

STEM-IN'

Indiana STEM News

Vol. 4 No. 4 April 2018

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Indiana STEM Education Taskforce Highlights

I-STEM Resource Network leadership transition

Jenny Hicks has been named the new Director of the I-STEM Resource Network. As many of you know, Jenny is a 6 ½ veteran of the I-STEM Resource Network, serving as the manager of the Indiana Science Initiative which provides high quality science programming to Indiana elementary schools statewide. Prior to joining I-STEM, Jenny was a science curriculum specialist at the Indiana Department of Education. Jenny's email address is hicks12@purdue.edu.

Should we change the Indiana STEM Education Taskforce Newsletter?

Please provide your input to the 3 minutes survey so that we understand better what you'd like to see in these newsletters and how often –

<https://www.surveymonkey.com/r/XQN9XG3>

Coming Events of Interest for STEM Educators

Indiana STEM Education Taskforce Spring Meeting — May 16, 2018; Indiana State Museum, 650 W. Washington Street, Indianapolis, IN 46204

As directed by the 2017 legislative session, the Indiana STEM Advisory Council is in the process of developing a comprehensive STEM education plan for the state. At this May 16th meeting of the Indiana STEM Education Taskforce, the Indiana Department of Education policy team that is managing the plan development will review the preliminary proposal details with the group with the purpose of galvanizing the Indiana STEM Education Taskforce to support the passage of the Indiana STEM Education Plan. Register at <https://www.eventbrite.com/e/indiana-stem-education-taskforce-tickets-44405697637>

Indiana Teach to Lead Summit: STEM Focus

The Indiana Department of Education, in partnership with Teach to Lead, will host a STEM-focused summit in Indianapolis, **June 14-15**. Through a competitive process, approximately 20 invited teacher-leader and stakeholder

teams will convene at the summit. These teams will develop action plans that address local STEM issues and leverage teacher leadership to promote STEM opportunities within their schools. Teacher-leaders are encouraged to review the [application, rubric, and summit agenda](#) and to apply to participate in this exciting inaugural summer summit. Please contact the [Office of Educator Effectiveness](#) with any questions.

The Link Observatory Space Science Institute will host its LinkLive presentation called "Flight of the Planet Hunter" on **Saturday, April 21** at 8:00 p.m. in the Mooresville Public Library. Scheduled to launch in April 2018, the Transiting Exoplanet Survey Satellite (TESS) is the next step in the search for planets outside of our solar system, including those that could support life. Registration is not required. For more information, visit www.mooresvillelib.org

Grant Opportunities for STEM Educators

Advancing Student Achievement, a program of the Actuarial Foundation ASA grants support math programs that open students' minds to the practical power of math. The purpose of an ASA grant is to support math enhancement programs that bridge the gap between classroom and real world mathematics. [MORE HERE](#). Deadline: Rolling. Amount: up to \$5,000

Afterschool Alliance list of STEM funding

<http://www.afterschoolalliance.org/STEMfunding.cfm>

American Honda Foundation Grants The American Honda Foundation's funding priorities are STEM education, the environment, job training and literacy. Nonprofits, public school districts, private/public elementary and secondary schools are eligible to apply. Funding deadlines are February 1, May 1, August 1, and November 1 each year. The maximum award is \$75,000. http://www.honda.com/about?id=honda_foundations

Connect a Million Minds (Spectrum) Connect a Million Minds supports after-school STEM programs, mentorship programs that inspire the pursuit of STEM education and careers, STEM-related competitions, visitations to technology companies and labs, and apprenticeship programs. For more information, go to:

<http://www.connectamillionminds.com/request-support>

The Max and Victoria Dreyfus Foundation — Looking for a way to inspire the youth in your afterschool program? Want to start a project but don't have the necessary funds to start. The Max and Victoria Dreyfus Foundation offers grants of different amounts for projects big and small! Through a simple application process, you can receive anywhere between \$1,000 and \$20,000 to start projects like bike share programs, art enrichment activities, or STEM exposure projects. The possibilities are endless! <https://www.mvdreyfusfoundation.org>

The Duke Energy Foundation provides philanthropic support to address the needs vital to the health of its communities. Annually, the Foundation funds more than \$25 million in charitable grants, with a focus on education, environment, economic and workforce development and community impact. Learn more: <http://www.duke-energy.com/community/foundation.asp>

DWD Offers \$20 Million In Grants The Indiana Department of Workforce Development (DWD) announced \$20 million in grants through its Skill UP Indiana! Program to fund employer-led "innovation networks," which will develop solutions to in-demand talent needs across Indiana.

Innovation networks are partnerships among local employers, educators, community organizations, and workforce and economic development partners, all working in collaboration to align community education resources (K-12, career and technical education, adult education, higher education, and incumbent worker training programs) with the skill and talent needs of the area's industries.

To learn more about the grant program and how to apply, click here: <http://www.in.gov/dwd/skillup.htm>

FLEET (Future Leaders in Experience-based Engineering and Technology) FLEET is an innovative, web-based naval engineering/ship design competition for high school students. Administered by the American Society of Naval Engineers (ASNE), developed by Navatek Ltd, with support

from the Office of Naval Research (ONR), FLEET uses the youth-friendly model of gamification to introduce students to the STEM fields of naval architecture and engineering. Students are challenged to make realistic ship design decisions for naval vessels to conduct a search and rescue mission. Mini-grants are available to offset the cost of technology, staffing, or supplies and materials at the teacher's discretion (up to \$500). Check it out at www.fleetengineering.org

Lockheed Martin: Grants for Education Lockheed Martin provides grants for K-16 Science, Technology, Engineering and Math (STEM) Education. This includes Lockheed Martin's K-12 STEM Education Initiative, Engineers in the Classroom, as well as STEM-focused curricular and extracurricular programs that provide employee engagement opportunities in a community in which Lockheed Martin has employees or business interests. Maximum award: varies. Eligibility: 501(c)(3) organizations that deliver standards-based science, technology, engineering and math (STEM) education to students in K-16. Amount: Varies Deadline: Rolling. More [HERE](#).

The NASA Glenn Research Center Office of Education is soliciting applications from youth-serving organizations (YSOs) and formal/informal education institutions in NASA Glenn's six-state region (IL, IN, MI, MN, OH, WI). This solicitation is requesting proposals to implement STEM content in out-of-school time (OST) settings for students in grades 6-8 from June 1, 2018 through August 15, 2018 using the NASA Glenn Engineering Design Challenge (EDC): *Powered and Pumped Up*. This challenge provides students the opportunity to work on real-world problems in a collaborative, team-based environment. Students apply lessons learned to solve problems that STEM professionals face while gaining a deeper knowledge of how NASA is a part of their everyday lives. Application Deadline – **April 23, 2018**
Solicitation URL: <https://www.nasa.gov/Glenn-EDC-summer2018solicitation>
Application URL: <http://tinyurl.com/NASA-Glenn-EDC3-Solicitation>

Project Learning Tree Accepting applications from schools and nonprofit organizations for environmental service-learning projects through its GreenWorks! grants program, which is designed to help students make their schools greener and healthier by, for example, implementing a recycling program, conserving water and energy, improving air quality, or establishing a school

garden or outdoor classrooms and integrating these projects into the curriculum.

Grants of up to \$1,000 will be awarded to support environmental projects that demonstrate service-learning, exemplify student voice, and involve at least one community partner. To be eligible, projects must secure at least 50 percent in matching funds (in-kind acceptable). <https://www.plt.org/resources/greenworks-grants/>

STEMfinity STEM Grants Listings: Indiana
<http://www.stemfinity.com/stem-grants-indiana>

TechPoint Foundation for Youth Robotics Grants Could your organization benefit from receiving a free VEX IQ Robotics Kit, training, and other resources needed to get a robotics program started? [TechPoint Foundation for Youth](#) has \$500 Robotics Grants available to any 501c3 that does not already have a VEX IQ Robotics team!

The Robotics Grant includes:

- VEX IQ robotics kit
- Project Lead the Way classroom activities
- Professional development training and ongoing support
- Team registration cost

We are looking for enthusiastic educators, who are interested in beginning a robotics team, to apply for the grant. No experience needed. We have already awarded over 450 grants, and we have more available! This grant application is straight forward, easy to complete, and there is no catch! This is an amazing and unique opportunity for Indiana schools, and we don't want your school to miss out!

Learn more and apply [here](#) today! (www.techpointyouth.org/apply-for-robot-grant-nonschools/) Inquiries may be directed to RobotGrant@TechPointYouth.org. Follow us on [Twitter](#) and [Facebook](#) for the most current updates on the State Robotics Grant!

Resources for STEM Educators

ACT Report on "STEM Education in the U.S., 2017"
<http://www.act.org/content/dam/act/unsecured/documents/STEM/2017/STEM-Education-in-the-US-2017.pdf>

Afterschool & STEM: System-Building Evaluation 2016 (INCLUDES INDIANA RESEARCH!)

This evaluation is among the first on a large scale to measure the impact of afterschool programs on students' STEM-related attitudes and social-emotional/21st-century skills. The primary goals of this work were (1) to examine levels of change in youth outcomes among programs receiving resources and training support from system-building states; (2) to inform on national trends related to STEM learning, such as gender or grade differences in science interest; and (3) to link STEM program quality with student outcomes and facilitator beliefs. <https://www.thepearinstitute.org/publications>

The Afterschool STEM Hub This collaboration of out-of-school-time program leaders and stakeholders can provide coordinated messaging and communications that impact advocacy and policy and help ensure the important place of informal, afterschool and summer programs in the STEM learning ecosystem. For more information on this initiative (including the list of participating organizations,) visit www.afterschoolstemhub.org

The American Academy of Arts and Sciences has released [Perceptions of Science in America](#) (PDF), the first in a series of publications from the [Public Face of Science initiative](#), a three-year project on trust & perception, public & media engagement, and informing policy & action. Subsequent reports will highlight the numerous ways that individuals encounter science in their everyday lives and present recommendations for improving the practice of science communication and engagement.

Black Girls Code Introducing programming and technology to a new generation of coders who will become builders of technological innovation, the program empowers girls of color (ages 7-17) to become innovators in STEM fields, leaders in their communities, and builders of their own futures through exposure to computer science and technology. Black Girls Code has a goal of training one million African American girls to code by 2040. <http://theconnectory.org/program/black-girls-code>

The Black Family Technology Awareness Association (BFTAA) Campaigning to empower and equip its community of families with the resources needed to become actively involved with the technology revolution, BFTAA partners with faith-based organizations, corporations with a strong community presence, small

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businesses, resource centers, such as schools and libraries, and city and state government agencies. By bringing together all these entities to focus on finding solutions, BFTAA hopes to create models of success that will close the digital divide that threatens to perpetuate educational, financial, and social inequality in America. Its BFTAA "Youth Technology Club" features STEM opportunities around robotics and broadcasting for elementary through high school students. More info [HERE](#).

Connecting to Computer Science: A Resource for Afterschool Practitioners

http://afterschoolalliance.org/documents/AfterschoolCS_ResourceGuide_2017.pdf

The Connection, the monthly newsletter of the STEM Learning Ecosystem

<https://mailchi.mp/stemecosystems/april-2017-the-connection-stem-learning-ecosystems-monthly-newsletter-1651721?e=04b2229e43>

The Connectory This free online collaboration tool gives STEM program providers a chance to find partners based on interests as well as a platform to showcase STEM opportunities to families. Families, in turn, have a free, go-to resource to connect the children in their lives to STEM learning opportunities in their community. <http://www.theconnectory.org/>

Couragion provides STEM career literacy and workforce development solutions for educators, students and advocates. With a nationwide call for improving the accessibility and quality of STEM education, Couragion strongly believes that career literacy should be integrally woven into STEM education to improve classroom relevance, better inform student choice, and increase retention in real-world career paths. Couragion works with educators to take their STEM curriculum to the next level and to support work-based learning initiatives. Their machine learning and workforce analytics generate insights about the perception of careers to understand how to cultivate a STEM talent pipeline. Couragion provides career literacy professional learning for educators so that they can be better advocates for students. Couragion is a social enterprise whose R&D is generously supported by the National Science Foundation (NSF) and AT&T Aspire. Learn more at <http://www.couragion.com/resources> and their blog [STEM Crossings!](#)

Early Childhood STEM Education

<https://regentsctr.uni.edu/ramps-pathways>

Edutopia – 12 Inspiring STEM Books for Girls Science, technology, engineering, and math are more important than ever, so we've put together a list of books to encourage girls to persevere in these subjects. Click here [STEM Books for Girls](#)

Girls Who Code, the national non-profit dedicated to closing the gender gap in technology. Technology is changing everything about the way we live and work. Computing skills are the most sought-after in the US job market, with demand growing 3X the national average - but girls across the US are being left behind. Today, less than a quarter of computing jobs are held by women, and that number is declining. Clubs are free after-school programs for 6-12th grade girls to use computer science to impact their community and join our sisterhood of supportive peers and role models. They can be hosted in schools, universities, libraries, community centers, faith-based organizations, or nonprofits. There's ZERO fee to start a Club. <https://girlswhocode.com>

The Hoosier STEM Academy is a partnership among Ball State University, IUPUI, Purdue University, and Valparaiso University to provide a one-year master's degree in education and teaching license with a STEM content focus. This degree is for students with an undergraduate degree in a STEM content area who wish to teach STEM in an underserved Indiana secondary school. The Academy program will begin in Summer 2018 and continue through Summer 2019. For more information, click on: <https://www.dropbox.com/s/veatmliq3kagph2/Hoosier%20STEM%20Academy.docx?dl=0>

Indiana Department of Education STEM School

Certification Program For details on the process to earn the IDOE designation of a STEM School, follow [THIS LINK](#) Note that, to be certified as an IDOE STEM school, a school must partner with an afterschool program offering STEM.

The Indiana State Museum The museum offers free admission to groups of 10 or more K-12 students visiting from 21st Century Community Learning Centers during school breaks. ISM can help K-12 students meet Indiana Academic Standards in physical science, earth science, life science and STEM-related standards. Research shows that encounters with original artifacts, performances, and

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hands-on activities, all available at the Indiana State Museum, reach children who do not respond well to traditional teaching methods. Research further demonstrates that children who visit museums have higher achievement in math, reading and science. Please contact Sarah Rapp-Johnson at SRappjohnson@indianamuseum.org for more information, or visit <https://www.surveymonkey.com/r/ISM21stCentury> to register for a free field trip.

Indianapolis Zoo Offers professional development and kits to educators. Learn More [HERE](#).

The Link Observatory Space Science Institute offers DiscoverSpace Education and Science, the most comprehensive, immersive and educational on-demand space science programs available! DiscoverSpace is suitable for grades 4-12, requires only five minutes of prep time from educators, takes place both in and out of the classroom, and is cost effective. To learn more, contact Amy Shankland at ashankland@linkobservatory.org and check out our demo at <http://www.linkobservatory.org/discoverospace.html>

Matific Takes a unique approach to teaching K to 6 math using hands-on and interactive mini-games called episodes. These immersive bite-sized apps for tablets and personal computers are based on a modular and progressive spiral learning system. For a free 30-day Matific trial, click here and register: www.matific.com . To schedule a free webinar to learn how Matific can be customized to serve your program, click here to request a webinar demo: <http://meetme.so/SeanTiernan>

Minecraft Hour of Code - Microsoft Store Indianapolis
This is a free, 90-minute workshop that goes behind the scenes to learn how to code, program, and play in the own gaming world. Participants will use fun, interactive coding to learn how creativity and problem solving come together to make something all their own. The workshop is designed for ages 8 and older. Participants should bring a set of headphones or earbuds. Contact ayanac@microsoft.com to schedule a private event. More info on this and other workshops [HERE](#).

National Science Teachers Association – [The STEM Classroom \(Elementary Edition\)](#)

Next Generation Science Standards: A primer and resource guide for afterschool educators The Next Generation Science Standards (NGSS) offer a powerful new vision for American science education for the 21st century. NGSS has already been adopted by 17 states, as well as many more individual schools and districts. This resource will help you learn what's relevant for afterschool providers, and help you develop a strategy for engaging with the new standards. More info [HERE](#).

Public Broadcasting Service (PBS)

For out-of-school time program leaders looking to get students outside more, it might seem counter-intuitive to introduce digital media into their programming. After all, don't kids already spend too much time in front of screens? Why use digital media when what you really want to do is get kids outdoors? PLUM LANDING, the innovative PBS KIDS multimedia project that encourages children to explore the outdoors, has an answer to that question because digital media can enhance kids' exploration of nature! Learn more [HERE](#).

WFYI, the Indianapolis PBS affiliate, has been piloting a project at Liberty Park Elementary School, Warren Township, Indianapolis, to provide high quality STEM curriculum to that school's out-of-school time programs. Click here to view a video about that project vimeo.com/238204082

The STEM Connection is an Indianapolis based non-profit corporation which facilitates science, technology, engineering and math experiences and programming for all children and adults. Their goals are to breakdown stereotypes related to STEM, to challenge all children to be their best, and to provide meaningful learning opportunities which engage and encourage. Programming includes field trips, STEM@Night, summer camps, Family STEM Nights, and professional development for teachers, administrators, and out-of-school time professionals. <https://thestemconnection.org> Here's a link to their latest newsletter: [STEM Connection April Newsletter](#)

STEM Learning Ecosystem Newsletter, [The Connection](#)

STEM Ready America A collection of articles, including one authored by Indiana Education STEM Taskforce members Bob Abrams, Paul Ainslie, and Reginald McGregor, highlights how young people are developing STEM knowledge and skills that will prepare them to be

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successful in school today and the workforce tomorrow. Developed by STEM Next, with support from the Charles Stewart Mott Foundation, this compendium provides persuasive evidence and real-world examples to help bring quality STEM learning to children and youth across the nation. Check out <http://stemreadyamerica.org>

Teen Science Cafe Network Teen Science Café out-of-school programs are a free, fun way for teens to explore the big advances in science and technology affecting their lives. Teens and STEM experts engage in lively conversations and activities to explore a topic deeply. <https://teensciencecafe.org/>

About the STEM-IN' Newsletter This newsletter is published 12 times per year by the I-STEM Resource Network and the Indiana Afterschool Network. For inquiries and newsletter contributions please email: babrams@indianaafterschool.org or hicks12@purdue.edu

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