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Date: April 6, 2005
Subject: Educational Activities Committee Report to the
Spring Meeting of the Florida Council of the I.E.E.E.
Southeastcon'05, Ft. Lauderdale, FL-Fri., Apr. 8, '05

2005 PRESIDENTIAL AWARDS FOR EXCELLENCE IN MATHEMATICS AND SCIENCE TEACHING

Nominations are now being accepted for the Presidential Awards for Excellence in Mathematics and Science Teaching(PAEMST). The PAEMST Program was established in 1983 by the White House and is sponsored by Triangle Coalition partner, the National Science Foundation(NSF). The program identifies outstanding mathematics and science teachers, kindergarten through 12th grade, in each state and the four U.S. jurisdictions. These teachers will serve as models for their colleagues and will be leaders in the improvement of science and mathematics education. The 2003 competition began alternating between teachers of grades K-6 and teachers of grades 7-12. Teachers of grades 7-12 mathematics and science are currently eligible for nomination for the 2005 Presidential Awards. Teachers of grades K-6 will be eligible for the 2006 Presidential Awards. In order to apply for the 2005 PAEMST, a teacher must be nominated. Anyone(e.g. principals, teachers, students, and other members of the general public) may nominate a teacher. Self-nominations will not be accepted. Once nominated, a teacher must complete an application to be considered for the award. The application includes a videotaped lesson and written responses to questions about the teacher's instructional practice. Each Presidential Awardee will receive a \$10,000 award from the National Science Foundation and gifts from donors. Each Awardee will also be invited to attend, along with a guest, recognition events in Washington, D.C., in March 2006. The deadline for nominations is April 4, 2005. For more information and an application form, visit www.paemst.org.

NOAA OFFERS EDUCATIONAL RESOURCE ON LIONFISH, OTHER TOOLS

A new educational case study on the lionfish -- a venomous invasive species from the Indian and western Pacific Oceans that is found off the coast of the mid-Atlantic -- is now available from the National Oceanic and Atmospheric Administration's(NOAA) National Ocean Service(NOS). Triangle Coalition partner, NOAA, is an agency of the U.S. Department of Commerce. The new product, called a Discovery Story, is available online at <http://oceanservice.noaa.gov/education>. It includes detailed educational information on the biology of the lionfish, its invasion of U.S. coastal waters, the role of the aquarium trade in the invasion, and whether the invasion can be curbed. Also available are a student and teacher guide, and an interactive quiz. "One of NOAA's priorities is to enhance the public's understanding of environmental processes, including the effect of invasive species on our ecosystems," said retired Navy Vice Admiral Conrad Lautenbacher, PhD., under secretary of commerce for oceans and atmosphere and NOAA administrator.

This Discovery Story on lionfish is the first of several educational case studies NOAA is

producing to improve the understanding of ocean science and the changing Earth. The new Discovery Story is one of three sections of the NOS Discovery Center, a comprehensive educational offering on the NOS website. In addition to the Discovery Story, the NOS Discovery Center includes a new Discovery Classroom and a collection of Discovery Kits. The Discovery classroom is a collection of 15 inquiry-based, formal lesson plans based on NOAA science and developed for use at the high school level. The lesson plans can be easily adapted for use by middle school and undergraduate students as well. All of the lessons emphasize hands-on activities using online data resources, and all are correlated with National Science Education Standards and the Benchmarks for Science Literacy, which were developed by the American Association for the Advancement of Science. For more information about NOAA, visit www.noaa.gov. The National Ocean Service Education Discovery Center is found at <http://oceanservice.noaa.gov/education>.

CLAY MATHEMATICS INSTITUTE OFFERS MILLIONS TO SOLVE MATH PROBLEMS

In order to celebrate mathematics in the new millennium, The Clay Mathematics Institute of Cambridge, Massachusetts(CMI) has named seven Prize Problems. The Scientific Advisory Board of CMI selected these problems, focusing on important classic questions that have resisted solution over the years. The Board of Directors of CMI have designated a \$7 million prize fund for the solution to these problems, with \$1 million allocated to each. One of the challenges is the "Navier-Stokes Equation," which explores the ability to explain and predict breeze and turbulence exhibited in waves that follow a boat and air currents that follow a flying jet. Although these equations were written down in the 19th Century, understanding of them remains minimal. The challenge is to make substantial progress toward a mathematical theory which will unlock the secrets hidden in the Navier-Stokes equations.

CMI was founded in 1998, and supports individual research mathematicians, projects to increase and disseminate mathematical knowledge, programs to encourage talented young people to pursue a mathematical career, and awards which recognize extraordinary achievements in mathematics. For more information, visit www.claymath.org/millennium.

EDUCATION TRUST RELEASES COLLEGE RESULTS ONLINE

At a time when high school seniors around the country are busy applying to college, the Education Trust has released an interactive web tool and two reports that challenge the conventional wisdom about college-graduation rates. The online tool, College Results Online (www.collegeresults.org), allows users to select any four-year public or private nonprofit college or university in the country and see how its graduation rates compare with similar institutions that serve similar student populations. It also allows users to examine graduation rates broken down by students' race, ethnicity, and gender. This information, which only recently became available to the public, reveals significant gaps in graduation rates between white students and students of color at most colleges and universities. The Education Trust's analysis makes it clear that far too many students start college and don't finish. Every year, about a million first-time, full-time freshmen head into four-year colleges seeking degrees. Fewer than four in 10 will meet

that goal within four years, and barely six in 10 will make it in six years.

But College Results Online also offers good news. Throughout the country, there are colleges and universities that have steadily increased overall graduation rates. The Education Trust used the new online tool to identify some of these schools, and to interview administrators to learn more about what distinguishes them. That work is the focus of two new reports. "One Step from the Finish Line: Higher College-Graduation Rates are Within Our Reach," explains College Results Online, guides readers on how to use it and highlights the strategies of some successful colleges and universities. The second report, "Choosing to Improve: Voices from Colleges and Universities with Better Graduation Rates," offers a more detailed examination of the practices of these schools and outlines a growing body of research that tells us that what schools do matters a great deal -- from their efforts to keep new students engaged to their use of data to uncover obstacles to completion. To download the reports and more information about the Education Trust, visit www.edtrust.org.

NEW EDUCATION DEPARTMENT WEBSITE HELPS COMBAT PROBLEM OF DIPLOMA MILLS

Students and employers can now access a master list of accredited colleges, universities, and career and trade schools -- thus helping combat the growing problem of diploma mills -- thanks to a new U.S. Department of Education Accreditation website (www.ope.ed.gov/accreditation). Diploma mills operate outside the purview of the accreditation process and the U.S. Department of Education's oversight of federal student aid programs. Consequently, they threaten to devalue the genuine education credentials of millions of Americans. It should be noted that some institutions have chosen not to participate in the federal student aid program and therefore do not have to be approved by an accrediting agency recognized by the Department. While these institutions do not appear on the Department's list, they may be legitimate schools. Consumers and employers are encouraged to use the new website as an initial source of information and to investigate further whenever an institution does not appear on the list.

INTEL SCIENCE TALENT SEARCH FINALISTS EXEMPLIFY BEST IN SCIENCE EDUCATION

Intel Corporation has identified the 40 finalists who will vie for more than \$530,000 in scholarships in the Intel Science Talent Search (Intel STS), America's oldest pre-college science competition for high school seniors. The Intel STS represents six decades of excellence. Alumni of this program hold more than 100 of the world's most coveted science and math honors, including six Nobel Prizes, three National Medals of Science, 10 MacArthur Foundation Fellowships, and two Fields Medals. This year's annual STS alumni distinguished speaker is a 2004 recipient of the Nobel Prize in physics, Dr. Frank Wilczek. "The Science Talent Search opened up a whole new world for me," Wilczek said. "It was there I first realized working as a scientist could be a reality for me."

The finalists will meet in Washington, DC, in mid-March to attend the Science Talent Institute,

interact with top scientists, and participate in rigorous judging sessions. Selected from among 300 semifinalists, the finalists range in age from 16 to 18. They hail from 15 states, with New York having the most finalists(13) followed by California, Florida, Illinois, and Maryland with four each. Research projects include studies on engineering new tissue to heal wounds, improving cancer treatments, developing new energy conversion technology, and using ancient textiles to date archaeological sites. In addition to a pursuit of scientific excellence, 80 percent of this year's finalists play a musical instrument, 50 percent volunteer in their community, 47 percent are fluent in a language other than English and 25 percent have perfect SAT scores. This year's diverse group of finalists includes an award-winning poet, a competitive ballroom dancer, a table tennis gold medalist in the U.S. Junior Olympics, and a student who founded a nonprofit focusing on social justice. The top prize in the Intel STS is a \$100,000 college scholarship. Triangle Coalition member, Science Service, a nonprofit organization whose mission is to advance the understanding and appreciation of science among people of all ages through publications and educational programs, has administered the program since its inception in 1942. For more information about the Intel Science Talent Search, visit www.sciserv.org/sts. For more information about Science Service, visit www.sciserv.org.

SPELLINGS TO LISTEN, BUT NOT RETREAT, ON NCLB
(Source: Education Week, February 4, 2005)

U.S. Secretary of Education Margaret Spellings said today that there "is room to maneuver" through the administrative process in carrying out the No Child Left Behind Act. But, she cautioned, "I don't want people to think that No Child Left Behind is up for grabs. It's not." Ms. Spellings, who took office Jan. 20, emphasized in a Feb. 4 interview with Education Week that there are some "bright-line pieces of this statute that are nonnegotiable." One of those, she said, is annual testing in grades 3-8, which she called "integral to the implementation of everything." President Bush's administration has given a lot of time and resources to help states put the tests in place, she said, "so don't be coming down here and telling me you haven't done it."

Despite many calls to amend the law in Congress, Ms. Spellings also expressed no desire to go that route. "I hope that the Department of Education will be the first place that people seek a solution," she said. But she maintained that refinements and modifications could be done through administrative actions "without running to the Congress and asking for a statutory change." At the same time, the secretary made it clear that states shouldn't expect waivers from the law under her watch. She argued that before the Bush administration took office in 2001, "it was 'waiver city,' and I think people got, maybe, a little complacent."

CONFERENCE CALENDAR

The Triangle Coalition maintains an online Conference Calendar at www.trianglecoalition.org/calendar.htm with links to many educational events, including the following:

February

- 17-21 - American Association for the Advancement of Science Annual Meeting, Washington, DC
- 24-26 - The Research Council on Mathematics Learning(RCML) Annual Meeting, Little Rock, AR

March

- 11-15 - 2005 Mechanical Engineering Education Conference, Coronado, CA
- 13-17 - American Chemical Society 229th Annual Meeting, San Diego, CA
- 17-18 - 2005 Triangle Coalition Legislative Update Conference, Washington, DC
- 17-20 - T3 International Conference, Washington, DC
- 28-30 - Council of State Science Supervisors Annual Conference, Dallas, TX
- 30 - National Science Education Leadership Association Mini-Conference, Dallas, TX
- 31-4/3- 2005 National Science Teachers Association National Convention, Dallas, TX
- 31-4/3- National Middle Level Science Teachers' Association Annual Conference, March 31-April 3, 2005, Dallas TX

April

- 1-4 - Association of State Supervisors of Mathematics, Anaheim, CA
- 2-4 - Association for Supervision and Curriculum Development 2005 Annual Conference & Exhibit, Orlando, FL
- 2-6 - American Society for Biochemistry and Molecular Biology(ASBMB) Annual Meeting, San Diego, CA
- 3-5 - 67th Annual ITEA Conference and Exhibition, Kansas City, MO
- 4-6 - National Council of Supervisors of Mathematics Annual Meeting, Anaheim, CA
- 6-9 - National Council of Teachers of Mathematics Annual Meeting and Exposition, Anaheim, CA
- 10-17 - Excellence in Science, Technology, Engineering and Mathematics Education(ESTEME) Week

TCEB LINKS

The following links provide additional information about articles in this TCEB:

Presidential Awards for Excellence in Mathematics and Science Teaching - www.paemst.org

National Oceanic and Atmospheric Administration - www.noaa.gov

National Ocean Service Education Discovery Center - <http://oceanservice.noaa.gov/education>

Clay Mathematics Institute Mathematics Problems - www.claymath.org/millennium

Education Trust's College Results Online - www.collegeresults.org

Education Trust - www.edtrust.org

U.S. Department of Education Accreditation Website - www.ope.ed.gov/accreditation

Intel Science Talent Search - www.sciserv.org/sts

Science Service - www.sciserv.org

Triangle Coalition Conference Calendar - www.trianglecoalition.org/calendar.htm

STATE LEGISLATORS OFFER FORMULA FOR IMPROVING NO CHILD LEFT BEHIND ACT

Granting states flexibility to meet the goals of the No Child Left Behind Act will result in stronger democracy and strengthen the nation's economic future, according to a bipartisan review of the law. A special task force of the National Conference of State Legislatures (NCSL) has released the results of a 10-month study that identified specific areas of the act that need to be changed if states are to guarantee that young people will learn at their full potential. The "Task Force on No Child Left Behind Final Report" lists 43 specific recommendations on ways the law can be revised to improve the quality of education for all students and close the gaps in achievement that exist in schools today. Key recommendations of the report include:

Remove obstacles that stifle state innovations and undermine state programs that were proving to work before passage of the act. Federal waivers should be granted and publicized for innovative programs.

Fully fund the act and provide states the financial flexibility to meet its goals. The federal government funds less than 8 percent of the nation's education program, but the No Child Left Behind Act affects nearly all classroom activity.

Remove the one-size-fits-all method that measures student performance and encourage more sophisticated and accurate systems that gauge the growth of individual students and not just groups of students.

Recognize that some schools face special challenges, including adequately teaching students with disabilities and English language learners. The law also needs to recognize the differences among rural, suburban, and urban schools.

NCSL is a bipartisan organization that serves the legislators and staffs of the states, commonwealths, and territories. Its goal is to provide research, technical assistance, and opportunities for policymakers to exchange ideas on the most pressing state issues. To download an electronic copy of the "Task Force on No Child Left Behind Final Report," visit www.ncsl.org/programs/educ/nclb_report.htm.

MEET TRIANGLE COALITION AND FIND OUT ABOUT ALBERT EINSTEIN
DISTINGUISHED FELLOWSHIP PROGRAM AT UPCOMING CONFERENCES

The Triangle Coalition will be exhibiting at the following educational conferences. Come by and learn more about the Albert Einstein Distinguished Fellowship Program for K-12 science, mathematics and technology teachers. Conferences provide a great opportunity for us to get to know our members better and for Triangle members to get together and share ideas, goals, and program ideas. Please stop by the booth and meet Triangle staff and other members!

T3(Teachers Teaching with Technology) conference, March 17-20,
Washington, DC - Booth #109

2005 National Science Teachers Association National Convention, March 31-April 3,
Dallas, TX - Booth #1427

National Council of Teachers of Mathematics Annual Meeting, April 6-9,
Anaheim, CA - Booth #1819

COMIC BOOK ENGINEERING: A NEW WAY TO TELL THE STORIES OF
TECHNOLOGY

ASME has launched a new comic strip series to introduce and educate young readers about the history and contributions of mechanical engineering. Each month throughout 2005, the web-based "funnies" will feature entertaining short stories about amazing engineering accomplishments during the past 125 years since ASME was founded in 1880. "Heroes of Engineering" is available at <http://anniversary.asme.org>. "The goal of the comics is to create a fun online medium that could teach young people about what engineers do and how, through their creative genius, they have made our world a better place to live," said Captain Vincent Wilczynski, Ph.D., vice president of ASME's Board on Pre-College Education. The comic series will cover 12 decades of interesting and perhaps the not-so-well-known significant accomplishments in mechanical engineering. For example February's issue profiles Michael Owens' patent of the automatic bottle making machine; the March issue highlights the development of the Wright Brothers wind tunnel; and April's issue profiles Garrett Morgan, an African American inventor of the "inhalator," better know as the gas mask.

Founded as the American Society of Mechanical Engineers, today's ASME is a 120,000-member professional organization focused on technical, educational and research issues of the worldwide engineering and technology community. In 2005, ASME celebrates 125 years of continued service and leadership - setting the standard - for professional engineering societies worldwide. For more information about Triangle Coalition member, ASME, visit www.asme.org.

LEADERS CALL FOR EQUITY, RIGOR IN THE AMERICAN HIGH SCHOOL

As the National Education Summit on High Schools came to a close February 27, the National

Governors Association (NGA) and six partner foundations announced a \$42 million initiative to ensure that the summit's resounding call to overhaul the nation's high school system translates into action. In a spirit of broad bi-partisan support, 45 governors joined educators and business leaders for the two-day summit to address the nation's alarming dropout rates and the fact that most students leave high school without the skills necessary for success in college or the workplace. The six foundations joining forces to support state efforts are the Bill & Melinda Gates Foundation, the Michael & Susan Dell Foundation, the Carnegie Corporation of New York, The Wallace Foundation, The Prudential Foundation, and the State Farm Foundation.

Low high school graduation rates and growing awareness of the convergence of skills necessary for college and the workplace have helped build national momentum for high school reform. Nearly one-third of all high school students fail to graduate. Of those who do graduate, close to half will not have the knowledge or skills they need for success in college, according to a Manhattan Institute report released earlier this month. Only about half of African-American and Hispanic youth make it to graduation day and fewer than 20 percent are ready for college-level academics. The six foundations committed \$23 million to help states create and implement policy strategies designed to improve graduation and college-readiness rates. A portion of the funding requires a one-to-one match from state grant recipients, bringing the total to \$42 million. Through a competitive grant process open to all states, the NGA Center for Best Practices will manage and award the grants. The summit's action agenda outlined key state-level reforms aimed at preparing students for college and the workplace. They include aligning high school graduation requirements with college-readiness standards; helping low-performing schools and students; increasing the number of high-quality teachers and principals; collecting data to better measure progress; strengthening accountability for high schools and colleges; and integrating K-12 and postsecondary education. For more information, visit www.2005summit.org.

APRIL IS MATHEMATICS AWARENESS MONTH

The theme for this year's Mathematics Awareness Month is "Mathematics and the Cosmos." As the main statement of the theme says, "mathematics is at the core of our attempts to understand the cosmos at every level: Riemannian geometry and topology furnish models of the universe, numerical simulations help us to understand large-scale dynamics, celestial mechanics provides a key to comprehending the solar system, and a wide variety of mathematical tools are needed for actual exploration of the space around us." Many institutions across the nation will organize special events during April with the goal of highlighting the value, usefulness, and beauty of mathematics.

Mathematics Awareness Month happens in April of each year under the auspices of the Joint Policy Board for Mathematics(JPBM), which is composed of Triangle Coalition member the Mathematical Association of America(MAA), along with the American Mathematical Society, the Society for Industrial and Applied Mathematics, and the American Statistical Association. More information on Mathematics Awareness Month, theme essays(on the shape of space, celestial mechanics, and the design of space missions) and many other resources can be found at www.mathaware.org. For more information about the MAA, visit www.maa.org.

E-LEARNING FOR TEACHERS

Teacher-to-Teacher Summer Workshops were recently offered in various locations all over the US, and presented research-based practices that have been instrumental in closing the achievement gap. These workshops were taped and converted to the video-streaming format. Fifteen of these Teacher-to-Teacher sessions are currently available online through the US Department of Education. Among the courses available are: "Using Technology to Enhance Algebra Instruction"(Grades 7-12), "Patterns to Symbols: Algebra"(Grades 3-6), and "Developing Computational Fluency in Addition & Subtraction"(Grades K-4). The US Department of Education is currently seeking state approval of these professional development sessions, which focus on improving teachers' content knowledge and teaching skills in reading, math, and science. So far, Delaware, Florida, New Jersey, Pennsylvania, and Texas have agreed to accept these sessions as credit toward teacher re-licensure. Arkansas, California, Colorado, Vermont, and Wisconsin teachers need approval at the local level to receive credit. Participation in the Teacher-to-Teacher online video courses is free. For more details, visit www.paec.org/teacher2teacher.

FEDERAL EFFORTS LACKING, RURAL ADVOCATES SAY

(Source: Education Week, February 2, 2005)

Where in the world is the U.S. Department of Education's rural education task force? Announced by then-Secretary of Education Rod Paige with some fanfare in 2003, the task force has accomplished little in the eyes of rural education policy advocates. In fact, it's hard to find evidence that the panel exists, though the department said that it does, and that it meets monthly. "The membership of that task force is sort of a mystery to a lot of people," said Bob Mooneyham, the executive director of the National Rural Education Association, based in Norman, OK. Mooneyham wants federal officials to devote more attention to the concerns of rural schools.

Secretary Paige announced the creation of the rural education task force in the spring of 2003, and soon after named Tom Luna, a former school board member in Nampa, ID, who had lost his bid to become Idaho's elected state schools chief, to serve as the panel's executive director. Rural education advocates said that Mr. Luna makes regular appearances at meetings of rural education groups in Washington, but that he has accomplished little toward meaningful dialogue on education policy between rural educators and the Bush administration.

(Editor's Note: For more information about rural education initiatives, visit the rural education website of Triangle Coalition member, Mid-continent Research for Education and Learning(McREL) at www.mcrel.org/programs/rural/.)

SUPERINTENDENTS HONORED FOR THEIR VISION AND LEADERSHIP IN TECHNOLOGY

Eighteen public school superintendents who demonstrated vision and leadership in using technology received the 2005 President's Technology Award at the American Association of School Administrators' Annual Conference and Exposition in San Antonio, TX in February. "This award targets those school superintendents who have successfully integrated technology in all aspects of school life," said AASA Executive Director Paul Houston. "It is also a testament to how far technology has evolved in terms of providing real-world, practical applications that improve learning for all students and teaching for all educators." A nationwide panel of school leaders selected the winners based on seven criteria: instructional impact, staff development to support technology initiatives, innovative use of technology, evaluation mechanisms to assure continuous improvement, promotion of long-term sustainability, technology leadership beyond the district, and community recognition. The awards program is sponsored by AASA with support from Apple Computer Inc.

AASA, founded in 1865, is the professional organization for more than 13,000 educational leaders across America and in many other countries. AASA's mission is to support and develop effective school system leaders who are dedicated to the highest quality public education for all children. AASA's major focus is standing up for public education. For more information on AASA and on the 2005 President's Technology Awards, visit www.aasa.org.

DOMINION OFFERS \$200,000 IN MATH/SCIENCE EDUCATIONAL GRANTS

Dominion, one of the nation's largest energy producers, is for the 10th consecutive year making available grants to K-12 schools in its service areas in five states to encourage students to excel in math and science. The Dominion Educational Grants partnership program provides grants ranging from \$500 to \$5,000 to enable schools to develop and strengthen math and science skills for students in grades K-12. The Dominion Foundation provides a total of \$200,000 annually to be awarded to schools that submit successful grant proposals. The grants augment the regular math and science curriculum in the various school systems, and encourage innovation and creativity for students, teachers, and parents. Schools and educational institutions that are in Dominion's service areas in Ohio, North Carolina, Pennsylvania, Virginia, and West Virginia are invited to apply. Applications must be submitted through www.dom.com (keyword: grants) by May 2.

TCEB LINKS

The following links provide additional information about articles in this TCEB:

"Task Force on No Child Left Behind Final Report" - www.ncsl.org/programs/educ/nclb_report.htm

ASME "Heroes of Engineering" - <http://anniversary.asme.org>

ASME - www.asme.org

National Education Summit on High Schools - www.2005summit.org

Mathematics Awareness Month - www.mathaware.org

Mathematical Association of America - www.maa.org

Teacher-to-Teacher Summer Workshops - www.paec.org/teacher2teacher

Mid-continent Research for Education and Learning(McREL): Rural Education
www.mcrel.org/programs/rural/

AASA/2005 President's Technology Awards - www.aasa.org

Dominion Educational Grants - www.dom.com/about/education/grants/grants.jsp

TRIANGLE COALITION HOSTS ANNUAL LEGISLATIVE CONFERENCE

On March 17 and 18, Triangle Coalition hosted its annual Legislative Update Conference in Washington, DC. With the recent release of the Administration's budget request, the topic was timely, and the conference was insightful and helpful to attendees as they met on Capitol Hill with their Congressional Delegations. Speakers at this year's conference included Congressman Vern Ehlers(R-MI) who, in his opening keynote, addressed the current need for increased funding in STEM education and a scientifically literate workforce as we move into an increasingly global economy. The STEM Education agenda for the 109th Congress was thoroughly discussed by a panel consisting of staff members from three Congressional offices as well as the House Science Committee. In breakout sessions, Janice Earle(NSF) and Pat Ross (ED) summarized education issues at the National Science Foundation and the U.S. Department of Education and Rolf Blank(Council of Chief State School Officers) and Gerry Wheeler (National Science Teachers Association) reported the latest information on assessment. Brian Fitzgerald, the President of the Business Higher Education Forum, spoke about their recently released report on the crisis in mathematics and science education. The full report, "A Commitment to America's Future: Responding to the Crisis in Mathematics & Science Education," is available at the Forum's website(www.bhef.com). The afternoon concluded with Dr. Susan Sclafani, Assistant Secretary of Education for Adult and Vocational Education. Dr. Sclafani spoke to the global education issues tying America's future to a strong STEM Education commitment.

On Friday, March 18th, attendees visited their Congressional offices and shared their concerns for STEM education. The conference gave participants the tools and confidence to make the meetings productive and meaningful, and many people indicated that the Congressional Representatives and their staffs were appreciative of their time and the information they were able to share. Look for more details about this year's conference on the Triangle Coalition website later this week at www.trianglecoalition.org/conf.htm.

NCTM'S DEMANA-WAITS SCHOLARSHIP WILL AWARD \$10,000 TO FUTURE MATHEMATICS TEACHERS

The Mathematics Education Trust(MET) of Triangle Coalition member, the National Council of Teachers of Mathematics(NCTM), has announced the 2005-2006 Texas Instruments Demana-Waits Scholarship. Texas Instruments is also a member of the Triangle Coalition. MET will award up to two scholarships with a maximum value of \$10,000 each. Recipients of the Demana-Waits Scholarship must be student members of NCTM. They must be currently completing their sophomore year of college, be scheduled for full-time study at a 4- or 5-year college or university in the next academic year, and be pursuing a career goal of becoming a certified teacher of secondary school mathematics. They can apply the scholarship to tuition, books, and other expenses directly related to their academic program of study. The scholarship will be awarded in two phases, with \$5,000 for the recipient's third year of full-time study and \$5,000 for the recipient's fourth year of full-time study.

These scholarships are named in recognition of the outstanding contributions to mathematics education by professors Frank Demana and Bert K. Waits of the Ohio State University. NCTM Executive Director, MET Board Member, and Triangle Coalition Board Member Jim Rubillo says, "Through the generosity of Frank Demana and Bert Waits, prospective secondary mathematics teachers will have the opportunity to receive financial support for their professional growth and leadership development. More important, their own growth will benefit and ultimately improve mathematics education for all students." For nearly 28 years, the Mathematics Education Trust(MET) has been supporting the improvement of mathematics teaching and learning through the funding of grants, awards, and other projects by the generosity of contributors to classroom-based efforts that benefit all students. MET provides funds to support classroom teachers in improving classroom practices and increasing teachers' mathematical knowledge. The Texas Instruments Demana-Waits Scholarship application packet must be postmarked by May 13, 2005. For more information, visit www.nctm.org/about/met/demana-waits.htm.

INTEL SCIENCE TALENT SEARCH WINNERS AWARDED TOTAL OF \$530,000 IN PRIZES

Intel Corporation has awarded a \$100,000 scholarship to David Vigliarolo Bauer of Bronx, NY. He is the first-place winner of the 2005 Intel Science Talent Search(Intel STS), America's oldest high school science competition. Bauer, 17, of Hunter College High School, designed a new method using "quantum dots"(florescent nanocrystals) to detect toxic agents that affect the nervous system. The second-place prize, a \$75,000 scholarship, went to Timothy Frank Credo, 17, of the Illinois Mathematics and Science Academy in Highland Park, IL. Credo developed a more precise method to measure very brief intervals of time -- picoseconds(trillionths of seconds) -- over which charged secondary particles of light travel.

This year, more than 100 scientists from a variety of disciplines reviewed 1,600 entries from 47 states, Puerto Rico, and the District of Columbia. The students ranged in age from 15 to 18 with females representing half of the entries. Through the Intel STS program, Intel has contributed

\$1.8 million to support science and math at US high schools. Triangle Coalition member, Science Service, has administered the program since its inception in 1942. Science Service is a nonprofit organization with a mission to advance the understanding and appreciation of science among people of all ages through publications and educational programs. For more information about Science Service, visit www.sciserv.org. Intel's sponsorship of the STS is part of the Intel Innovation in Education initiative, a sustained commitment -- in collaboration with educators and government leaders worldwide -- to help today's students develop the higher-level thinking skills they need to participate and succeed in a knowledge-based economy. For more information, visit www.intel.com/education/sts.

NEW NSTA SERVICE WILL ASSESS SCIENCE INSTRUCTION PROGRAMS

(Source: NSTA Reports, March 11, 2005)

The National Science Teachers Association(NSTA) is preparing to launch a new professional development initiative that will help teachers and administrators evaluate -- then strengthen -- the science instruction they provide to their students. The NSTA Science Program Improvement Review (SPIR) is a standards-based strategy that culminates in a comprehensive written assessment of a school's science instructional program, as well as recommendations for improvement as needed. NSTA's SPIR program has been designed to assess a school's complete science instructional program across all grade levels. NSTA-trained SPIR facilitators will work with the school's teachers and administrators to align science instruction more closely to the standards for teaching, professional development, assessment, content, and program. The first SPIR facilitator teams are expected to be in the field this fall, after completing the intern phase of their training and certification program.

Last summer, more than a dozen science educators attended a special session to train to become facilitators for the SPIR program. Trainees learned how to conduct a site visit and analyze and review data derived from curricular plans, student achievement, classroom observation, teacher observation, tests, classroom resources, instructional materials, classroom assessments, inservice professional development materials, the principal's feedback, teacher/principal conference impact information, and summative teacher evaluation at the district level. They also learned how to structure and write confidential reports that contain recommendations for improving the school's science program. Although the SPIR is individualized and confidential for each school, school districts may receive a district summary identifying "district-wide" issues. Schools are not identified in the data provided to the district office; however, the recommendations establish the basis for district-wide reform.

(Editor's Note: For more information about Triangle Coalition member, NSTA, visit www.nsta.org. For more details about SPIR, visit http://science.nsta.org/nstaexpress/nstaexpress_2005_02_22_spir.htm.)

NASBE SURVEY SHOWS FUNDING AND NCLB ARE TOP NATIONAL ISSUES FOR STATE BOARDS OF EDUCATION

Providing greater flexibility within the No Child Left Behind Act should be Congress' highest priority this year, according to a poll of state board of education members. The survey was conducted by the National Association of State Boards of Education(NASBE), which represents America's state and territorial boards of education. Sixty five percent of NASBE members believe that Congress should modify the law. Members ranked increased funding for K-12 programs as the second highest priority for Congress in 2005. Reauthorizing the Perkins vocational education program was the third-ranked priority.

Expanding on the views of the No Child Left Behind Act, state board members overwhelmingly identified the national attention drawn toward closing the achievement gap(57%) and the disaggregation of data(56%) as the most positive effects of the federal reform law. Seventy six percent of respondents said their biggest concern about NCLB was the alignment of federal requirements with state policies. Closely trailing behind, 73% of state board members think the capacity of state departments of education to provide assistance to low-performing schools is a major concern. With regard to federal funding, 63% of state board members are worried or disappointed that sufficient resources are not earmarked for K-12 programs, particularly Title I and special education. On the topic of high school reform, 37% of members listed a stronger core curriculum, including requiring students to take four years of English and three years each of math and science, as the area most in need of action. Twenty three percent said addressing graduation/dropout rates is most important. For more information about NASBE, visit www.nasbe.org.

MIDDLE SCHOOL STUDENTS GO ON NASA ADVENTURE

In mid-March, middle school students from across the country headed to the east coast for a NASA adventure in exploration using balloons at the edge of space. The students from NASA Explorer Schools(NES) participated in "Balloon Adventure Week" at NASA's Goddard Space Flight Center Wallops Flight Facility in Wallops Island, VA. Two students and a teacher from five NES schools in Tennessee, Louisiana, Wisconsin, Washington, and Indiana were selected to travel to Virginia to prepare their experiment samples for flight on a future high altitude NASA scientific balloon mission. The schools represent 5 of the 100 NASA Explorer Schools in the program at the present time. The schools partner with NASA over a three-year period to increase student interest, performance, and participation in science, mathematics, and technology fields of study and careers. The students and teachers will experience hands-on participation in an education flight project working with engineers, conducting integration work, and participating in launch operations.

"Students will have opportunities to work with the NASA team to participate in experiments that they have designed to answer questions about high altitude conditions. During the workshop experience, they also will learn about potential careers with NASA," said Peggy Steffen, NASA Explorer Schools Program Manager. The students and teachers will work directly with NASA launch experts to prepare their Space Experiment Module for a future science balloon flight and will also participate in a smaller weather balloon mission from the launch control center at Wallops. The student experiments will focus on the effects of solar radiation on seed growth,

paint, and other insulation materials as shielding from solar radiation, and the effects of altitude on cell phones. For information about the NASA Explorer Schools Program, visit <http://explorerschools.nasa.gov>.

MEDIA IN THE LIVES OF 8-18 YEAR-OLDS

Children and teens are spending an increasing amount of time using “new media” like computers, the Internet, and video games without cutting back on the time they spend with "old" media like TV, print, and music, according to a new study released by the Kaiser Family Foundation. Instead, because of the amount of time they spend using more than one medium at a time(for example, going online while watching TV), they’re managing to pack increasing amounts of media content into the same amount of time each day. The study, "Generation M: Media in the Lives of 8-18 Year-olds," examined media use among a nationally representative sample of more than 2,000 3rd-12th graders who completed detailed questionnaires, including nearly 700 self-selected participants who also maintained seven-day media diaries.

The study found that the total amount of media content young people are exposed to each day has increased by more than an hour over the past five years(from 7:29 to 8:33), with most of the increase coming from video games(up from 0:26 to 0:49) and computers(up from 0:27 to 1:02, excluding school-work). The study also showed that between a quarter to a third of kids say they are using another media "most of the time" while watching TV (24%), reading(28%), listening to music(33%), or using a computer(33%). Furthermore, children’s bedrooms have increasingly become multi-media centers. Two-thirds of all 8-18 year-olds have a TV in their room(68%), and half(49%) have a video game player there. Increasing numbers have a VCR or DVD player (up from 36% to 54%), cable or satellite TV(from 29% to 37%), computer(from 21% to 31%), and internet access(from 10% to 20%) in their bedroom. The executive summary of the study (#7250), and the full report on which it is based(#7251), are available on the Kaiser Family Foundation’s website at www.kff.org. The Kaiser Family Foundation is a non-profit, private operating foundation dedicated to providing information and analysis on health care issues to policymakers, the media, the health care community, and the general public.

TCEB LINKS

The following links provide additional information about articles in this TCEB:

Triangle Coalition 2005 Legislative Conference - www.trianglecoalition.org/conf.htm

Business-Higher Education Forum Report: "A Commitment to America’s Future: Responding to the Crisis in Mathematics & Science Education" - www.bhef.com/MathEduReport-press.pdf

2005-2006 Texas Instruments Demana-Waits Scholarship - www.nctm.org/about/met/demana-waits.htm

National Council of Teachers of Mathematics - www.nctm.org

Texas Instruments Education Initiatives - <http://education.ti.com>

2005 Intel Science Talent Search - www.intel.com/education/sts

Science Service - www.sciserv.org

NSTA Science Program Improvement Review (SPIR) -
http://science.nsta.org/nstaexpress/nstaexpress_2005_02_22_spir.htm

NSTA - www.nsta.org

National Association of State Boards of Education (NASBE) - www.nasbe.org

NASA Explorer Schools Program - <http://explorerschools.nasa.gov>

Kaiser Family Foundation Report: "Generation M: Media in the Lives of 8-18 Year-olds" -
www.kff.org/entmedia/7251.cfm

TCEB LEGISLATIVE PROFILE: NATIONAL SCIENCE FOUNDATION MATHEMATICS AND SCIENCE PARTNERSHIP PROGRAM FACT SHEET

The Math and Science Partnership (MSP) program at the National Science Foundation(NSF) supports innovative partnership-driven projects developed to improve K-12 student achievement in math and science. The program is designed to focus on large-scale models that can be widely replicated by state math and science partnership programs through the Department of Education's Math and Science Partnership program. The three goals of the program are: ensuring that all students have access to, are prepared for, and are encouraged to participate and succeed in challenging and advanced mathematics and science courses; enhancing the quality, quantity, and diversity of the K-12 mathematics and science teacher workforce; and developing evidence-based outcomes that contribute to our understanding of how students effectively learn mathematics and science. The Director of the NSF awards grants to institutions of higher education or eligible nonprofit organizations(or consortia of such institutions or organizations) to establish mathematics and science education partnership programs to improve elementary and/or secondary mathematics and science instruction. Higher education institutions must enter into a partnership with one or more local educational agency that may also include a state educational agency or one or more businesses. Grants are awarded on a competitive, merit-reviewed basis and are subject to the NSF peer review grant application process.

Congress passed, and President Bush signed into law, a landmark NSF authorization bill (H.R.4664) in December 2002, which seeks to double NSF funding over five years to strengthen and enhance programs across NSF research and education directorates. The legislation is an important bipartisan endorsement of NSF and should serve as an important guide for the appropriations committees. The K-12 Math and Science Partnership program is authorized to

increase every year through 2005. Appropriations for this program are made by the House Appropriations Subcommittee on Science, State and Commerce and Related Agencies, and by the Commerce, Justice, and Science Subcommittee of the Senate Appropriations Committee. For more information, visit www.trianglecoalition.org/resources.htm.

EDUCATION GRANTS TO STATES

NASA, in cooperation with the National Alliance of State Science and Mathematics Coalitions (NASSMC), Arlington, VA, has awarded grants to several state education coalitions. Both NASA and NASSMC are members of the Triangle Coalition. The purpose of the grants is to inspire students to pursue careers in science, technology, engineering, and mathematics(STEM). Funded by NASA's Education Office NASSMC State Summit Implementation Program(NSSIP), the grants address the critical need to improve STEM education for students in underserved and underrepresented communities. NSSIP is a two-year program. It provides assistance with planning, developing, administering, and implementing STEM activities for state-based organizations. NSSIP programs also include comprehensive public awareness and engagement plans to promote active participation of state business, education, and public policy leaders.

NSSIP is open to state-based organizations that comprise a coalition of business, education, and public policy leaders united by a vision for improving STEM education. The proposing coalition must represent all three constituencies and must be statewide in scope. Additional support is provided by the U.S. Department of Education. For more information, visit www.nassmc.org. For information about NASA's education programs, visit <http://education.nasa.gov>.

SCHOOL OFFICIALS SAY THEY LACK CAPACITY/FUNDS TO REACH ALL SCHOOLS UNDER NCLB

A majority of state and district education officials say that student achievement on state tests is improving, but that they lack the capacity to reach all of the schools in need of improvement under the No Child Left Behind Act, according to a report from the Washington, DC-based Center on Education Policy(CEP) tracking federal, state, and local implementation of the law. The report, "From the Capital to the Classroom: Year 3 of the No Child Left Behind Act," is based on an extensive body of original research and analysis, including a survey of education officials in 49 states, a survey of 314 nationally representative school districts, and in-depth case studies in 36 districts. Of the states and districts surveyed by the CEP, 36 states(73%) and a majority of districts(72%) report that student achievement on state tests is improving. A majority of states and districts also say that achievement gaps are narrowing between white students and other key subgroups including black students, Hispanic students, English language learners(ELL) and others.

However, states and districts indicate they do not have the capacity or the funds necessary to reach all schools in need of improvement, and while most officials surveyed generally agree with the law's emphasis on accountability for all student subgroups, a majority say they would like to see the accountability requirements for students with disabilities and ELL students changed or

eliminated. Officials also cite problems in implementing school choice and supplemental education services. The report is the third in a series of annual reports to be issued through 2007 by CEP, and offers a long-term look at how the law's implementation is affecting states and school districts. The full report is available at www.cep-dc.org/pubs/nclby3.

THIRD ANNUAL CREATE-A-CALCULATOR CONTEST

HP and Scholastic Administrator, have kicked off their third annual Create-a-Calculator contest. This year, the nationwide competition invites high school and college students to submit calculator design entries for the chance to win more than \$39,000 in scholarships and calculator prizes. Students stand to win cash scholarship awards totaling \$15,000, while teachers, faculty, and administrators have the opportunity to win cash and calculators for themselves as well as their institutions. In 2004, HP and Scholastic received more than 4,000 entries in the competition. The annual Create-a-Calculator Contest was created in 2003 by HP and Scholastic as a way to encourage students to become inventors by designing an original product that was both visually appealing and functional. The contest has expanded this year to include university and college students. The judging panel for the Create-a-Calculator contest will include members from the American Society of Engineering Education (ASEE), employees of HP, and editors from Scholastic Administrator magazine and Scholastic's teen magazine network.

Students will compete for three scholarship awards worth a total of \$6,000 within the high school category and another three scholarship awards worth a total of \$9,000 within the university/college category. In addition, each university/college student finalist will receive an HP 49g+ graphing calculator while the high school student finalist will receive an HP 39g+ graphing calculator and an award commendation letter from the ASEE. The high school with the largest number of qualifying student submissions will receive 50 HP 39g+ calculators, and the university/college level will receive 50 HP 49g+ calculators. All contest entries must be received by May 31, 2005. Contest details can be viewed at www.hp.com/calculators.

WEBSITE HELPS K-12 TEACHERS "TEACH ENGINEERING"

It's a common problem for K-12 teachers -- how to engage students in the study of science and math. Ironically, in their everyday lives, students move through a world that owes its shape to the very field that puts science and math learning to practical purpose. Engineering, in fact, is all around us all the time. TeachEngineering.com is a new website with a searchable, online library of lesson plans that are all standards-based, and a myriad of "Living Laboratories" that bring real-world engineering principles into the classroom. Every lesson plan on the site is correlated to the Benchmarks for Science Literacy, the Principles and Standards for School Mathematics, and the Standards for Technological Literacy. Many lesson plans are also mapped to state standards for Colorado, Massachusetts, North Carolina, and Oklahoma, with more states to be added soon.

TeachEngineering.com has a search capacity that allows teachers to quickly hone in on plans that fit their needs. For example, a search for curricula that illustrate Bernoulli's principle results in an assortment of units, lessons, and activities. A teacher can refine that search to find activities

suitable for grades 3-5 with a cost of no more than \$3 per student group. The site is a joint effort of the University of Colorado, Colorado School of Mines, Duke University, Oregon State University, Worcester Polytechnic Institute, and the American Society for Engineering Education, and is funded in part by the National Science Foundation.

SCIENCE NOT FOR BOYS ONLY

(Source: Hartford Courant, February 17, 2005)

Using a hiking boot, a wig, paper, and a bottle of red paint, Sandybel Rodriguez, 12, got her first glimpse of what it takes to be a forensic scientist during the Girls and Tech Expo held at Saint Joseph College in West Hartford(CT). Sandybel, a seventh grader at Burr School in Hartford, and her lab partners created "evidence" such as simulated blood splatters, footprints, and hair prints. Then Elaine Pagliaro, the assistant director of the state forensic science lab, gave them tips on how to interpret the clues. About 120 middle-school aged girls participated in workshops led by Saint Joseph faculty and alumnae at the first Girls and Tech Expo to be held in Greater Hartford. It aimed to encourage the girls to consider careers in science, math, and technology, and realize that they could succeed in such careers. "I wanted to encourage the girls not to limit their choices to what have traditionally been women's careers," said Diane Dean, assistant professor of chemistry at Saint Joseph, who helped organize the expo. "National Science Foundation data has shown that we need to target girls in middle school before they pull away from math and science." National Science Board data from 2001 showed that among employed scientists and engineers, women made up 24% of the total science and engineering workforce.

SCHOLARSHIP DEADLINE NEARS FOR PROJECT 2061 WORKSHOP

The next session of the popular AAAS Project 2061 professional development workshop, "Using Atlas of Science Literacy," takes place June 9-11 in St. Louis, MO, at Maryville University, which is co-sponsoring this event. Scholarships are available for this workshop and the deadline to apply is April 11, 2005. Co-published by AAAS and Triangle Coalition member, the National Science Teachers Association, Atlas of Science Literacy is a collection of conceptual strand maps for nearly 50 important topics that are essential for K-12 learning in science, mathematics, and technology. The workshop demonstrates how K-12 teachers, curriculum specialists, and other educators can use the Atlas strand maps and related Project 2061 resources to enhance their own understanding of science and mathematics literacy and improve their curriculum, instruction, and assessment. Limited scholarships are available for this workshop that entitle awardees to complimentary registration(books and travel costs are not included). For workshop details, including information on the scholarship program and a registration form, visit www.project2061.org/050325/workshops/stlouis.htm.

COMPUTERS AND ACHIEVEMENT: THE DEBATE CONTINUES

(Source: Edutopia News, March 23, 2005)

A recently released study published by the Royal Economic Society of Britain has sparked questions once again about the impact of computers on student achievement. Researchers Thomas Fuchs and Ludger Wossman, of Germany's Munich University, analyzed the performance and background of 100,000 15-year-olds who participated in the PISA(Programme for International Student Assessment) Study in 2000. Their findings? In general, students with access to computers at home fared no better than their peers without computers on the standardized test. The researchers added that students in computer-equipped schools, in general, actually scored lower on the test, and speculated that schools had relied too heavily on computers, rather than teachers, for math and literacy instruction.

(Editor's Note: To view the full report, visit the Royal Economic Society website at www.res.org.uk.)

SCIENCE/MATH RESOURCES AT FREE

Several new science resources have recently been added to the Federal Resources for Educational Excellence(FREE) website. FREE (www.ed.gov/free) makes it easy for teachers, parents, students, and others to find teaching and learning resources from more than 40 federal organizations. Some of the available science and math resources include:

"Animal Diversity Web"(<http://animaldiversity.ummz.umich.edu>) - A searchable encyclopedia of thousands of photos, descriptions, sound recordings, and other information about individual animal species. (National Science Foundation)

"Botany"(www.nbi.gov/disciplines/botany) - Resources related to the study of earth's more than 400,000 documented species of plant life.
(National Biological Information Infrastructure/U.S. Geological Survey)

"H.I.P. Pocket Change" (www.usmint.gov/kids) - Explores the history of coins and includes lesson plans on charting history with pennies, or showing students 293 ways to make change for a dollar. (U.S. Mint, Treasury)

TCEB LINKS

The following links provide additional information about articles in this TCEB:

Triangle Coalition Resources - www.trianglecoalition.org/resources.htm

NASSMC - www.nassmc.org

NASA education programs - <http://education.nasa.gov>

Center on Education Policy Report: "From the Capital to the Classroom: Year 3 of the No Child Left Behind Act" - www.cep-dc.org/pubs/nclby3

Create-a-Calculator Contest - www.hp.com/calculators

TeachEngineering.com - www.TeachEngineering.com

Project 2061 "Using Atlas of Science Literacy" -
www.project2061.org/050325/workshops/stlouis.htm

Royal Economic Society - www.res.org.uk

Federal Resources for Educational Excellence (FREE) - www.ed.gov/free

Be sure to also visit the Triangle Coalition website at www.trianglecoalition.org.
