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Occupy Wall Street Protests Illuminate Frustrations with the Mismatch Between Available Jobs in STEM Occupations and the Skilled People to Fill Them

WASHINGTON – November 14, 2011 — The current state of the economy – filled with job losses, volatile stock markets and uncertainty – has driven many people to join “Occupy Wall Street” and similar protests across the country, voicing their concerns about the lack of jobs and income disparity in the United States. Many people interviewed during these protests have cited the lack of ANY jobs in the current market, but employers are stating loud and clear that they cannot find employees with the right skills and experience to fill white and blue collar jobs in the Science, Technology, Engineering and Math (STEM) fields.

A recent annual [survey](#) by ManpowerGroup, reported that the hardest jobs to fill in the United States are: skilled trades, engineers, IT staff, teachers and machinists/machine operators. These positions often require skills in science, technology, engineering and math (STEM) that applicants don’t possess. The ManpowerGroup survey revealed that 52 percent of U.S. employers are experiencing difficulty filling mission-critical positions within their organizations, up from 14 percent in 2010.

The synergy that now exists between employers, educators, government and thought leaders about the importance of aligning our nation’s workforce with the needs of employers is increasingly evident in STEM education initiatives and events across the country, such as the [USA Science & Engineering Festival](#), hosted by [Lockheed Martin](#) — the nation’s largest celebration of science and engineering that will take place April 28-29, 2012 in Washington, D.C. The festival will feature several exhibits, performances and appearances by companies that need more STEM graduates for their future workforces, as well as scientists and other organizations – giving students and adults the opportunity to explore tomorrow’s hot careers in areas such as renewable energy, robotics, space tourism, nanotechnology, virtual reality, clean technology, genetics, education, and many other exciting fields.

“Our future as a nation – the new ideas, programs, and scientific technological innovations that have become increasingly important in growing our economy and moving us forward with international competitors – depends on how well we prepare our students for careers in the science, technology, engineering and math (STEM) fields,” said Dr. Francis Eberle, Executive Director of the National Science Teachers Association. “At the USA Science & Engineering Festival, students will have an amazing opportunity to engage directly with scientists and engineers from around the country, exploring interesting careers in STEM and discovering new areas that fascinate them.”

Several exhibitors at the **USA Science & Engineering Festival** will give participants the opportunity to experience the excitement of STEM and STEM-related fields up close and personal, including:

- Exploring how **Northrop Grumman** employs a wide-range of talent – from engineers to rocket scientists – to design submarines and ships, make unmanned aircraft soar, launch satellites or protect our nation in the cyber world.

- Seeing how students and staff at **Bowie State University** are using robotics, virtual reality, biotechnology and chemistry to help students fall in love with STEM. And, how they're removing traditional barriers that hold underrepresented minorities back from pursuing education and careers in STEM disciplines.
- Learning how the **National Security Agency** protects U.S. national security systems, privacy and civil liberties by enabling network warfare operations to defeat terrorists and their organizations at home and abroad.
- Discovering how much African-American engineers have contributed to society and participating in hands-on activities in the fields of chemical, civil, environmental, electrical and mechanical engineering with the **National Society of Black Engineers**.

But it's about more than fascinating students; it's about keeping them interested once they've shown promise. According to a recent *New York Times* [article](#), many believe that earning a degree in a STEM-related field has become increasingly difficult because the material is rather dry and hard to get through. The article also cited studies from the University of California at Los Angeles that have found the roughly 40 percent of students planning engineering and science majors end up switching to other subjects or failing to receive a degree. That number increases to as much as 60 percent when pre-medical students, who typically have the strongest SAT scores and high school science preparation, are included. That's why it's critical to not only prepare students properly but continue to drive their momentum once these students get to college, which is why educational initiatives and programs like the **USA Science & Engineering Festival** are so important.

A [report](#) titled "Rising Above the Gathering Storm" that was delivered to Congress last fall found that the United States, a world leader in nearly every respect, ranks 48th in terms of science, technology, engineering, and math (STEM) education. The Department of Labor has identified U.S. students' lackluster performance in math and science, as well as an increase in global competition, as a new economic and technological vulnerability comparable to a military or terrorist threat.

A few key yet startling facts from this report find:

- In 2009, 51 percent of United States patents were awarded to non-United States companies.
- Eight of the ten global companies with the largest research and development budgets have established R&D facilities in China, India or both.
- In 2000, the number of foreign students studying the physical sciences and engineering in United States graduate schools for the first time surpassed the number of United States students.
- Federal funding of research in the physical sciences as a fraction of gross domestic product (GDP) fell by 54 percent in the 25 years after 1970. The decline in engineering funding was 51 percent.
- According to the ACT College Readiness report, 78 percent of high school graduates did not meet the readiness benchmark levels for one or more entry-level college courses in mathematics, science, reading and English.

"Addressing America's competitiveness challenge is an undertaking that will require many years if not decades," said Norman Augustine, chair of the *Rising Above the Gathering Storm* committee. "In order to sustain the progress that has been made over the last few years, it will be necessary to institutionalize funding for the America COMPETES Act – viewing this as an investment that will need to be made if the nation is to maintain the economic strength to provide for its citizens' healthcare, social security, national security and more."

Augustine is a recipient of the National Medal of Technology, retired as the chairman and CEO of the Lockheed Martin Corporation, and is also a former Undersecretary of the Army.

STEM Career Pavilion:

The Festival's new STEM Career Pavilion will give visitors the chance to meet real-life role models in STEM; find out about internships, mentorships, scholarships and after-school programs; meet representatives from some of the leading colleges and universities focused on STEM; and meet some of the companies now recruiting STEM-related professionals.

School Programs:

In the days leading up to the Festival finale event, middle and high school students in the greater Washington, DC area will have a chance to meet with more than 125 of the nation's most dynamic and influential scientists and engineers through the [Nifty Fifty](#) program, sponsored by AT&T. In addition, the [Lunch with a Laureate](#) program is a rare opportunity for a small group of middle and high school students to engage in informal conversations with 15 Nobel Prize winning scientists during a brown bag lunch. Students will learn first hand about exciting scientific discoveries, hear about the trials and tribulations of fast-paced research, and find out what makes a Nobel Laureate tick.

Both of these unique programs give students the opportunity to meet with some true STEM role models, most of which consider themselves ordinary people that have accomplished extraordinary achievements because of their passion for science and engineering.

Satellite Events:

Festival organizers are looking to truly make the 2012 USA Science & Engineering Festival a national event experience through several satellite events that will be held across the country. These events – held by student clubs, schools, universities, community organizations and companies – will bring the excitement and the celebration of science to thousands of people across the country. For a listing of current events, to find out how you can host an event or for more information, please visit the satellite event area of the [website](#).

About the USA Science & Engineering Festival:

The USA Science & Engineering Festival is the country's only national science festival, and was developed to increase public awareness of the importance of science and to encourage youth to pursue careers in science and engineering by celebrating science in much the same way as we celebrate Hollywood celebrities, professional athletes and pop stars. Lockheed Martin is again the presenting host of the USA Science & Engineering Festival and is joined by many other Festival [sponsors and partners](#). The USA Science & Engineering Festival is a grassroots collaboration of over [500 of the United States leading science and engineering organizations](#). For more information on the USA Science & Engineering Festival, please visit the [Festival website](#).

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