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For Immediate Release

YOUNG MINDS SHOWCASE FUTURE TECHNOLOGIES
DRIVING A BETTER TOMORROW IN WASHINGTON, DC
National Winners of Toshiba/NSTA ExploraVision Science Competition Honored at Congressional Science Fair and STEM Panel, Science Showcase and Gala Awards Banquet

WASHINGTON, DC, June 4, 2014 – This week some of the brightest students from the United States and Canada will travel to Washington, DC, as Toshiba and the National Science Teachers Association (NSTA) celebrate their innovative ideas for future technologies during the 22nd annual **Toshiba/NSTA ExploraVision** awards weekend.

The eight national winners of the world's largest K-12 student science competition will visit Capitol Hill on June 5 to discuss STEM education and the competition during a Senate Breakfast STEM panel, then display and demonstrate their winning ideas for members of Congress during the Congressional Science Fair. On June 6, the student teams will formally present their projects as part of the ExploraVision Science Showcase at the National Press Club. Toshiba and NSTA will honor their creativity and achievements that evening at the culminating event, the ExploraVision gala awards banquet.

Each of the winning teams looked at the world around them and imagined what technology might be like in 20 years. The ExploraVision competition encourages students to propose new ideas based on a challenge of what already exists, simulate real scientific research to outline how they plan to test their idea, and build websites to further illustrate and communicate their concepts. **(See below for complete list of winning projects.)**

Congressional Science Fair and STEM Panel

The Congressional Science Fair will take place on June 5 from 10:30 a.m. to 11:45 a.m. in the Gold Room of the Rayburn House Office Building and will be open to members of Congress and their staff. The event will celebrate this year's winners and reinforce the importance of STEM education, maintaining student interest in the sciences and the significant role that mentors, teachers and parents play in motivating students.

New this year is a Senate Breakfast STEM panel, featuring a panel of ExploraVision students, teachers and coaches who will share their experience in the competition, discuss STEM education, and answer questions from members of Congress and their staff. New Hampshire Sen. Jeanne Shaheen (invited) will deliver opening remarks and NSTA Executive Director David

Evans will moderate the panel, held from 8:30 a.m. to 9:45 a.m. in the Kennedy Caucus Room of the Russell Senate Office Building.

National Press Club Science Showcase

At the Science Showcase, the students will present to members of the press, their peers, parents, educators, NSTA board and council members, and high-level Toshiba executives including Mr. Atsutoshi Nishida, Chairman of Toshiba Corp. and Mr. Masaaki Osumi, Chairman of Toshiba America, Inc. Esteemed speakers will include Dr. David Evans, Executive Director, National Science Teachers Association; Dr. Arthur Eisenkraft, Co-Creator, ExploraVision; and John Anderson, President, Toshiba America Foundation.

At the Gala Awards Banquet, speakers will be Mr. Atsutoshi Nishida, Chairman of Toshiba Corp.; Dr. Juliana Texley, President, National Science Teachers Association and Emmy Award-winner Bill Nye the Science Guy. Dr. Arthur Eisenkraft, the Co-Creator of ExploraVision will be the Master of Ceremonies.

Inspiring a Lifelong Love of Science, Technology and Innovation

4,962 team projects were entered in the Toshiba/NSTA ExploraVision competition this year, representing 15,309 students from across the United States and Canada. This year's winning projects ranged from an implantable medical device powered by the body's thermal energy to an environmentally friendly de-icing solution for planes inspired by the lotus leaf.

Members of the four first place ExploraVision national winning teams will each receive a $10,000 U.S. Series EE Savings Bond (at maturity). Members of second place national winning teams will each receive a $5,000 U.S. Series EE Savings Bond (at maturity). Canadian winners receive Canada bonds purchased for the equivalent issue price in Canadian dollars.

The Toshiba/NSTA ExploraVision program, underwritten by Toshiba and administered by NSTA, is open to all K-12 U.S. and Canadian students who are citizens or legal residents.

For more information or an application for 2015, visit www.exploravision.org or e-mail exploravision@nsta.org. Follow ExploraVision on Twitter at @ToshibaInnovate or join Toshiba Innovation's Facebook Page at www.Facebook.com/ToshibaInnovation to learn more about ExploraVision.

Toshiba/NSTA ExploraVision 2014 National Winners

2014 First Place Winners

Grade K–3: *Hot Car Safety System*
John Ross Elementary, Edmond, Okla.
Hot Car Safety System will sound an alarm when a car is too hot for people or animals. This device will prevent children and animal deaths related to sitting in hot cars.
Website: http://dev.nsta.org/evwebs/2014k5/

Grade 4–6: *Plant Power - Super-hydrophobic Lotus Leaf*
Locust Valley Intermediate School, Locust Valley, N.Y.
Plant Power is a process to make airplanes safer with a de-icing/anti-icing innovation. Engineers will nano-imprint a lotus leaf pattern on an airplane's exterior to repel water, so ice and snow will no longer build up and affect airplane safety.
Website: http://dev.nsta.org/evwebs/201441/

Grade 7–9: *iGlasses - The Eyeglasses of the Future?*
Marlboro Middle School, Marlboro, N.J.

iGlasses are glasses that automatically adjust its lenses in real time based on the viewers' needs and the object being viewed. It will eliminate the need for changing prescriptions, bifocals, and eye/neck strain from computer and smartphone use.
Website: http://dev.nsta.org/evwebs/201472/

Grade 10–12: *Quantum Dot Energy Harvesters for Powering Implantable Medical Devices*
West Salem High School, Salem, Ore.
To reduce the reliance on batteries in medical implants (pacemakers, defibrillators and neurostimulators), this project outlines a convenient and permanent solution to harvest the thermal energy of the human body through a simple heat engine made from quantum dots. With this technology human power can sustain human life.
Website: http://dev.nsta.org/evwebs/2014106/

2014 Second Place Winners
Grade K–3: *S.A.F.E.R. (Saving All Friends Escaping Rip currents)*
Waldron Mercy Academy, Merion Station, Pa.
S.A.F.E.R. is designed to save people stuck in rip currents. It is a wearable, inflatable belt that stores both pressure and velocity sensors, and GPS technology to save a swimmer from dangerous rip currents.
Website: http://dev.nsta.org/evwebs/2014k2

Grade 4–6: *WateRenew: Wave Power for Clean Water*
Countryside Montessori Charter, Land O' Lakes, Fla.
The idea behind WateRenew is to create a process that generates renewable energy while turning ocean water into clean drinking water.
Website: http://dev.nsta.org/evwebs/201443/

Grade 7–9: *Kidney Microfilter Regulation Device (K.M.R.D.)*
Northview High School, Duluth, Ga.
The Kidney Microfilter Regulation Device (K.M.R.D.) is an alternative to dialysis for patients with kidney failure and diseases. The device is an artificial silicone kidney that will be surgically implanted into a patient's body. It will have most functions of a healthy kidney such as releasing hormones, balancing particles and checking substance levels in the blood, as well as functions a regular kidney can't have including the medical report feature and the emergency feature.
Website: http://dev.nsta.org/evwebs/201473/

Grade 10–12: *Low Transistor Count High-Density Turing Machine (LTCHDTM) using Photonic-Saturation Optical Transistors (P-SOT)*
W. L. Mackenzie C. I., Toronto, On.
To achieve greater processing abilities on a computer, this project will use fully photonic (using light alone) optical transistors to boost optical computing. The proposed phenomenon, called photonic-saturation, will saturate a nanocrystal to the point where it stops absorbing light of a specific wavelength, consequently allowing excess light to pass through. The optical transistor in time will be capable of running at multiple wavelengths, allowing each unit to perform the function of multiple transistors simultaneously.
Website: http://dev.nsta.org/evwebs/2014104/

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About Toshiba
Toshiba is a world-leading diversified manufacturer, solutions provider and marketer of advanced electronic and electrical products and systems. Toshiba Group brings innovation and imagination to a wide range of businesses: digital products, including tablets, LCD TVs, notebook PCs, retail solutions and MFPs; electronic devices, including semiconductors, storage products and materials; industrial and social infrastructure systems, including power generation systems, smart

community solutions, medical systems and escalators & elevators; and home appliances. Toshiba was founded in 1875, and employs over 20,000 people in North America and Toshiba America, Inc., is the holding company for five Toshiba operating companies in the United States.

Toshiba's North-America based companies and some of their chief products are as follows: Toshiba America Electronic Components, Inc. (Semiconductors, Flash Memory-Based Storage Solutions, LCD, custom chips, and Hard Disk Drives); Toshiba America Information Systems, Inc. (Tablets, Laptop Computers, Telephony Products, Flat Panel LCD TVs, and portable products); Toshiba America Business Solutions, Inc. (Copiers, Facsimiles, Printers and Digital Signage); 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 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 approximately 55,000 science teachers, science supervisors, administrators, scientists, business and industry representatives, and others involved in science education.