Final Report of the Governor's STEM Task Force
Executive Summary

"Science is more essential for our prosperity, our security, our health, our environment, and our quality of life than it has ever been."

— Barack Obama, April 2009 —

The problem in Maryland is that although we now have enviable prosperity and a strong knowledge-based economy, competing states significantly out-produce us in terms of science, technology, engineering, and mathematics (STEM) graduates, STEM workforce development, and STEM-based economic development. If present trends continue, our competitors will overtake us. For Maryland, standing still is falling behind.

Maryland Governor Martin O'Malley recognizes the urgency of the current climate of competitiveness and charged a Task Force with making recommendations aimed at establishing Maryland as a global leader in the development of its workforce of the future and its STEM-based research and economic development infrastructure. This report is a response to the Governor's charge. It is a call to action, urging Maryland to adopt a set of initiatives, with international benchmarking, to ensure that the state is globally, not just nationally, competitive. The report calls for higher performance standards in teaching and learning and greater productivity in transforming the state's high volume of research and development (R&D) activity into economic growth and job creation. Specifically, this report sets higher expectations for teaching and learning at all levels of the education spectrum; the expansion of the degree-seeking and degree-completing pipeline in STEM-related fields, including STEM teaching; the development of strategies to link education, workforce creation, research, and economic development; and the creation of measurable goals, benchmarks, and resources to implement this plan.

To carry out its charge, the Task Force divided into three workgroups: STEM education, STEM workforce development, and translational research and economic development. Each workgroup studied and developed recommendations in its assigned area. The Task Force then came together, reaching broad consensus on the most essential steps Maryland must take, grounding its recommendations in evidence-based research reports and analysis of state data. The Task Force is pleased to offer the following seven recommendations:

1. **Align P-12 STEM curriculum with college requirements and workplace expectations in order to prepare ALL students for postsecondary success.**
2. **Triple the number of teachers in STEM shortage areas who are prepared in Maryland programs, increase their five-year retention rate from an estimated 50% to 75%, and enhance the STEM preparation and aptitudes for elementary and early childhood teachers.**
3. **Ensure that all P-20 mathematics and science teachers have the knowledge and skills to help all students successfully complete the college- and career-ready curriculum.**
4. **Provide STEM internships, co-ops, or lab experiences for all interested high school and college students to jump-start their successful transition to the workplace.**
5. **Increase the number of STEM college graduates by 40% from the present level of 4,400 graduates by 2015.**
6. **Boost Maryland's global competitiveness by supporting research and entrepreneurship.**
7. **Create Maryland's STEM Innovation Network to make STEM resources available to all.**