



## **Technology Trends: Addressing the Science, Technology, Engineering, Math Pipeline**

### **Preparing Students for Computing and Information Technology Careers**

#### **What is the Science, Technology, Engineering and Math Pipeline?**

Technology related majors enjoyed explosive growth in the mid to late nineties and were very successful in attracting top students. Sadly, the appeal of the technology disciplines has declined as a first choice for students in the 21<sup>st</sup> century. A number of factors drive this reversal of fortune. Student's perception of technology careers has been heavily impacted by the media's critical representation of the field and the associated perception of employment concerns in the face of global competition. The lack of adequate math and science preparation in grades K-12, a sharp decrease in the number of women drawn to computing, and increasingly stringent immigration policies are all contributing significantly to the downward trend in technology related enrollment.

An examination of the causes for this decline in computing professionals, and the impact this will have on industry in the U.S. and on our intellectual leadership in this field indicates an urgent need for immediate and sustained remedies in several areas. Addressing this dire situation will require concerted action by members of academia, industry, and government, and by individual citizens.

We need to mobilize leaders at all level within academia, industry and government to invigorate the will of this great nation to recognize the important implications, draw on our resources to invest in, grow and revitalize our leadership in science, technology, engineering and math. This is the road to continued success and prosperity in the 21<sup>st</sup> century.

#### **How can the Academic community excite students about Computing and Information Technology careers?**

If you are facing the same challenges that other schools in this area are confronting, one of the resounding requests for information you receive from parents, academics, industry and civic leaders is: *How do we prepare our students for the knowledge economy?*

Today, there are many significant changes underway within the American culture. Some of these are being driven by computing and information technology and scientific breakthroughs and globalization, while many others are driven by social, economic, ecological and political factors, all contributing to the transformation of the American workforce. The effects of powerful changes are felt nowhere more strongly than by academic leaders like you, who are responsible for preparing the thought leaders of tomorrow.

Increasingly, computing and information technology is being redefined along multidisciplinary lines. Extraordinary

developments in sensor network technologies, software design, artificial intelligence, bioengineering, and the management of distributed organizations are emerging from most every academic department, laboratory and research center.

#### **How can Microsoft help?**

Microsoft would like to work with you and your institution to host a career event to educate students, parents and educators and discover how computing and information technology is being used. This is a unique opportunity for college freshman and sophomores or high school juniors and seniors who would like to preview technology trends that will significantly impact their academic and career paths.

This event will feature speakers from Microsoft and a business leader from the local software economy. Together, they will share their career stories and describe the rich variety of jobs in their companies that require business and technology skills. They will also provide students with a better understanding of the critical role technology plays in business and the value placed on recruiting individuals with technology fluency throughout the organization. Students will have a chance to have their questions answered.

This event is intended to expose a diverse student population to a wide variety of technology career possibilities. A well-informed student is more likely to become proactively engaged in his or her curriculum and career development process.

#### **How can I learn more?**

To schedule a Technology Trends event, please contact [ttrends@microsoft.com](mailto:ttrends@microsoft.com) with a single point of contact within your organization that can assist us in the recruitment of students from your institution to attend this important event.

You can find additional information, useful links, and helpful resources at <http://www.microsoft4me.com/career>.