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Date: November 7, 2005
Subject: Educational Activities Committee Report to the
Winter Meeting of the Florida Council of the I.E.E.E.
Regional Activities Board Meeting, Orlando, FL-Saturday, November 12, '05

NATIONAL ASSESSMENT GOVERNING BOARD HOLDS PUBLIC HEARING ON DEVELOPMENT OF NAEP SCIENCE ASSESSMENT

The National Assessment Governing Board(NAGB) will hold a public hearing on the draft 2009 Science Framework for the National Assessment of Educational Progress(NAEP) on Tuesday, October 25, 2005 at the Phoenix Park Hotel in Washington, DC. This hearing provides science educators and other concerned citizens an opportunity to express their views on this national assessment during the development phase, prior to adoption. The NAEP Science 2009 test will be the first change in the test since 1994 and will begin a new assessment data strand that will be tracked for fifteen years or more following its release. Triangle Coalition encourages TCEB readers to attend or submit written testimony. The draft framework can be viewed at http://nagb.org/pubs/2005Science_framework_dr.doc, and the invitation and testimony guidelines can be viewed at www.nagb.org/pubs/public_hearing_letter_science.doc.

NATIONAL ACADEMIES REPORT: "ENERGIZING AND EMPLOYING AMERICA FOR A BRIGHTER ECONOMIC FUTURE"

The National Academies has laid out a comprehensive strategy of specific recommendations for federal policy-makers to create high-quality jobs and focus new scientific and technical efforts on meeting the nation's needs in the 21st century. The committee's report, "Rising Above The Gathering Storm: Energizing And Employing America For A Brighter Economic Future," points out that in a world where advanced knowledge is widespread and low-cost labor is readily available, U.S. advantages in the marketplace and in science and technology have begun to erode. It suggests that a comprehensive and coordinated federal effort is urgently needed to bolster U.S. competitiveness and pre-eminence in these areas so that the nation will consistently gain from the opportunities offered by rapid globalization. The congressionally requested report makes four recommendations along with 20 implementation actions that federal policy-makers should take to create high-quality jobs and focus new science and technology(S&T) efforts on meeting the nation's need for clean, affordable, and reliable energy. Some actions would involve changing existing laws, while others would require financial support that would come from reallocating existing budgets or increasing them. Briefly, the four main recommendations are:

- Increase America's talent pool by vastly improving K-12 mathematics and science education. Among recommended implementation steps is the creation of a merit-based scholarship program to attract 10,000 exceptional students to math and science teaching careers each year.
- Sustain and strengthen the nation's commitment to long-term basic research. Among the recommendations: increase the national research investment in basic research by 10 percent each year over the next seven years.
- Develop, recruit, and retain top students, scientists, and engineers from both the United States and abroad. Recommendations include the development of 25,000 new, competitive four-year undergraduate scholarships and 5,000 new graduate fellowships to U.S. citizens enrolled in physical science, life science, engineering, and mathematics programs at U.S. colleges and universities; and automatic one year visa extensions for international students to remain in the United States to seek employment.
- Ensure that the United States is the premier place in the world for innovation. Recommendations include: modernizing the U.S. patent system, realigning tax policies to encourage innovation, and ensuring affordable broadband Internet access.

The study was sponsored by the National Academies, which comprise the National Academy of Sciences, National Academy of Engineering, Institute of Medicine, and National Research Council. They are private, nonprofit institutions that provide science, technology, and health policy advice under a congressional charter. The full report is available online at www.nap.edu/books/0309100399/html.

FROM MARS TO THE CLASSROOM

As NASA was counting down in August to the launch of its Mars Reconnaissance Orbiter spacecraft(MRO), scheduled to reach Mars in March, 2006, a group of more than 60 educators were learning how to bridge the gap between the Red Planet and their classroom. In partnership with Arizona State University, Triangle Coalition member, NASA, hosted a conference at Kennedy Space Center to demonstrate how teachers could use the MRO mission to get students excited about science. Members of the MRO team gave detailed information about some of the spacecraft's instruments, and then teachers got to try out activities based on concepts directly related to those instruments.

Rather than focusing solely on how educators can teach about Mars, the conference took a more broad approach, highlighting how teachers can use exploration of the Red Planet to motivate student interest in science, technology, engineering, and mathematics. "Mars is not necessarily a subject that teachers are tasked to teach on its own," said ASU Mars Education Program Director Sheri Klug. "Instead, we understand that educators are always looking for ways to get students excited about math and science. Teachers can wrap their lessons and curriculum with something as cool as Mars and space exploration to show students the relevant connections and possibilities for their future while still achieving their primary teaching objectives." The educators' close encounters with spaceflight weren't at all limited to lectures and activities. Teachers also had a chance to talk one-on-one with NASA scientists and went on a tour of NASA's Kennedy Space Center and the launch facilities at Cape Canaveral. The ASU Mars Education Program has provided teachers with resources related to current and future Mars missions since 1991. Funded by NASA's Mars Public Engagement Program, ASU holds more than 40 teacher workshops across the country each year that highlight inquiry-based, hands-on activities for students, allowing them to participate in discovery as it happens on Mars. For more information, visit <http://mars.jpl.nasa.gov>.

295 U.S. SCHOOLS NAMED NCLB BLUE RIBBON SCHOOLS

Two hundred and ninety-five U.S. schools have been named "No Child Left Behind Blue Ribbon Schools" for 2005, U.S. Secretary of Education Margaret Spellings has announced. In recognition of the progress these schools have made under No Child Left Behind, each school will receive an award certificate as part of the Blue Ribbon Schools program. The No Child Left Behind Blue Ribbon Schools program recognizes schools that make significant progress in closing the achievement gap or whose students achieve at very high levels. The schools are selected based on one of three criteria:

- * Schools with at least 40 percent of their students from disadvantaged backgrounds that dramatically improve student performance on state tests.
- * Schools whose students, regardless of background, achieve in the top 10 per cent of their state on state tests.
- * Private schools that achieve in the top 10 percent in the nation.

Under No Child Left Behind, schools must make Adequate Yearly Progress, or AYP, in reading and language arts and mathematics. Each state sets its own academic standards and benchmark goals because each state knows best what goals and criteria are most appropriate for its school districts. A list of all 295 No Child Left Behind Blue Ribbon Schools for 2005 is available at www.ed.gov/programs/nclbbrs/2005. For more information about the Blue Ribbon Schools program, visit www.ed.gov/programs/nclbbrs.

CONCORD CONSORTIUM HOLDS FORUM: THE CRISIS IN SCIENCE EDUCATION AND SOME SOLUTIONS

Triangle Coalition member, the Concord Consortium, recently hosted a public exhibition and open forum aimed at addressing the crisis in science education. Leon Lederman, Nobel laureate in physics and director emeritus of Fermilab, and Robert Tinker, founder and president of the Concord Consortium, described the current state of science education and shared visions for the future while showcasing promising software and research results from the Concord Consortium. Leon Lederman spoke compellingly about "a true revolution in science education" that changes the sequence and treatment of topics initially at the high school level. Although critical of a system designed a century ago, he remains optimistic: "I believe that these reforms will create a scientifically literate population with huge economic and cultural benefits to the nation." Robert Tinker is confident that technology is an essential part of any effort to improve science education because it provides new ways for students to learn difficult, deep content.

The forum addressed a growing set of problems that could undermine the future of the U.S.: antipathy to science, the decline of a scientifically literate workforce, and eventual loss of jobs, innovation, and leadership. Dr. Lederman said, "If we don't fix our science and math educational system, the nation is really in deep trouble. Of all the social obligations we may assume in order to make a better world, education is by far the most powerful." Robert Tinker founded the nonprofit Concord Consortium(www.concord.org) in 1994 to develop and study innovative approaches to education that exploit the power of technology. The group is internationally recognized for its high-quality online courses and the powerful educational tools and models it has developed.

SCHOOLS NAMED TOP WINNERS AT INTEL AND SCHOLASTIC SCHOOLS OF DISTINCTION AWARDS

John Stanford International School in Seattle, WA and Academy of Allied Health and Science High School in Neptune, NJ have been named the "Best of the Best" winners in the 2005 Intel and Scholastic Schools of Distinction Awards. Both earned honors in the "Collaboration" category for their innovative use of local, national, and international partnerships to promote student achievement. Eighteen other schools were celebrated as Intel and Scholastic Schools of Distinction in such categories as academic achievement, literacy, science, mathematics, and leadership, among others, at a gala in Washington, DC. Each winning school receives \$10,000 from the Intel Foundation and a host of educational products and services from Scholastic and other sponsors. The two "Best of the Best" schools each receive an additional \$15,000 grant from the Intel Foundation. Overall, Intel and Scholastic Schools of Distinction winners were awarded more than \$5 million in cash and prizes during a ceremony honoring all 20 schools.

The awards program was established by Scholastic, the global children's publishing, education, and media company, and Intel, the world's largest chip maker and long-time champion of educational improvement. It rewards schools for programs that promote student achievement and innovation in education. This year's "Best of the Best" winning schools offer impressive examples of how public/private collaborations can positively impact student achievement. John Stanford International School focuses on international education and foreign language immersion, and is dedicated to forging partnerships that foster high academic achievement and a strong sense of global citizenship among its K-5 students. The Academy of Allied Health and Science takes a service learning approach to prepare students to pursue careers in the medical sciences. Applications are now being accepted for the 2006 Intel and Scholastic Schools of Distinction awards. Application information is available at www.schoolsofdistinction.com. Intel's sponsorship of the awards is part of the Intel Innovation in Education initiative(www.intel.com/education).

SIIA SURVEY FINDS STATE PROGRESS SLOW BUT STEADY ON ADOPTION OF E-TEXTBOOKS

The Software & Information Industry Association(SIIA)(www.sii.net), the principal trade association for the software and digital content industry, has released the results of a survey measuring state support for electronic and online instructional materials. Twenty-one states require approval of textbooks, and school purchases hinge on that approval. Software and other electronic materials -- often referred to as e-textbooks -- have struggled to be included in those processes. "We found that states are making progress in their support for an e-curriculum, but a lot of work remains in order to ensure that students have access to electronic resources that meet their learning needs -- and their expectations," said Mark Schneiderman, SIIA's director of education policy. "States are not yet keeping pace with changes technology can bring to the classroom." Officials in 18 of the 21 states that adopt textbooks for their elementary and secondary schools completed the survey, which focused on state policies and viewpoints toward education technology materials. SIIA presented the survey results at the annual meeting of the National Association of State Textbook Administrators. Among the survey's findings:

- * Nearly all adoption states now define instructional materials and textbooks to include software, digital content, online materials or similar technology-dependent mediums;
- * Nearly two-thirds allow for a subscription or similar annual payment model common to webbased resources, although state contracts and budgeting often remains major barriers;
- * The majority of states have little process in place to ensure that textbook reviewers have the experience and skills to evaluate electronic learning materials;
- * Only a handful of states have updated their review criteria to account for design and function elements unique to electronic materials; and
- * States are generally not willing or able to review materials more than once every six(6) years, therefore making it impossible for the latest technologies to be available for students.

Survey results are available at
www.siaa.net/govt/docs/pub/SIIAdoptionSurveyResults.pdf.

COLLEGE COMPLETION RATES DOUBLE IN PAST THREE DECADES

America's young people have made substantial improvements academically over the last three decades, nearly doubling their college completion rates and demonstrating improved mathematics performance during the teenage years, according to a U.S. Department of Education report. "Youth Indicators 2005," a report by the Department's National Center for Education Statistics in the Institute of Education Sciences, presents important trends in the academic progress of teenagers and young adults. It shows that the proportion of 25- to 29-year-olds who had completed college rose from 16 percent in 1970 to 29 percent in 2004. In addition, average mathematics proficiency for both 13- and 17-year-olds was higher in 2004 than in 1973 for all racial groups. The indicators also show that, despite improvements in many areas of education, substantial gaps still remain between white and minority students. The report also stated that college enrollment rates of 18- to 24-year-olds increased from 26 percent in 1980 to 38 percent in 2003, with the enrollment rate of females increasing more rapidly than that of males.

"This report shows the educational trend lines are going in the right direction," said Secretary Margaret Spellings. "But, while I am pleased that the achievement gap is narrowing, I am not satisfied -- we still have work to do. Under No Child Left Behind, we are specifically working to close the achievement gap and to provide each and every student, regardless of his or her race, ethnicity or street address, a quality education. The best is yet to come." More details on the findings and other related topics, including indicators that set a context for education, are available in Youth Indicators 2005. To download the report as a PDF file, visit <http://nces.ed.gov/pubs2005/2005050.pdf>.

IBM EXITE CAMPS INSPIRE GIRLS WORLDWIDE

Between May and October 2005, more than 1,500 girls, ages 11-13, have attended one of 48 IBM-sponsored EXITE Camps in the United States, Canada, Latin America, Europe, and Asia Pacific. Campers attending the weeklong EXITE programs take part in a variety of engineering and science-related projects that, among other things, underscore the impact technology is making on everyday life. In San Jose, California, girls worked on team building activities such as a human suspension bridge and discovered how technology is used in an environmental research project centered on wetlands.

Launched in 1999, EXITE Camps are an extension of IBM's commitment to reach groups that are under-represented in the technical workforce and to train and recruit individuals from these groups for technical careers. Since its inception, more than 4,000 girls have participated in EXITE Camps around the world and, following their experience, approximately 85% said they would pursue an engineering or technical-related degree when they go to college. EXITE Camp participants are nominated by counselors and teachers at middle schools that have an established relationship with IBM through such community outreach programs as Reinventing Education or MentorPlace, where IBM volunteers communicate with students via e-mail throughout the school year. More information on EXITE Camps can be found at www.ibm.com/diversity.

TECH SURVEY REVEALS GAP BETWEEN TECHNOLOGY FOR TEACHERS AND TECHNOLOGY FOR TEACHING

CDW Government, Inc., has announced the results of its 2005 Teachers Talk Tech survey. The survey was conducted in March and April 2005 and revealed that while 86 percent of teachers rely on computers for administrative functions, only 54 percent integrate computers into their daily curriculum. The survey indicated that the majority of teachers are most comfortable with using computers for daily administrative functions such as e-mail, attendance, and posting information about classes on school intranets. Seventy percent of responding middle- and high-school teachers used e-mail to communicate with parents, and more than half(52 percent) used school intranets to take classroom attendance. The survey indicated that elementary school teachers are more likely to use computers in instruction than middle- or high-school teachers by a margin of 12 percent. At the same time, elementary teachers are nearly 20 percent more likely to have access to computers in the classroom as opposed to a central laboratory or media center, according to the survey.

The survey also showed that teacher technology training has likewise focused on administrative applications, rather than instructional applications. More than 85 percent of teachers believe that they are well to adequately trained on Internet, word processing, and e-mail software, but 27 percent have little to no training with integrating computers into lessons, and more than 26 percent have little to no training on instructional software. Overall, the time teachers spent in technology training did not increase over 2004, and 31 percent of teachers indicated that they had no technology training in either 2004 or 2005. The 2005 Teachers Talk Tech survey was conducted by Quality Education Data, a subsidiary of Scholastic, Inc., and is available online at <http://newsroom.cdwg.com/features/TTTCompleteResults.pdf>.

IGNITING CREATIVE ENERGY CHALLENGE ENCOURAGES STUDENT ENERGY CONSERVATION

Johnson Controls and the National Energy Foundation have announced the fifth Igniting Creative Energy Challenge, an educational competition that encourages students to learn more about energy and the environment. The contest calls for students to submit entries that reflect the competition theme, Igniting Creative Energy, by demonstrating an understanding of what an individual, family, or group can do to make a difference in their home, school, or community. Students may express their ideas on energy conservation and the environment in the form of science projects, essays, stories, artwork, photographs, music, video, or website projects. The winning projects for the 2005 Igniting Creative Energy Challenge were a reflection of students' creativity and involvement: a giant matchbook, with each match describing a well-known energy leader and one way to save energy(elementary school student); a newspaper with articles discussing global energy challenges(middle school); and a photographic essay on transportation in the Washington, DC metropolitan area(high school student).

The Challenge is open to all students in grades K-12 in the U.S. and Canada, excluding Quebec. All entries are due by February 18, 2006, and winners will be announced on or about March 23, 2006. Official rules about the contest and entry forms are online at www.ignitingcreativeenergy.org.

GENIUS LOVES COMPANY: PRODIGIOUS MINDS HAVE GLOBAL IMPACT

The Davidson Institute has named seventeen students as 2005 Davidson Fellows. The achievements of the students include a 6-year-old piano virtuoso, a 17-year-old who researched promising brain cancer treatments, and a 16-year-old who developed a revolutionary security and surveillance device. Currently, the encouragement of exceptional intellectual talent is not a priority in this country. "Students such as the Davidson Fellows are the ones who will fuel advances in science, technology, and mathematics; propel society to new heights in literature, music, and philosophy; and drive an economy that will keep America competitive in an international marketplace," said Colleen Harsin, director of services at the Davidson Institute, a nonprofit organization that recognizes, nurtures, and supports profoundly gifted students. Davidson Fellowships, established in 2001 and accompanied by a \$50,000, \$25,000 or \$10,000 scholarship, recognize and reward students under the age of 18 who have made significant achievements in science, technology, mathematics, music, literature, and philosophy. Each of the Fellows' projects must make a positive contribution to society.

At present, nearly half of all gifted students are underachieving and, alarmingly, up to 20 percent of high school dropouts

test in the gifted range. Further, there is no federal mandate for gifted education nor are there cohesive infrastructures in place that help parents recognize -- and take advantage of -- resources to effectively advocate for gifted children. The absence of such practices stifles the development of highly intelligent youth, a group the Davidson Institute asserts is one of the most under-served populations in American schools today, and poses significant concerns regarding the development of future advances and inventions in all fields of study. Located in Reno, NV, the Davidson Institute for Talent Development is a nonprofit operating foundation started in 1999 with a mission to recognize, nurture, and support profoundly intelligent young people and to provide opportunities for them to develop their talents in order to make a positive difference in society. For more information or to download 2006 Davidson Fellow application materials, visit www.davidson-institute.org.

NETDAY ANNOUNCES SPEAK UP FOR STUDENTS AND TEACHERS 2005

NetDay, in partnership with BellSouth Corporation and Dell Inc. has announced its third annual Speak Up Event, a national study of technology in education. Both students and teachers have been invited to contribute to a national understanding of technology use and technology needs in our nation's schools. The focus of this year's Speak Up Event is how technology is supporting the development of 21st century learning environments for today's students, both in-school and out-of-school. Schools can register now to participate in the survey at www.netday.org. The survey will be open from October 21 - November 18, with a goal of collecting input from 250,000 K-12 students and teachers from all 50 states, the District of Columbia, Puerto Rico, and on American military bases worldwide. NetDay has three goals for Speak Up 2005:

- * To collect national data about how students and teachers feel about using the Internet and technology in their professional and personal life.
- * To raise awareness about the importance of student and teacher voices as stakeholders in technology decisions.
- * To promote conversations at the local school level about the role of technology in learning with input from students and teachers.

Participants will be asked about their experiences of using technology for learning, both as students and as teachers. There are questions about the use of computers, the Internet, gaming, instant messaging, cell phones, MP3 players, and more. Since policymakers and national leaders frequently reference NetDay Speak Up data, this year's questions provide an opportunity for students and teachers to address topics of global as well as local importance.

TEACHER SALARIES FAIL TO KEEP UP WITH INFLATION

For the first time since the 1999-2000 school year, the average teacher salary failed to keep up with inflation, according to the American Federation of Teachers'(AFT) latest salary survey. The AFT teacher salary survey found that the average teacher salary in the 2003-04 school year was \$46,597, a 2.2 percent increase from the year before. This falls short of the rate of inflation for 2004, which was 2.7 percent. In addition, many states are attempting to drastically reduce or eliminate pension and healthcare benefits, which were negotiated as part of their compensation.

The decline in teacher compensation comes at a time when growing numbers of teachers are enhancing their credentials by participating in professional development, earning advanced degrees, and achieving national board certification. They also are facing increased professional demands, in terms of licensure and content-knowledge requirements, under federal law. The Survey and Analysis of Teacher Salary Trends is produced annually by the AFT research and information services department, using data compiled from state education agencies, the U.S. Department of Defense, the Bureau of Labor Statistics, and the Bureau of Economic Analysis. The full report, including state-by-state teacher salary information, can be found at www.aft.org/salary.

NEW SCIENCE RESOURCES AT FREE

Several new science resources have been added to the Federal Resources for Educational Excellence(FREE), the website (www.ed.gov/free) that makes teaching resources from federal agencies easier to find. They include:

"Activity-Based Physics" (www.physics.umd.edu/rgroups/ripe/perg/abp) presents "thinking problems" for physics topics: vectors, kinematics, momentum, circular motion, universal gravitation, sound, energy, temperature, and circuits. Problems include designing a roller coaster, riding a bicycle efficiently, tailgating, tuning a radio, electrical safety, and how bats and dolphins "see" with sound(echolocation). (National Science Foundation)"Center for Innovation in Engineering & Science Education"(www.ciese.org/currichome.html) provides inquiry-based activities and collaborative projects in science and math. Topics include real-time weather and climate data, air pollution, remote sensing data, and the Gulf Stream, population growth, and tracking a real airplane in flight to see how vectors and trigonometry are used for navigation. (U.S. Department of Education)

"Putting DNA to Work"(www.koshlandscience.org/exhibitdna) looks at where DNA is found, similarities in the DNA of humans and other species, and how traits are inherited from one generation to the next. Learn how DNA (deoxyribonucleic acid), discovered 50 years ago, is used today to detect diseases, improve crops, and catch criminals. (National Academy of Sciences)

2005 NATION'S REPORT CARD SHOWS SIGNIFICANT PROGRESS FOR U.S. STUDENTS IN READING AND MATHEMATICS

Overall, student achievement in the U.S. continues to rise, according to results from "The 2005 Nation's Report Card," with some of the larger gains being made by the nation's Black, Hispanic, and lower income students. The results are documented in two reports, "The Nation's Report Card Reading 2005" and "The Nation's Report Card Mathematics 2005," which detail achievement on the National Assessment of Educational Progress (NAEP) administered to fourth and eighth graders in selected years, most recently 2000, 2003, and in 2005, earlier this year. Based on national averages, achievement in mathematics rose to its highest level in 15 years, with most of the gains for both students in grades four and eight occurring since 2000. Gains in mathematics for both fourth and eighth graders from both 2000 and 2003 to 2005 were significant.

Mathematics performance improved for the nation, for the majority of states, and for many student groups. Fourth-graders' average score was 3 points higher and eighth-graders' average score was 1 point higher in 2005 than in 2003, on a 0 to 500 point scale. The average scores increased since the first assessment year, 1990, by 25 points at grade 4 and by 16 points at grade 8. Between 1990 and 2005, the percentage of fourth-graders performing at or above Basic increased by 30 percentage points, from 50 to 80 percent, and the percentage performing at or above Proficient increased from 13 to 36 percent. The percentage of eighth-graders performing at or above Basic was 17 percentage points higher in 2005(69 percent) than in 1990(52 percent), and the percentage performing at or above Proficient increased from 15 to 30 percent. Examining the short-term trends between 2003 and 2005, when all 50 states and the District of Columbia and Department of Defense Schools were assessed, shows average scores for students at grade 4 increased in 31 states and both jurisdictions. The percentage of students performing at or above Basic increased in 23 states and the District of Columbia. At grade 8, there were 7 states with higher average scores in 2005 than in 2003. The percentage of students performing at or above Basic increased in 5 states.

In 2005, more than 165,000 fourth-grade students and 159,000 eighth-grade students nationwide participated in the NAEP assessment in reading. About 172,000 fourth grade and 162,000 eighth-grade students nationwide participated in the math assessment. Further details on the math report are available at <http://nces.ed.gov/nationsreportcard/mathematics>.

NASA CLASSROOM MATERIALS ARE JUST A CLICK AWAY

Teachers have always played an important role in the development of the nation's workforce. Today's astronauts, scientists, researchers, and engineers were once students; and the classrooms of today hold the explorers of tomorrow. To support the teachers that make its missions possible, NASA creates a wide variety of materials to bring the excitement of exploration into the classroom. NASA also strives to make those materials as accessible as possible for educators to use.

Education resources can be picked up from NASA Educator Resource Centers, ordered through the mail or downloaded off the Internet and printed. But with space-age technology, it seems like there should be a better way. Well, now there is. Through a new partnership between NASA and OfficeMax, Inc., educators can now order resources that are available on the NASA website at www.nasa.gov/education/materials for pickup at their area OfficeMax Print and Document Services. OfficeMax is offering a savings of 50 percent on all material printed through the partnership. "This partnership will save teachers a great deal of time by letting OfficeMax do the downloading, printing, and color copying for them," explains said Sam Duncan, president and CEO of OfficeMax."

UPCOMING NASSMC STATE STEM EDUCATION SUMMITS

Triangle Coalition member, the National Alliance of State Science and Mathematics Coalitions(NASSMC), has announced that several NASSMC coalitions are holding state STEM education summits this fall and winter. The summits will address the challenge of crisis proportions in mathematics and science education that will impact business and industry for decades and affect the nation domestically and internationally. Most of the scheduled events are funded through the NASSMC State Summit Implementation Program(NSSIP) with support from Triangle Coalition member, NASA, and the U.S. Department of Education. Dates for upcoming events include:

- Iowa: November 10-11, 2005
- Maryland: November 17, 2005
- New Mexico: November 17-19, 2005
- Colorado: February 23, 2006
- Tennessee: Spring, 2006
- Alabama: March 6-7, 2006

The National Alliance of State Science and Mathematics Coalitions(NASSMC) is an umbrella organization for state coalitions of business, education, and public policy leaders united for the improvement of science, technology, engineering, and mathematics(STEM) education for all students. NASSMC(www.nassmc.org) is a network of state coalitions and serves as the national advocate for the member organizations. For more information about the STEM education summits, visit www.nassmc.org/summits.html.

PROJECTIONS OF EDUCATION STATISTICS TO 2014

In early September, the National Center for Education Statistics (NCES) released "Projections of Education Statistics to 2014," the 33rd report in a series begun in 1964. The publication provides projections for key education statistics. It includes statistics on enrollment, graduates, teachers, and expenditures in elementary and secondary schools, and enrollment, earned degrees conferred, and current-fund expenditures of degree-granting institutions. For the Nation, the tables, figures, and text contain data on enrollment, teachers, graduates, and expenditures for the past 14 years and projections to the year 2014. For the 50 States and the District of Columbia, the tables, figures, and text contain data on projections of public elementary and secondary enrollment and public high school graduates to the year 2014. In addition, the report includes a methodology section describing models and assumptions used to develop national and state-level projections.

According to the report, total public and private elementary and secondary school enrollment reached a record 55 million in fall 2002, representing a 19 percent increase since fall 1989. Between 2002 and 2014, a further increase of 4 percent is expected, with increases projected in both public and private schools. In the regions, increases are expected in the West and South, and decreases are expected in the Northeast and Midwest. The report also showed that the pupil/teacher ratio in elementary and secondary schools decreased from 16.7 to 15.9 between 1989 and 2002; and is projected to be 14.6 in 2014. In addition, the report says that the total number of elementary and secondary teachers increased 25 percent between 1989 and 2002 and is projected to increase an additional 13 percent between 2002 and 2014. With regard to high school graduate rates, between 2001-02 and 2013-14, the number of high school graduates is projected to increase nationally by 10 percent. Increases are expected in each region of the country, especially in the West. Both public and private schools are expected to have increases in high school graduates. To view the full report, visit <http://nces.ed.gov/pubs2005/2005074.pdf>.

U.S. CHAMBER AND CORPORATE PARTNERS ASSEMBLE TO EXPLORE IMPROVEMENTS TO NATION'S EDUCATION SYSTEM

In early October, the United States Chamber of Commerce brought together lawmakers, leaders from corporate America, and education professionals to kick off the 2005 Business Education Network(BEN) Summit in Washington, DC, a part of an aggressive new initiative to increase the business community's involvement in education reform. "America's employers have always had a vested interest in the quality of the nation's education system because it is a critical component in the development of a productive workforce," said Suzanne Clark, chief operating officer for the Chamber. "This summit provides a unique opportunity for businesses to pool both their ideas and resources in the interest of making the country's schools a model of excellence for the rest of the world."

The three-day summit, hosted by the Chamber's Center for Corporate Citizenship in association with Booz Allen Hamilton, GlaxoSmithKline, IBM, Office Depot, Standard & Poor's, Oracle, Progress Energy, KPMG, Siemens, and State Farm, was focused on building business and education partnerships to improve competitiveness and scholastic performance. Numerous recent studies have shown American students are lagging behind their counterparts around the world, particularly in math and science proficiency. As a result, employers are increasingly struggling to find qualified workers. The Chamber's own Center for Workforce Preparation estimates that in just five years, as many as 10 million jobs will go unfilled because those in the labor pool will lack basic required skills. In addition to presentations by nationally recognized leaders in business and education reform, the summit included the public unveiling of the BEN website(www.businesseducationnetwork.net), an interactive clearinghouse of information that features education initiatives of top companies, discussion forums, and toolkits for business-education collaboration.

KIDS WITH ACCESS TO A HOME COMPUTER ARE MORE LIKELY TO GRADUATE, DIGITAL DIVIDE STUDY FINDS

Access to a home computer increases the likelihood that children will graduate from high school, but blacks and Latinos are much less likely to have a computer at home than are whites, according to a new study by a researcher at the University of California, Santa Cruz, that also found the digital divide is even more pronounced among children than adults. The findings document the persistence of the digital divide and the impact on educational outcomes, even when factors like income and parental education are taken into consideration, said Robert Fairlie, associate professor of economics at UCSC. His findings appear in the October issue of the *Economics of Education Review*. Although many studies have explored the impact of computers in schools, and the federal government has made computer access in schools a priority, very few studies have assessed the impact on youth of having a computer in the home. Among the key findings of Fairlie's research:

- * Teenagers who have access to home computers are 6 to 8 percentage points more likely to graduate from high school than teens who lack access to a home computer, after controlling for individual, parental, and family characteristics.
- * Only 50.6 percent of blacks and 48.7 percent of Latinos have access to home computers, compared to 74.6 percent of whites.
- * Only 40.5 percent of blacks and 38.1 percent of Latinos have Internet access at home, compared to 67.3 percent of whites.
- * Asians have home computer and Internet access rates that are slightly higher than white rates(77.7 and 70.3 percent, compared to 74.6 and 67.3 percent).

"We are clearly not all a 'nation online'," said Fairlie. "Twenty million children in the United States, or 26 percent of children, have no computer access at home, and race is a key part of who's online and who isn't." His research is funded by the W. T. Grant Foundation and the Community Technology Foundation of California. More information is available at <http://cjtc.ucsc.edu/digitaldivide.html>.

CONNECTING MATHEMATICS TO OTHER SUBJECT AREAS GRANTS FOR GRADES 9-12 TEACHERS

The Mathematics Education Trust(MET) is seeking grant applicant for "Connecting Mathematics to Other Subject Areas Grants for Grades 9-12 Teachers." The purpose of this grant is to create senior high classroom materials or lessons connecting mathematics to other fields. For 2006-2007, grants with a maximum of \$3,000 each will be awarded to National Council of Teachers of Mathematics(NCTM) members currently teaching mathematics in grades 9-12. The focus of these materials should be on showing the connectivity of mathematics to other fields or to the world around us.

Interested teachers are invited to submit a proposal by November 4. Details are available at www.nctm.org/about/met/pappas.htm. Established by Triangle Coalition member, the National Council of Teachers of Mathematics, the Mathematics Education Trust supports the improvement of mathematics teaching and learning through the funding of grants, awards, and other projects by channeling the generosity of contributors into classroom-based efforts that benefit all students. Information about other MET initiatives may be found at www.nctm.org/about/met.

EDUCATIONAL OUTREACH PROGRAMS AT NOBELPRIZE.ORG

Nobelprize.org has a unique way of introducing the Nobel Prizes that goes beyond the mere presentation of facts. The site has a special education section which includes games, experiments, and simulated environments ready to be explored and discovered. The materials are aimed at 14-18 year old students, and focus on topics that are related to Nobel Prize-winning achievements. Topics are organized in to physics, chemistry, medicine, literature, peace, and economics, and include activities related to lasers, liquid crystals, conductive polymers, blood typing, and nerve signaling. There's even a virtual biochemistry lab! Find out more at http://nobelprize.org/games_simulations.html.

AIP AND APS SEEK APPLICANTS FOR CONGRESSIONAL FELLOWSHIPS

Triangle Coalition member, the American Institute of Physics, and the American Physical Society are currently seeking applicants for their 2006-2007 Congressional Science Fellowships. The Fellowships provide an opportunity for qualified scientists to spend a year on Capitol Hill, working in the office of a Member of Congress or for a congressional committee. Recent Fellows have contributed their talents to issues as diverse as energy efficiency, nuclear waste and power safety, digital music copyrights, homeland security, Native American issues, and judicial misconduct. Many former Fellows have gone on to help craft Administration science policy by serving in the White House Office of Science and Technology Policy or in federal S&T departments and agencies. Others return to academia or industry, while some accept permanent staff positions on Capitol Hill.

Fellows do not act as representatives of their sponsoring society; during the Fellowship term, their only responsibility is to the congressional office in which they work. Fellowships are for one year, usually running September through August. Following a two-week orientation in Washington sponsored by the American Association for the Advancement of Science, incoming Congressional Fellows become acquainted with most aspects of their future work environment. Since 1988, AIP has been one of the 20-30 professional societies which sponsor Fellows under a program organized by the American Association for the Advancement of Science. Scientists of all ages and career levels are encouraged to apply. Applicants to the AIP and APS Congressional Fellowships should have a PhD in physics or a closely related field. For more details, visit www.aip.org/gov/cf.html.

JETS RECEIVES UEF GRANT TO UPDATE ITS ENGINEERING PREPAREDNESS ASSESSMENT TOOL

Triangle Coalition member, JETS, the Junior Engineering Technical Society, has announced that it has received a \$55,000 grant from the United Engineering Foundation to fund the fifth revision of its NEAS+, National Engineering Aptitude Search. The NEAS+ is a self-assessment tool that assists high school students in determining their strengths and weaknesses in subject areas that are critical to pursuing engineering or a technology-related degree at a college or university. The NEAS+ is the only engineering self-assessment tool designed to help students identify and master the academic skills they need to succeed in an engineering or technology program. As a self-assessment tool, the NEAS+

helps students see how math and science correlate to engineering and determines any additional skills needed by identifying academic strengths and weaknesses. "The NEAS+ does not indicate 'Yes, you should be,' or 'No, you should not be,' an engineer," said Leann Yoder, JETS Executive Director. "Rather," she said, "it helps the student, parent, school counselor, or teacher understand current readiness and aptitude and make appropriate decisions today for success tomorrow."

NEAS+ is designed to accommodate a variety of educational environments. The assessment may be purchased by individuals (parents/students) or used by school counselors and educators, colleges and universities, or engineering mentors. Colleges and universities can invite students onto their campuses to take the NEAS+ as part of an introduction to engineering day. Students may wish to take the NEAS+ as early as the end of their sophomore year in high school, and again during their junior and senior years. JETS plans to make the fifth edition NEAS+ available by late spring 2006. The NEAS+ was last updated six years ago. JETS is a non-profit education organization, established in 1950 to inform and excite young people about careers in engineering. JETS now serves more than 40,000 students and 10,000 teachers and holds programs on more than 150 college campuses each year. For more information, visit www.jets.org.

\$25,000 MILKEN NATIONAL EDUCATOR AWARDS SURPRISE AMERICA'S TOP TEACHERS

They don't know it yet, but some of America's best educators are about to hit the jackpot! Dubbed the "Oscars of Teaching" by Teacher Magazine, the Milken National Educator Awards were created by Milken Family Foundation Chairman and Co-Founder Lowell Milken in 1985 to celebrate, elevate, and activate the highest caliber professionals in our nation's schools. From October 24 - Nov. 4, up to 100 unsuspecting secondary teachers, principals, and specialists throughout the U.S. will be surprised with the news of their \$25,000 awards which can be used any way they choose. The Milken Educator Awards have become the largest national teacher recognition program in the U.S., recognizing exceptional educators with over \$54 million in cash prizes from the Foundation since the program's inception. In addition, these educators join the Milken Educator Network, a coalition of more than 2,100 top educators who serve as both expert resources and partners to network members and policymakers as they help cultivate and expand innovative programs in their classrooms, schools, and districts.

Research shows that the single most important school-based factor impacting student achievement is having a talented teacher in the classroom. The difference between an effective and ineffective teacher can be a full grade level of student achievement in a single year. The urgency for high-caliber teachers has become a top national priority this year as schools work toward meeting No Child Left Behind's requirement of "highly qualified" teachers in every classroom by this spring. Unlike most teaching awards, the Milken Educator Awards have no formal nomination or application process. Educators are recommended for this prestigious honor without their knowledge by a blue-ribbon panel appointed by each state's department of education. For more information about the Milken Educator Awards visit www.mff.org.

TECHNOLOGY SURVEY REVEALS FUNDING AND INTEGRATION INTO CLASSROOM BIGGEST CHALLENGES

Funding for technology and integrating technology into the classroom rank among the biggest challenges that school districts face in the area of technology, according to a recent survey issued by the National School Boards Association (NSBA) at the organization's annual T+L² Conference here. While 63 percent of the respondents judged that their school district's curriculum was excellent or good in preparing students for the 21st century, 85 percent noted that their new teachers were only somewhat prepared or not prepared in effectively integrating technology into the classroom. "While we know that funding is always a top issue, I believe this survey shows that school districts have a lot of work to do in the area of professional development to help teachers understand how to use technology tools to enhance student learning and performance," said Anne L. Bryant, NSBA executive director. "It also speaks clearly to the need for colleges of education to get their students up to speed on using new teaching technology tools."

NSBA conducted an e-mail survey the week of October 17 of approximately 1,500 registrants of the T+L² Conference, which included technology specialists, teachers, administrators, and school board members. Overwhelmingly, nearly 90 percent of respondents said that the use of technology in the classroom has increased educational opportunities for students, as evidenced by their students being more engaged in learning (92 percent), having a stronger ability to communicate (50 percent), and possessing increased critical thinking skills (49 percent). Respondents reported that less

visible evidence is improved performance on tests(31 percent). Nearly 54 percent of respondents said that their district has students enrolled in online virtual classes. Of those respondents, nearly 47 percent said that district employees were delivering the virtual education courses, while 30 percent reported delivery by a commercial provider. Complete survey results may be found at www.nsba.org/site/doc.asp?CID=1591&DID=37028. The National School Boards Association is a not-for profit federation of state associations of school boards representing 95,000 local school board members throughout the United States. More details are at www.nsba.org.

IEEE-USA PRECOLLEGE EDUCATION TEACHER GRANT PROGRAM

Have you been collaborating with a precollege math and science teacher? Do you know a teacher who needs funding to implement an engineering program or project with his or her students? IEEE-USA's Precollege Education Committee's Precollege Teacher Grant Program awards small grants to teachers to sponsor innovation and creativity in or outside of the classroom. The grants will be available beginning in January 2006 and provide funding up to a maximum of \$1,500 to recognize novel ideas that introduce engineering to students. For more information, visit www.ieeeusa.org/volunteers/committees/pec.

IEEE-USA is an organizational unit of Triangle Coalition member IEEE. It was created in 1973 to advance the careers and public policy interests of almost a quarter-million technology professionals who are U.S. members of the IEEE. IEEE-USA's Precollege Education Committee was established in 1984 to effect improvements in the quality of precollege education and to raise the level of functional and technological literacy of U.S. students by placing emphasis on mathematics. IEEE also hosts a precollege website at www.ieee.org/education/precollege with lesson plans, activities, and other resources.

AGI RELAUNCHES GEOSPECTRUM

Triangle Coalition member, the American Geological Institute (AGI), has announced the relaunch of GeoSpectrum. Formerly a newsletter about the activities of the Institute, GeoSpectrum now has been revamped into a quarterly electronic magazine(e-zine) with a new design, new medium and new purpose -- to cover news and information about the geoscience profession. The goal of GeoSpectrum is to build a network among geoscience professionals, combining numerous backgrounds and varied specialties to work towards shared information and goals. The current issue of the new GeoSpectrum covers a diverse range of topics including a new exhibit at the Museum of the Earth in Ithaca, NY, a new website to encourage school-age girls to pursue careers as scientists, and a new endeavor to provide libraries with current lists of relevant geoscience publications. GeoSpectrum is a free e-zine that can be obtained by going to www.agiweb.org/geospectrum.

The American Geological Institute is a nonprofit federation of 43 scientific and professional associations that represent more than 120,000 geologists, geophysicists, and other earth scientists. Founded in 1948, AGI provides information services to geoscientists, serves as a voice of shared interests in the profession, plays a major role in strengthening geoscience education, and strives to increase public awareness of the vital role the geosciences play in society's use of resources and interaction with the environment. More information about AGI can be found at www.agiweb.org.

NSTA INTERACTIVE WEB SEMINARS

The NSTA Institute continues its ongoing program of free online professional development events with several interactive Web Seminars running through February 2006. NSTA Web Seminars are 90-minute, live professional development experiences that use online-learning technologies to allow distant participants to interact with recognized experts including NSTA Press authors, and scientists, engineers, and education specialists from NASA. Seminars are conveniently scheduled for all US time zones to participate live and interactive, and content and pedagogical experts provide real-time answers to questions. Grant-funded, these online events are offered at no cost to registrants. Because participation is limited, advance registration is strongly advised. Both the National Science Teachers Association(NSTA) and NASA are Triangle Coalition members. For a full schedule of seminar topics, dates and times, and to register, visit

http://institute.nsta.org/web_seminars.asp. Archives of past seminars are also available on the site.

NATIONAL SEMICONDUCTOR LAUNCHES SCIENCE IN ACTION INITIATIVE

National Semiconductor Corporation has announced a \$1 million initiative, Science in Action, to help improve hands-on science instruction in classrooms. Through National's charitable foundation, the Science in Action Initiative will provide professional development for inquiry-based science instruction to thousands of teachers in California, Texas, and Maine -- states where National has a major presence. The initiative also provides classroom grants for hands-on science projects and personal recognition awards for teachers. "Our goal is to bolster science exploration and increase awareness of the importance of science in everyday life. The most effective way to do this, according to all the studies we've seen, is through interactive, hands-on classroom projects," said Joan Scott, National's director of community relations. "We want to instill a love of science so students become engaged and interested in pursuing careers in science, engineering, and technology."

Science in Action's interactive experiments complement traditional textbook learning and teacher instruction. For example, to understand the concepts of static electricity, protons, and electrons, student teams may use pieces of silk and wool as well as plastic sticks to create static-charged "wands" to levitate pieces of tinsel. National's Science in Action Initiative augments National Semiconductor's long-standing effort to encourage hands-on education projects and technology learning. Since 1997, National has provided over \$5.7 million to schools and teachers including grants to purchase science kits, funds for district math and science programs, and cash awards for teachers who use the Internet effectively in their classrooms. More information about the Science in Action Initiative can be found at www.nsawards.com.
