RI Science Teachers Association shares opportunities in science education for teachers and students.

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| **Science Update** |
| December 15, 2015 |

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| Wishing our members and colleagues a healthy and happy 2016!   |
| *Our next newsletter will be published in early January.*We are thankful for all of the information that is shared with us to create this newsletter.   If you are interested in any of the opportunities listed, please contact the organization that is listed in the entry.  Please send any items that you consider relevant to other science educators to ristanewsletter@gmail.comhttp://www.rista.us/resources/IMG_1686.JPG\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\***Upcoming RISTA Events**Project Wild Training ***January 9th at Winman Junior High School in Warwick***At this lively and engaging professional workshop, participants are introduced to Project WILD. Project WILD is an interdisciplinary, conservation and environment education program that emphasizes wildlife, people and the environment. It focuses on terrestrial and aquatic wildlife because of their intrinsic, ecological value, as well as their role in ecosystem function. Project WILD activities encourage students how to think, not what to think.Participants will receive the Project WILD Curriculum and Activity Guide, which includes over 100 hands-on, minds-on activities that have been reviewed by science, curriculum and education experts for accuracy and educational value. Each lesson is classroom-tested to ensure effectiveness and high-quality student involvement.We look forward to investigating the WILD life with you!Materials will be available to those who attend this instructional workshop. The session is open to all educators, but would probably best fit in grades K-8.**Register for the event at http://www.rista.us/event-2090280**More Information about Project Wild can be found at www.projectwild.org/Invitation to Present at the 2016 RISTA Conference***Saturday, March 12th*** ***at LaSalle Academy in Providence***2016 Conference plans are being set.  We have confirmed that our keynote speaker will be Page Keeley, past NSTA President and who has authored a number on formative assessment techniques in science classes.  She is a great presenter and we are eager to welcome her to Rhode Island.  Please consider presenting to fellow science educators!  We are looking for science educators from K-16 to present on topics related to NGSS, including lesson ideas and useful resources.  [Apply online](http://goo.gl/forms/3PoAV7Sv03), deadline is January 8th.**NGSS Information and Resources:**NGSS@NSTA Hub55 trained curators have been seeking out quality resources.  Curators are science educators who teach K-12 and have been trained by NSTA to vet resources for each of the NGSS Performance Expectations.  The resources are being uploaded as the resources are reviewed, some PEs are not complete.  Check out the site at[ngss.nsta.org](http://www.ngss.nsta.org/) and click on ‘The Standards’ tab.  Choose the PE that you need a resource for and scroll to the bottom of the page, resources will be listed at the bottom right corner.  Check back for additional resources!STEM Teaching ToolsIf you have not already checked out the STEM Teaching Tools, you need to!  Philip Bell of the University of Washington has created a number of one page handouts that are perfect for professional development as well as to inform parents and other stakeholders of how science instruction is changing.  He is always looking for additional topics, so reach out to him if you have an idea.  The website has the handouts in pdf files and invites you to take them to print as you need them.  Check it out at www.stemteachingtools.org**Opportunities & Resources for Teachers:**Presidential Award for Excellence in Math and Science Teaching (PAEMST) Nominations are open**The Presidential Awards for Excellence in Mathematics and Science Teaching (PAEMST),** the nation’s highest honor for teachers of mathematics and science, has opened its 2015 – 2016 nomination and application period for elementary (K-6th) teachers. PAEMST is awarded annually to exceptional K-12 educators throughout the nation, alternating each year between K-6 and 7-12 grades.We encourage you to nominate an exceptional teacher you may know, or if you’re a teacher yourself, to being an application.Being a PAEMST awardee is a tremendous honor. Recipients will gather in Washington, D.C. for  a series of events as tribute to their accomplishments, will receive a certificate signed by the President and a $10,000 award from the National Science Foundation (NSF).The 2015-2016 **nomination deadline is April 1, 2016**, and the **application deadline is May 1, 2016**, so consider nominating a talented teacher or submitting a self-nomination on the PAEMST websiteMarine Technology for Teachers and Students (MaTTS) Project- Apply TODAYThe Marine Technology for Teachers and Students (MaTTS) Project, based at the University of Rhode Island’s Inner Space Center and the  University of Connecticut’s Avery Point campus, will be accepting high school teachers for a year-long professional development opportunity. The project focuses on providing teachers and students hands on and virtual experiences with new technologies related to exploring the global ocean and discovering pathways to marine careers using these new tools. Participating teachers will engage colleagues and students at their school, receive training, and gain experience in marine and ocean science technologies and receive a stipend.  **Application deadline is Friday, January 8, 2015.**For more information and to apply, please visit: [www.mattsproject.org](http://www.mattsproject.org/)Dream Outdoor Classroom ContestRIEEA (Rhode Island Environmental Education Association) is hosting a Dream Outdoor Classroom Contest with the winning submission to receive a $500 grant to help complete their outdoor classroom.  Applications (more of a letter of intent) are due Friday, December 19th (actual projects are not due until February). Please [see application](http://www.rista.us/resources/Outdoor%20Classroom%20Contest%20Application%20%2715-%2716.pdf) for more details.USA Biology Olympiad (USABO) Registration Is Open!You and your students are invited to participate in the 2016 USA Biology Olympiad (USABO). Registration is open now for teachers and students! To register, please visit the USABO website <https://www.usabo-trc.org/> Be sure to check out the *Biology Story* of the day and to “friend” the USABO on Facebook. Students should check the Student Corner for study resources and how to form a USABO Club. Registration closes **January 15, 2016**. The final four students on Team USA will compete at the International Biology Olympiad in Hanoi, Viet Nam, July 17  to 14 ( [http://ibo2016.org/](http://ibo2015.org/) ). Contact Kathy Frame, USABO Director, at kframe@cee.org if you have any questions. We look forward to your students participating!Calling all Eligible Students and Teachers to Apply for the JASON Argonaut Program!JASON Learning is seeking a diverse, creative, and adventurous group of students and educators to venture into the field with JASON researchers and engineers. Applications are due January 15, 2016. Students must be 13-17 at the time of the expedition (summer/fall 2016). Consider applying and to encourage some of your students impassioned by science to apply too!Visit <http://www.jason.org/argo2016>for more information.Bright Schools CompetitionMiddle school students (grades 6–8) who compete in the Bright Schools Competition get a hands-on STEM learning experience that helps students, parents, and teachers better understand the links among light, sleep, and student health and performance. The competition is free to enter and offers great prizes for students and teachers. Projects are due on January 29, 2016. For more information and to register, go to http://brightschoolscompetition.org/default.aspx. Looking for Digital InnovatorsOver the course of the 2016/2017 school year, PBS LearningMedia Digital Innovators will be part of a robust professional learning community that will foster new ways of thinking, while leading the way in using technology to drive student achievement. Apply to be one of the PBS LearningMedia Digital Innovators by February 8. For more information and to apply, go to http://www.pbslearningmedia.org/digitalinnovators. Inner Space Center Educational ProgramsThe ISC offers educational programs for school, youth, and public groups on a variety of topics, including the unknown ocean, sound in the sea, and hurricanes.  All of our programs are led by an ocean scientist with expertise in the area.  Groups can also add a behind-the-scenes tour of our facility, which includes mission control, the production suite, and studio. Groups can also choose to have an educational program done at their location or conducted virtually from the ISC.  For more information, contact the ISC Communications Coordinator, Romy Pizziconi, romy@uri.eduThe Amgen Foundation Biotech ExperienceThe Amgen Foundation announced that it will invest more than $4 million to support and strengthen theAmgen Biotech Experience program across the United States, Puerto Rico, United Kingdom and Ireland. This new commitment will also strengthen the program's alignment with Next Generation Science Standards, which are focused on engaging students in more authentic science learning experiences. With the support of Education Development Center, Inc. (EDC), the global nonprofit leading the Amgen Biotech Experience Program Office, the investment is expected to empower 1,000 teachers who will reach more than 150,000 new students with the labs over the next two years.The Amgen Biotech Experience is an innovative science education program that provides teacher professional development, teaching materials, and research-grade equipment and supplies to secondary schools. The program features a hands-on molecular biology curriculum that introduces students to the excitement of scientific discovery. Each year, over 70,000 students and hundreds of science teachers participate and have the opportunity to explore the methods scientists use to create biotechnology medicines.Tangible Thinking - The Intersection of Art, Design, Math, & ScienceArt League of Rhode Island Opens Season with “Tangible Thinking” Sept. 12th, VETS Gallery, Providence.  This is free and open to the public, student groups are welcome!Tangible Thinking - The Intersection of Art, Design, Math, & Science, a program of the Art League of RI will take place from September 12, 2015 through January 19, 2016 at the group’s VETS Gallery, One Avenue of the Arts, in Providence, RI.The gallery is open Thursday through Saturday from noon to 3pm and on Gallery Night, Thursday, Sept. 17th from 5-9pm. The opening reception will be held on September 18th from 5:30-8pm. Entrance to the VETS Gallery is on the Park Street side of the Veterans Memorial Auditorium.  See entire press release here as well as printable poster to display and directions to the venueRegistration Now Open for Toshiba/NSTA ExploraVision ProgramRegistration for the 24th annual Toshiba/NSTA ExploraVision program—the world's largest K–12 student science competition—is now open. The deadline for all project submissions is **February 1, 2016.**Through the competition, teams of 2 to 4 students are challenged to research scientific principles and current technologies as the basis for designing innovative technologies that could exist in 20 years. Students simulate real scientific research to outline how they plan to test their ideas and create mock websites to illustrate concepts. Student participants will have a chance to win a number of great prizes, including $10,000 U.S. Series EE Savings Bonds (at maturity). Canadian winners receive Canada bonds purchased for the equivalent issue price in Canadian dollars. And to celebrate ExploraVision's 24th anniversary, the top 24 teachers who submit 24 eligible online entries will receive a Toshiba tablet.Teachers can learn more information by visiting the frequently asked questions page on the competitionwebsiteNSTA ConferencesNSTA conferences offer the latest in science/STEM content, pedagogy, and research to enhance and expand your professional growth. Take advantage of this unique opportunity to collaborate with science education leaders and your peers. Each year, NSTA hosts a national conference on science education (in the spring), three area conferences (in the fall), and a STEM Forum & Expo. Learn more2016 Conferences:Nashville (National): Mar. 31–Apr. 3, 2016STEM Forum & Expo: Denver, July 27–29, 2016Share Your Good Ideas! Present at the 2016 NSTA STEM ForumNSTA is now accepting proposals for the 5th Annual STEM Forum & Expo, hosted by NSTA—which will be held in Denver, July 27–29, 2016. The deadline for submissions is 11:59 PM on Friday, January 15, 2016. Visit the NSTA website for more information and to submit a proposal. Please e-mail lcrossley@nsta.org if you have any questions.**For Students:**STEM Competition from GAMAFor the fourth year, the General Aviation Manufacturers Association (GAMA) is pleased to sponsor the Aviation Design Challenge, a competition for U.S. high school students that promotes STEM knowledge through aviation. Teachers who enter their schools will receive complimentary Fly to Learn curriculum (both student and teacher versions), as well as five complimentary copies of airplane design and simulation software powered by X-Plane. The curriculum and software, which teach the basics of aerospace engineering and design principles, can be used either in the classroom or as an extracurricular activity. Students will then apply the knowledge they gain to modify and fly their own virtual airplane in a fly-off.Registration for the competition is limited to the first 100 teams that enter and is open until January 31, 2016. Fly to Learn will offer complimentary webinars from February 15-March 31, 2016, with the competition taking place between April 1-30, 2016. The prize will include an all-expenses-paid trip for up to four high school students, one teacher, and one chaperone to experience general aviation manufacturing firsthand.Only one team per school may enter and must consist of four students, including at least one female student and one male student.To learn more about the competition and to register, please visit [www.gama.aero/advocacy/aviation-education/stem](http://www.gama.aero/advocacy/aviation-education/stem)Junior Science $ Humanities SymposiumThe Junior Science and Humanities Symposium (JSHS) is designed to challenge and engage students (Grades 9-12) in science, technology, engineering or mathematics (STEM). Individual students compete for scholarships and recognition by presenting the results of their original research efforts before a panel of judges and an audience of their peers. Opportunities for hands-on workshops, panel discussions, career exploration, research lab visits and networking are planned.JSHS aims to prepare and support students to contribute as future scientists and engineers -- conducting STEM research on behalf of or directly for the Department of Defense, the Federal research laboratories, or for the greater good in advancing the nation's scientific and technological progress. The 2016 JSHS Southern New England Regional Forum will be held at Boston University on Friday, March 18. Professor Bennett Goldberg, Director of STEM Education Initiatives at Boston University, and Michael Dennehy, Director of College Access and Completion in the School of Education, will be serving as co-directors of the symposium. [Please see the information page and list of important dates.](http://www.rista.us/resources/JSHS%20one%20pager%20Revised%20Dec15%20FINAL.pdf)Design and Launch your DNA Experiment to Space!We invite students in grades 7 through 12 to design DNA experiments for space.  Become a space DNA pioneer and help solve real-life space exploration opportunities and challenges. Five finalist teams will receive mentoring from Harvard and MIT PhD scientists, present at the 2016 International Space Station R&D Conference, and receive miniPCR DNA Discovery Systems for their education institutions. Winners will attend Space Biology Camp at New England Biolabs and --- send their DNA experiment to space!  Submission deadline April 20th 2016.Teachers - turn contest submissions into a [class assignment](http://genesinspace.org/Genes-in-Space_Classroom_Assignment.pdf) that's aligned with standards. [www.genesinspace.org](http://www.genesinspace.org/)Genes in Space is a partnership between miniPCR, Boeing, Math for America, CASIS, and New England Biolabs. The contest is free, and does not require equipment.  Proposals will be judged solely on their creative and scientific merit.National Youth Science CampsThe NATIONAL YOUTH SCIENCE CAMP is an honors program for two high-achieving high school students from each state in the United States and others from around the world. This residential summer experience is held in a rustic setting in West Virginia’s eastern mountains and has honored and challenged over 5,000 participants since it began in 1963.  Application Deadline is February 17, 2016GOALS* Honor high-achieving science-oriented students
* Introduce new scientific topics, especially those not typically covered in traditional secondary curriculum
* Encourage lifelong learning in science, technology, engineering, and mathematics
* Demonstrate relationships among the sciences and between science and other disciplines
* Prepare students to face challenges of college, career, and life-long education
* Develop creativity, instill self-confidence, and foster camaraderie among future leaders

More information is at <https://nysc.fluidreview.com/>[Printable Handout](http://www.rista.us/resources/Documents/NYSC%20Handout%202016%20RS.pdf)RESEARCH SCIENCE INSTITUTE (RSI)The Center for Excellence in Education (CEE) and Massachusetts Institute of Technology (MIT) co-sponsor the Research Science Institute (RSI) and are looking for talented 11th Grade STEM Students! Do you have an interest in Science Technology Engineering or Mathematics and a desire to complete a research program at an unforgettable summer research program?Apply to the (RSI) program to be held on the MIT campus June 26 to August 6, 2016. You will meet some of the world's most talented students and top scientists and have an opportunity to conduct research in exciting labs!  The program is free to students except for travel to and from MIT. If you are a high school junior and interested in the program, take a look at the CEE website or RSI application materials, and more information about the program.See application information at:  <http://www.cee.org/apply-rsi>If you’re interested and have any questions, please contact Maite Ballestero, Executive Vice President, Programs & Administration, maite@cee.org.  See us on Facebook - look for Center for Excellence in Education!DNA Day Essay ContestHelp bring DNA Day into the classroom by submitting your students’ essays to the American Society of Human Genetics’ [DNA Day Essay Contest](http://www.ashg.org/cgi-bin/rda.pl?u=101&e=2261)Our submission site will open in early January, with **submissions due March 11 at 5:00 pm U.S. Eastern Time.**  This year we’re asking students to describe a genetic test of their choosing, then defend or refute a recommendation made in our recent position statement on pediatric genetic testing.

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| ***2016 Question****Choose a genetic test that is currently available for a condition or disease that does not cause symptoms until adulthood (i.e., an adult-onset condition such as hereditary breast cancer). Describe how the test works and how certain the test results are. Then, either defend or refute the recommendation below from* [*ASHG’s recent position statement on pediatric genetic testing*](http://www.ashg.org/cgi-bin/rda.pl?u=102&e=2261)*"Adolescents should be encouraged to defer predictive or pre-dispositional testing for adult-onset conditions until adulthood because of the complexity of the potential impact of the information at formative life stages."* |

**Students can win up to $1,000 with a matching $1,000 lab equipment grant for their teacher!** We will award prizes to 1st, 2nd, and 3rd place winners, as well as 10 honorable mentions. Each teacher is invited to submit up to six essays per class, for up to three classes.We hope you can build this essay into your teaching plans and look forward to reading your students’ insightful essays. Please email dnaday@ashg.org if you have any questions.New Biology Program at Johnson & WalesThe Providence Campus of Johnson & Wales University is pleased to announce the launch of our Bachelor of Science degree in Biology this fall of 2015. Our program is designed to prepare students for careers in science, technology, engineering, and mathematics (STEM) disciplines or graduate study in the life or health sciences. Degrees in STEM disciplines have a unique advantage in the job market, as the global economy demands new innovations to solve worldwide issues. In fact, the Bureau of Labor Statistics projects employment prospects for life scientists to increase by 20.4% by year 2020.What makes JWU’s Biology program different?Students will learn from faculty members, not teaching assistants in a brand-new building at our Providence Campus. This new facility will contain teaching laboratories with state of the art equipment, active-learning classrooms, adjacent faculty offices, and many informal collaborative learning spaces to foster a participatory, accessible environment for faculty / student interaction.Our faculty teach using best practices in STEM education: inquiry-based, active learning in the classrooms and laboratories.Our program is career-focused: students can gain experience before graduation through an optional internship in a research, clinical, or community/educational setting.Graduates will be prepared for entry-level positions in research or clinical laboratories or entrance into competitive graduate programs.As an innovative leader in experiential education, Johnson & Wales University is continually evolving our curricula to meet industry needs and tomorrow's career opportunities.For more information, visit our website at www.jwu.edu or contact Barbara DiSaia, Admissions Representative, at bdisaia@jwu.edu or 401-954-2007GE Star Awards CompetitionThe GE STAR Awards competition, now in its 13th year, is open to high school seniors, who are children of eligible GE employees and retirees worldwide. The award will defray first-year higher education expenses. Recipients, chosen through a selective application process, are awarded a one-time award that will go toward a four-year college or two-year community college/vocational-technical school. Finalists also select a teacher from their current secondary school to recognize and to guide the use of an award to the school.For more info on GE scholarship programs, visit the GE Foundation website. |

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