For Immediate Release

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WORLD'S LARGEST STUDENT SCIENCE COMPETITION ANNOUNCES 2010 NATIONAL WINNERS

--ExploraVision Winners Envision Solutions to Health Care Issues and Medical Advancements, Others Could Help Solve the World's Environmental Problems; All-Girl Teams Take Half of This Year's Prizes--

ARLINGTON, VA, April 30, 2010 – Future scientists and inventors from Kindergarten to 12th grade envision a future where algae may help solve the world's energy problems, a first-aid kit might better be called a virtual "doctor in a box" and amputees might be able to re-grow their missing limbs. These are just a few of the winning student projects announced today by the 18th annual Toshiba/National Science Teachers Association ExploraVision Awards Program. The program's eight National Winners for 2010, including four First Place and four Second Place student teams, envisioned new technologies that could make the future safer, healthier and more eco-friendly. Reflecting a variety of topics that are top-of-mind with many of today's young people, such as improving health care and advancing medical technology, the students' winning projects reflected ongoing research in the fields ranging from energy-harnessing techniques to genetic research, nanotechnology, GPS technologies and more. Notably, female ExploraVision entrants made a strong showing of their science prowess this year, with half of the top-winning teams comprised of all girls. **(See enclosed document for school names and complete list of winning entries.)**

The annual ExploraVision Awards Program, the world's largest K-12 student science and technology competition, is sponsored by Toshiba and administered by the National Science Teachers Association (NSTA). This year, the program received 4,551 team entries representing the participation of 13,949

students from across the US and Canada, including those from public, private and parochial institutions, as well as home-schooled students. Members of each of the four First Place ExploraVision teams will each receive a US Series EE Savings Bond valued at $10,000 at maturity that may be used to offset increasing education costs. Students on Second Place teams will each receive a US Savings Bond valued at $5,000 at maturity.

Combining Imagination and Creativity with Real-Life Scientific Research

ExploraVision challenges students to research scientific principles and current technologies as the basis for designing technologies that could exist in 20 years. With its multi-level, imaginative and fun approach to learning, ExploraVision appeals to a broad range of students of all interest, skill and ability levels, encouraging education in vital STEM (science, technology, engineering and math) fields. The program has become so popular as a learning and motivational tool that many teachers now use it as part of their regular science and technology curriculum.

Noted Mr. Yoshihide Fujii, Chairman and CEO of Toshiba America, Inc.: "Toshiba has always been a company that values innovation and creative thinking above all else, and our entire corporate culture is geared toward encouraging scientific and technological progress in every way we can. As we look toward the future, it's clear that our society will need advancements in science and technology to solve many pressing issues and meet many difficult challenges. Educating and inspiring young people to take up these challenges with the tools of science and technology is crucial. Toshiba is proud to sponsor a program that helps focus the creative energies of our young generation and encourages tomorrow's inventors today."

"The innovative solutions demonstrated in the award-winning ExploraVision entries show why investment in science education is so vital to our country," said Francis Eberle, Executive Director of NSTA. "These inspired students found ways to address some of the most pressing issues of our day. We at NSTA look forward to continued support from corporate partners like Toshiba for programs that provide an exciting way to motivate young people to try science and consider STEM disciplines."

Student Projects Reflect Real-Life Concerns of Today's Young People

ExploraVision entries reflect the concerns and aspirations of today's young people. Many entries, for instance, including several top winners this year, addressed pressing health care and medical issues. Three K-2nd grade students from Tampa Christian Community School in Tampa, FL won second place in the K-3rd grade category for the **Smart Touch First Aid Kit**, a virtual "doctor-in-a-box" that would provide

specialized treatment for injuries and emergencies by packaging medical supplies, instructions, and communication devices in one kit. Touch screen, GPS, wireless internet, and cell phone components would be used to identify the injury, activate video treatment instructions, connect the caregiver with medical or emergency staff via videoconferencing, and even provide directions to hospitals. Three 9th grade students from Ma'ayanot Yeshiva High School for Girls in Teaneck, NJ stretched their imaginations and won second place in the 7-9th grade category for **REGENX: Human Limb Regenerative Protein Cocktail Injections**, a novel bioengineered approach to limb regeneration whereby injections containing an individual's own tissue would be introduced into the site of an amputation to dedifferentiate adult somatic cells back to stem cells and redevelop tissue and limbs.

Four 2nd grade students from Willow Grove Elementary School in San Diego won first place in the K-3rd grade category for their project, the **Sign Language Interpreter**, which would literally allow deaf people to "speak." Electrodes on the hearing-impaired individual's fingers would sense hand movements from sign language and use the information to create audible words.

The Eyes Have It! Three Top Winners Envision Optical Breakthroughs

Three winners this year focused on vision-enhancing medical technologies. Four 10-11th grade students from University Laboratory High School in Urbana, CA won first place in the 10-12th grade category by envisioning the **NIBEye: Neural Interfaced Bionic Eye**, a functional "seeing" prosthetic eye that would restore sight using multi-focal intraocular lenses, stretchable silicon retinas, cortical stimulation and a futuristic Brain-Machine interface. Four 10th grade students from Stuyvesant High School in New York City who won second place in the 10-12th grade category came up with the idea for **I-CEE: IKVAV – Scaffold Center – Surround Eyesight Enhancement**, which would employ advances in ophthalmology and material science to treat age-related macular disease and retinitis pigmentosa. Finally, two 5th grade students from Fairmont Private School in Anaheim, CA won second place in the 4-6th grade category by imagining **Automatic Correcting Eyeglasses (A.C.E)**, which would contain computer-controlled lenses and tiny ultrasonic sensors to measure refractive errors from eyes and adjust the shape and distance of the lenses accordingly—eliminating the need for renewing prescriptions once and for all!

Addressing Environmental Concerns

Many students this year addressed key global environmental concerns and offered ingenious solutions. Two 6th grade students from the Scofield Magnet Middle School in Stamford, CT won first place in the 4-6th grade category by envisioning the **MicroCommunity Algae BioReactor (mCAB),** a miniature renewable energy processing unit that would create biofuels from algae while cleaning water and reducing

CO_2 levels. The system would use plastic tubes line with nanosand to remove fast-growing, easily-harvested "super algae" with a high and constant oil content from wastewater and then extract the oil for fuel production. Two 7th grade students from Forest Ridge School in Bellevue, WA won first place in the 7-9th grade category by imagining **EPPIC – Ecological Paper Printer and Ink Collector,** a futuristic laser printer system that would extract used ink from paper by reducing the graphene surface contact area, then reusing the collected ink and paper to make new prints. Key to the innovation is a new type of ink technology that would stick to paper, yet also have the ability to release from it when necessary. The students looked to the world of nature for their inspiration; specifically the Gecko, which has the ability to "stick" and "unstick" its feet.

ExploraVision Prizes

In addition to the US Savings Bonds, the eight teams will also receive an expenses-paid trip with their families, mentor and coach to Washington, DC for a gala awards weekend June 9-12, 2010. Activities will include a visit to Capitol Hill to meet with members of Congress and a Science Showcase during which the students will present their winning ideas. The highlight of ExploraVision Awards weekend will be a gala awards banquet and ceremony where students will be formally recognized for their creativity and accomplishments.

For more information or an application for 2011, visit www.exploravision.org or e-mail exploravision@nsta.org. Follow ExploraVision on Twitter @exploravision or on Facebook at Facebook.com/ToshibaNSTAExploraVision.

About Toshiba

The Tokyo-based Toshiba Corporation is a leading innovator and diversified manufacturer and marketer of advanced electronic and electrical products, spanning information and communications equipment and systems, Internet-based solutions and services, electronic components and materials, power systems, industrial and social infrastructure systems, and household appliances. Toshiba employs over 14,000 people in North America and Toshiba America, Inc., is the holding company for six Toshiba operating companies in the United States.

Toshiba's U.S.-based companies and some of their chief products are as follows: Toshiba America Electronic Components, Inc. (Semiconductors, Flash Memory-Based Storage Solutions, LCD, and custom chips); Toshiba America Information Systems, Inc. (Laptop Computers, Projectors, and Hard Disk Drives, Telephony Products); Toshiba America Business Solutions, Inc. (Copiers, Facsimiles, Printers); Toshiba International Corporation (Motors, Motor Controls, Power Electronics, Power Generation Equipment, Automation); Toshiba America Medical Systems, Inc. (Computed Tomography, Magnetic Resonance, X-ray and Ultrasound); Toshiba America Consumer Products, L.L.C.(Flat Panel LCD TVs, and portable products); Toshiba America Nuclear Energy Corporation (Advanced Boiling Water

Nuclear Reactors); Toshiba America Foundation (Supports science and mathematics education across the United States) and Toshiba of Canada, Ltd. (Made up of four operating divisions).

About NSTA

The Arlington, VA-based National Science Teachers Association (NSTA) is the largest professional organization in the world promoting excellence and innovation in science teaching and learning for all. NSTA's current membership includes more than 60,000 science teachers, science supervisors, administrators, scientists, business and industry representatives, and others involved in science education.

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ExploraVision 2010 National Winners

2010 First Place Winners

Grade K-3: *Sign Language Interpreter*
Willow Grove Elementary, San Diego, CA

Grade 4-6: *Community Algae BioReactor*
Scofield Magnet Middle School, Stamford, CT

Grade 7-9: *EPPIC - Ecological Paper Printer and Ink Collector*
Forest Ridge School, Bellevue, WA

Grade 10-12: *NIBEye: Neural Interfaced Bionic Eye*
University Laboratory High School, Urbana, IL

2010 Second Place Winners

Grade K-3: *Smart Touch First Aid Kit*
Tampa Christian Community School, Tampa, FL

Grade 4-6: *A. C. E.*
Fairmont Private School, Anaheim, CA

Grade 7-9: *REGENX: Human Limb Regenerative Protein Cocktail Injections*
Ma'ayanot Yeshiva High School for Girls, Teaneck, NJ

Grade 10-12: *I-CEE: IKVAV - Scaffold Center-Surround Eyesight Enhancement*
Stuyvesant High School, New York, NY