;
- building STEM partnerships with business, education, and community.

Professional Development for Better Teachers

USM has been the lead in two major competitively-funded Math Science Partnership (MSP) grants (one just completed and one just beginning) from the National Science Foundation, totaling more than \$20 million. The work funded by the grants is focused primarily on the professional development of biology, chemistry, physics, and earth/space science teachers. Teachers in Maryland’s two largest counties—Prince George’s and Montgomery—have had opportunities to spend summers in research laboratories at USM institutions. In addition, faculty, graduate students, and high-school teachers formed inquiry-based learning communities to revise curriculum and explore inquiry instruction in high school and college. In the just concluded project, more than 350 teachers participated in Montgomery County, and the county recorded a significant increase in student achievement in biology test scores.

Investing in STEM to Secure Maryland’s Future

In partnership with the private sector, Chancellor Kirwan co-chaired the Governor’s STEM Task Force, which delivered a fully articulated STEM agenda for the state in August 2009. The task force’s primary goal was to develop strategies to meet President Barack Obama’s challenge of dramatically improving achievement in math and science by raising standards, upgrading curriculum, addressing STEM workforce demand, and forging new partnerships between education and industry.

Maryland’s Race to the Top application will include key recommendations from the task force report, including increasing the number of STEM majors and teachers produced. Building on the state’s commitment and its enormous base of federal research laboratories and STEM-based private sector, Maryland educators will have significant impact on developing the nation’s STEM workforce of the future.