Newsletter
March, 2019 (V12 N7)

Your CSN (CTN, SIGCT, SIGCS) Officers and Leadership Team provide this publication which is intended to notify you about CSN activities, ISTE 2019 conference info, upcoming events, notable news, resources, links and just about anything else that is useful for CSN members. To contribute to this newsletter, please email Joe Kmoch < joe@jkmoch.com>. Social media information (Facebook, pbworks Wiki, LinkedIn and Twitter) is located at the end of this newsletter. The entire CSN Leadership Team is listed on our wiki: http://istecsn.pbworks.com

Table of Contents:

- Robo Expo 2019 in New York City, April 14, 2019.

- **Professional Development/Course Opportunities**.
  - **New** → Introduction to Computational Thinking for Every Educator
  - **Just launched** → Foundations of Computer Science for Teachers: Praxis Prep
  - **reminder** → University of Texas at Austin Computer Science Education Courses
- **Professional Development/Conference Opportunities**.
  - **new** → Inaugural Symposium on Computer Science and Learning Sciences
  - **updated** → ISTE 2019, June, 23-26, Philadelphia, PA
  - **reminder** → WeTeach_CS Summit 2019 near Austin TX
  - **updated** → CSTA 2019 Annual Conference scholarship available due March 15.
  - **reminder** → CSPDWeek at Colorado School of Mines week of July 22, 2019
  - Logo Foundation Summer Institute July 22-25, 2019 in NYC
  - **reminder** → Scratch Day at Teachers College Columbia, December 7, 2019
- **new** → **Your homework -** Three articles
- **new** → **NCWIT**
  - Resource: By The Numbers poster and handout
- **new** → Links: Notable Women in Tech Cards, blogs posts with links and ideas from two esteemed CS professionals, Jane Prey and Bobby Schnabel
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Computer Science Network Events

Planning continues for ISTE 2019 in Philadelphia, June 23-26, 2019

Consider volunteering for the following activities

*Please **fill out this form** if you are interested in volunteering...

- **NEW NEW NEW** → **Creating with CS** - Come join us on Sunday morning, June 23, 2019, to learn about new hands on approaches to computing education that combines the magic of doing, creating and making with the power of code, in a way that engages every student in active computational thinking. The maker education movement has proven to engage and interest girls and other nontraditional CS student populations through creative, personally meaningful projects. Learn how combining the maker

mindset with computational thinking can result in transformative learning experiences for all students.

The '**Creating with CS**' sessions will be hands-on sessions with as much time devoted to coding, making and creating as possible. Participants will leave with knowledge of how to create block-based and text-based programs in different environments such as scratch, makecode, python etc. and move them onto a variety of physical computing devices to create physical interactivity with the computational world. They will also get an introduction to design thinking and how it can be used to provide context to coding activities, which research shows is effective in attracting students of all genders to programming. Finally, teachers will see lots of examples of real student projects aligned to ISTE CS Standards, CSTA and STEAM content standards.

- **Updated → CS/CT Playground -** We continue our goals to engage those attending and to increase interest in computer science (CS) and computational thinking (CT). Thus far we will have exhibits from Robolink CoDrone, Scottie Go, Funecole Curriculum and Calypso/Cozmo/AI4K12. Others we are talking to include Merge Cube/CoSpaces, K-8 robot programming in Philadelphia School District, NCWIT, MicroBits, BlocksCAD3D, and Hands-On Coding.

  Our intent with the exhibits is to not duplicate sessions and posters which will occur abundantly throughout ISTE 2019. Instead we find opportunities to engage students and educators to demonstrate exciting technologies being used in classrooms. We need help finding students and teachers in the Philadelphia area who are doing interesting things with computer science and computational thinking. We will again have a double sized area directly opposite of the registration area (so we'll likely have even more attendees than ever). Our Playground will occur on Sunday, June 23, 2018 from 1:30pm - 4:30pm

- **CS/CT Strand** throughout the Conference - If you only have a few hours of time, but want to make a difference in CS education, volunteers will look for and recommend sessions to be identified as CSN Picks for the ISTE 2019 conference. We look for sessions we believe are particularly appropriate to CS and CT in addition to other CS-oriented strands based in other domains. Last year we had over 150 activities identified and we will likely have many more in 2019.

- **The Third Annual CSN Excellence in Education Award.** This volunteer opportunity involves reaching out to 3-5 of your colleagues encouraging them to apply for this prestigious ISTE 2019 award. This award recognizes exceptional educators and leaders who are championing the cause of improved Computer Science and Information Technology education. Those recognized demonstrate exemplary work providing a model for teaching, learning and leading in this endeavor. Previous winners have been Kimberly Lane Clark (2017 and our current CSN President) and Jorge Valenzuela (2018 and now a CSN Leadership Team member)

- **CSN Members Discussion** -We are gathering volunteers who are passionate about discussing relevant CS topics. For this volunteer activity, ISTE Connect CSN members will be asked to moderate 1 question, 2 times per year on a topic you are passionate about. A calendar will be sent out so that you know which months you are responsible for.

Other CSN activities at ISTE 2019 will include:

- Focus on new ISTE Computer Science Educator Standards
- Involvement in the **ISTE Communities Networking Fair** (Professional Learning Networking Fair) on Sunday, June 23, 2019
- **Activities around our CS/CT book series**
- **Specific K-8 Activities** and Discussions.
- **Activities with our collaborators** - NCWIT, the local CSTA chapter, WeTeachCS.org, CS4TX.org and Code.org

If you are interested in helping develop these events or have additional ideas, please contact the editor of this newsletter <joe@jkmoch.com>

*** Plan on exciting times at ISTE 2019! ***

ISTE Computer Science Network News

Update → Webinar: How to Develop Computational Thinkers
presented by Jorge Valenzuela
Register here to get the recording.

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Reminder → Standards for Educators: Computational Thinking Competencies
Download them at <https://www.iste.org/standards/computational-thinking>
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Reminder → Interested in an awesome Professional Development Opportunity?
Our ISTE Computer Science Network it working on creating meaningful Professional Development that will help to support and empower a CS4ALL mindset. We began our PD this year by creating a Flipgrid, however to date...we have 197 views, but only 11 members have introduced themselves to the community and 3 of you who are actively engaging in conversation.

You have spoken and we are listening! We are closing the Flipgrid and have created a QUICK (four questions) survey so that you can let us know what you need. There is an open-response question at the end and we would love to hear other ideas and needs from you. We exist to support and empower YOU!

Please complete the following survey: CLICK HERE - https://goo.gl/forms/kZTgslDlqDSoDWU92
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New → Computer Science Network Discussion Forum on ISTE Connect
Recent topics have included:

- K12 Coding Plan at District Level Request
- Online CS Curriculum
- Summer Study for HS Girls?
- Impacts of Computing

To the CSN Discussion area:
<https://connect.iste.org/communities/community-home/digestviewer?communitykey=6fed01aa-

9e1f-4c27-87d1-95d0afcbbbeb&tab=digestviewer>

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CSN Webinars: As we develop our CSN Webinar series into the future, we certainly invite your ideas and interest in volunteering. Please contact our Professional Development chair, Heidi Williams <heidi@stretchinstructor.com>, with your ideas and your interests.

Computing Education News

Updated → CS in K-8 #CSK8 Twitter Chats. These popular hour-long Twitter chats continue on the 1st and 3rd Wednesdays of every month at 5pm PT/8pm ET for the 2018-2019 school year. Coming up: March and April Twitter chats will be

- March 6 "The Integration of CS and the Arts in K-8"
- March 20 "Assessment in K-8 Computer Science"
- April 3 "Computational Thinking"
- April 17 "Equity, Ethics & Diversity in K-8 CS"

The co-leaders are Vicky Sedgwick and Sheena Vaidyanathan. Vicky and Sheena host a Google+ community for K-8 CS <https://plus.google.com/communities/1118dsaaa03101139836526905> and a Facebook group: <https://www.facebook.com/groups/CSTAK8/>. You can see their calendar at https://calendar.google.com/calendar/embed?src=8l8em5hfa1f8456abbicqac3r8%40group.calendar.google.com&ctz=America%2FLos_Angeles

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Reminder → Amazon launches 'Amazon Future Engineer' program to support cs education

Amazon is officially launching a new program it calls "Amazon Future Engineer," a broad, community-based push into schools and education that represents a renewed emphasis on education, an area in which it's had mixed success. See their site and the January 2019 issue of this newsletter

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Reminder → AI for K-12 (that's Artificial Intelligence for K-12). This group jointly sponsored by AAAI and CSTA is developing national guidelines for AI education for K-12 and developing an online, curated resource directory to facilitate AI instruction. They will be presenting sessions at both the upcoming SIGCSE 2019 and ISTE 2019. They will also be presenting at our ISTE CSN Playground. If you are interested in following this group and their work, please join the AI for K-12 mailing list by sending an email to ai4k12@aaai.org and requesting inclusion in their mailing list.

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Reminder → New Special Reports: **Computer Science Education Week**

2018 (and beyond)

For Computer Science Education Week this year, the CS Bits and Bytes authors shared features about NSF-funded resources that enable computing education for *all* students. For information on each of the five features produced either consult the last few issues of this newsletter or click on this link: <https://www.nsf.gov/cise/csbytes/> You'll see the CS Education Week 2018 item part way down the page

Reminder → NSF CS Bits and Bytes - Highlighting innovative Computer Science Research. Your feedback is welcome at CSBitsandBytes@nsf.gov To subscribe and receive information and a link to each new issue, please send a blank email to <csbytes-subscribe-request@listserv.nsf.gov>

New issue → FLOODAWARE - vol 5 #6

Urban flooding is one of the most common and expensive types of natural disasters in metropolitan areas today. It is caused largely by poor stormwater drainage and can cause severe damage to homes and businesses. Typically, flood levels are measured by equipment costing tens of thousands of dollars, greatly limiting the data available for effective stormwater planning. But now, scientists are developing a mobile app called FloodAware to crowdsource images of flooding, integrating these into a smart city infrastructure that turns any smartphone or web camera into a flood gauge.

New issue → DIY ENGINEERING - vol 5 #7

Who says you need expensive tools and machinery to be an engineer? Using "paper mechatronics," you can build, program, and control any machine your imagination candream up! <https://www.nsf.gov/cise/csbytes/newsletter/vol5/V5I7_PaperMech.pdf>

Previous issues:
Vol 5 #1: **Brain-controlled Drones**
Vol 5 #2: **The Big Data of Lyme Disease**
Vol 5 #3: **Augmented Reality**
Vol 5 #4: **3D visualizations**
Vol 5 #5: **DNA Memory Chips**

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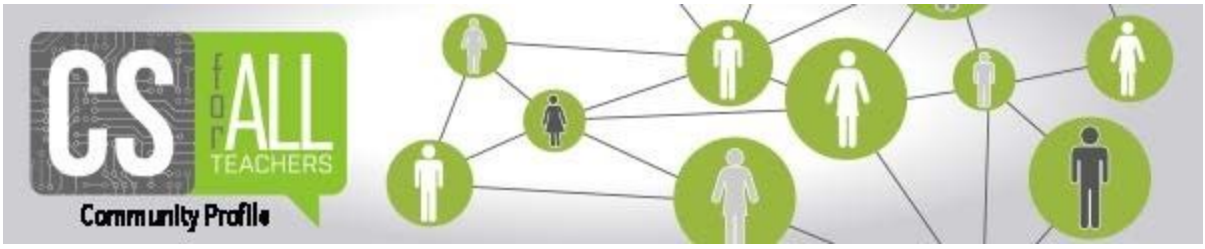

new stuff → CS for All Newsletter. This excellent resource is available if you Join the CSForAllTeachers Community and sign up for the CS for All Teachers Notifications and the Newsletter. Recent blog posts, upcoming webinars and resources are noted in their weekly newsletter. Here are recent entries:

BLOG POSTS:

- Teach like a computational thinker published on 02/01/2019

- Community Spotlight: Audra Kaplan published on 02/01/2019
- Join us at Picademy! published on 01/24/2019
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DISCUSSIONS:

- The Good, The Bad, & The Ugly: CS in Movies published on 02/05/2019)
- Teaching Networks & the Internet in MS - Physical & Digital Security (CSTA K-12 Identifier 2-NI-05) published on 02/04/2019)
- Spring Semester published on 01/26/2019)
- Spring or Summer PD/Conferences- Which Do You Recommend? published on 01/18/2019)

UPCOMING EVENTS:

- **What is the role of robotics in Computer Science classrooms in 2019**? on 02/19/2019)
  Description: We are excited to explore the current state of robotics education in the K-12 classroom. What is available for robotics hardware? Programming language support? Professional development for teachers? Curricula and grade-level appropriate materials? Click <https://csforallteachers.org/event/what-role-robotics-computer-science-classrooms-2019> to access the recording.
- **Using E-Textiles in the classroom** on 02/20/2019)
  Description: Last year, the Exploring Computer Science team put together an e-textiles unit as an alternative to Unit 6 robotics, in which students complete projects using clothing, accessories, or home furnishings to embed electronics and computational elements. The unit is design focused, hands-on, and integrativeâa perfect combination for engaging your students! Click <https://csforallteachers.org/event/using-e-textiles-classroom> to access the recording
- **ScratchEd meetups** Description: ScratchEd Meetups are peer-designed professional learning experiences inspired by the unconference model. This means that at any given event, you decide what your learning looks like! See https://www.meetup.com/pro/scratched

RESOURCES:

- Groundhog Day Coding published on 01/29/2019)
- Unity Game Programming published on 01/29/2019)
- Cyber Security course published on 01/25/2019)

Student Opportunities

updated → **American Computer Science League** ACSL organizes computer science contests and computer programming contests for junior and senior high school students. In their 39th year of continuous operation, they are announcing an Elementary Division (grades 3-6). More information is available on their site.

Over 200 teams in the United States, Canada, Europe, Africa and Asia are participating. ACSL is on the approved activities list of the National Association of Secondary School Principals (NASSP) and is an institutional member of CSTA.

Their yearlong contest is in 4 rounds. The last day to give and score **round 4 is Friday, April 19, 2019**. The All-Star Contest will be held on Saturday, May 25, 2019 at Wayne Hills HS, Wayne NJ. This is worth checking into even if to just have access to their wealth of short answer and programming problems over the years. <http://www.acsl.org>

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New → Robo Expo 2019. The **Robo Expo** is an event for students of all ages, with a shared interest in robotics, to come together to pursue similar goals or

express themselves uniquely. Participation in Robo Expo is open to schools, home school groups, clubs, and any children sponsored by an adult. Robo Expo exhibits are open to all robotics kits—NXT, EV3, VEX, Arduino, Wedo, Hummingbirds, and anything else. To learn more, read Robo Expo – A Soft Approach to Robotics Teaching and Learning This will be held at The Hewitt School, 48 E 75th Street, NY 10021 on Sunday, April 14, 2019 from 1:00pm - 3:15pm. Find out more...

Professional Development/Course Opportunities

New → **Introduction to Computational Thinking for Every Educator**. ISTE is again offering this free online course developed with the support of Google. This course unpacks how CT can be integrated through all subject areas and grade levels. Here "Every" really means Every! This is a 15 hour self-paced course with ongoing instructor support. The upcoming March session is FULL, so you may now want to sign up for the Summer Session which runs from June 3 - August 9. Enrollment starts March 4, 2019. Apoply here: <https://www.iste.org/learn/iste-u/computational-thinking>

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Just launched → **Foundations of Computer Science for Teachers: Praxis Prep**. This course was just updated and relaunched by the University of Texas-Austin and is available to anyone in or out of Texas. The course explores and guides you through all 196 required competencies stipulated by the Praxis 5652 topic list. You will learn all you need to know to successfully take and pass this test.. This is an 8-week minimum self-paced online course. The cost is $398. Registration is open now - please go to <https://utakeit.stemcenter.utexas.edu/courses>.

Reminder → **University of Texas at Austin CS Education Courses.** UT Austin has developed several courses that may be of interest to you. All of their courses can be currently found at https://stemcenter.utexas.edu/online-education. Two highlighted here include:

Foundations of Computer Science for Teachers.
Strategies for Effective Inclusive CS Teaching.

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Professional Development/Conference Opportunities

new → **Inaugural Symposium on Computer Science and Learning Sciences.** This symposium's theme is "Conversations at the Intersection of Computer Science and Learning Sciences" and will be held at Northwestern University in Evanston, IL from Sunday April 28-Tuesday April 30. Advances in computer science offer enormous opportunities for expanding and deepening learning and education. Equally enormous are the challenges in meeting the needs for learning computational thinking and skills.This symposium will engage scientists in learning and computer science, senior and juniors, in a range of dialogues about the opportunities, challenges, and innovative solutions to education and learning for STEM and computer science. <https://www.cslssymposium.northwestern.edu>

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reminder → **WeTeach_CS Summit 2019.** The WeTeach_CS Summit is a 3-day event which educates, empowers, and inspires K-12 CS teachers, advocates, administrators, professional development providers, university instructors, and policy-makers to advance the goal of CS for All in Texas and beyond. This year's Summit will be held on the shores of the San Gabriel River at the Sheraton Austin Georgetown Hotel and Conference Center in Georgetown, TX, just outside of Austin. Approximately 300 CS champions will be in attendance. Registration opens February 1, 2019. Full details at: https://stemcenter.utexas.edu/events/18

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updated → **CSTA 2019 Annual Conference**. Get ready for this always excellent conference totally focused on K-12 computer science. The dates are July 7-10, 2019 in Phoenix, AZ. Plenty of workshops, sessions, opportunities to network and have fun together with colleagues from across the country who share the same joys. Registration and more information is available at https://www.csteachers.org/page/2019conference

AND, CSTA is excited to announce the third round for the 2019 Conference Scholarships. The deadline is **March 15, 2019 at 5pm EST**. Whether you are a first-time or returning attendee, you can apply. Do so here: <https://www.surveymonkey.com/r/CSTA2019>

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CS PD Week. Due to overwhelming demand, CSPDWeek will return to Colorado School of Mines, the week of July 22, 2019. CSPdWeek is a week-long residential professional development experience for computer science educators to support teachers and schools in offering inclusive and rigorous computer science learning opportunities. In addition to the National CSPdWeek in Colorado, many regions, states and communities are offering their own satellite CSPdWeeks as well. Full scholarships are offered to teachers and counselors who participate. <http://www.cspdweek.org>

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Logo Summer Institute - The 2019 Logo Summer Institute will be at the Spence School in New York City, July 22-25, 2019. The Logo Summer Institute is an intensive immersion in creative computing for K12 teachers, parents, and technology integrators. Our project-based approach supports computational thinking, and STEAM learning and teaching. The program is highly individualized to accommodate novices as well as more experienced participants, teachers of different subjects, and those who work in after-school programs and other informal settings as well as in classrooms. Registration is open now. <http://www.logofoundation.org/summer>

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Scratch Day @ TC

December 7, 2019

9:00 AM – 1:00 PM

Teachers College, Columbia University, New York City

Hold the date and check back for further information.

We're looking forward to a fun-filled day of learning and creating for children, their parents, and teachers. Scratch Day is for people of all ages, experienced Scratchers as well as novices.

- Parents: bring your children
- Teachers: bring your students
- Children: bring your parents and teachers

There will be hands-on workshops, on a wide variety of Scratch topics and a chance to win raffle prizes.

To find out more and to see what went on at previous Scratch Days visit:

ww.logofoundation.org/scratchday

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NEW → *Your Reading/Viewing Assignments*

Picking a Language for Introductory CS - Why I don't like Python. As the author, Mark Lewis notes in his lengthy but interesting blog post "The purpose of this blog post is to explore issues related to the selection of a first programming language for CS majors. I originally started it with the intention of raising questions related to the rapid adoption of Python that is currently happening in CS departments across the US. However, I decided to make it more general to "score" a variety of different languages. I will generally restrict my comments to languages in the top 15 on RedMonk that I know people have used for introductory programming courses or which I can easily imagine people using for that purpose".
<https://dynamicsofprogramming.blogspot.com/2019/02/problems-with-python-for-introductory-cs.html>

Student Voices: Why all kids need to learn computer science. The biggest reward of learning computer science for Issaquah student Hallie Chen was computational thinking, or breaking down problems into segments to solve one at a time. The benefits of computer science extend far beyond coding for any student, she argues.
<https://www.seattletimes.com/education-lab/student-voices-why-all-kids-need-to-learn-computer-science/> (you'll need to sign up for the education lab series - it's free)

The Two Codes Your Kids Need to Know. The College Board came up with a surprising conclusion about keys to success for college and life. Take a look - I won't even tell you what they are and spoil your fun! The author is Thomas L. Friedman the author of the groundbreaking book "The World is Flat".
<https://www.nytimes.com/2019/02/12/opinion/college-board-sat-ap.html>

… From the February, 2019 issue of this newsletter

How To Prepare Your Kids For a Post-Digital Age or Don't Teach your Kid to Code, Teach Them to Communicate. In 10 or 20 years, much of what we "know" about the world will no longer be true. The computers of the future will not be digital. Software code itself is disappearing, or at least becoming far less relevant. Many of what are considered good jobs today will be either automated or devalued. We need to rethink how we prepare our kids for the world to come.

Computational Thinking and Thinking About Computing. Computational thinking will influence everyone in every field of endeavour. This vision poses a new educational challenge for our society, especially for our children. In thinking about computing, we need to be attuned to the three drivers of our field: science, technology and society. Accelerating technological advances and monumental societal demands force us to revisit the most basic scientific questions of computing. Jeannette Wing, 2008. Worth revisiting for its depth and beauty <http://rsta.royalsocietypublishing.org/content/366/1881/3717.short>

Facial and emotional recognition; how one man is advancing artificial intelligence. In this CBS 60-Minutes production, Scott Pelley reports on the developments in artificial intelligence brought about by venture capitalist Kai-Fu Lee's investments and China's effort to dominate the AI field.
<https://www.cbsnews.com/news/60-minutes-ai-facial-and-emotional-recognition-how-one-man-is-advancing-artificial-intelligence/>

… From the January, 2019 issue of this newsletter

What is Inquiry Based Science? The Smithsonian Science Education Center sponsors the STEMVisions Blog. In this article the author interviews Dr. Robyn M. Gillies a professor in the School of Education at the University of Brisbane in Queensland, Brisbane, Australia. She has done much research on inquiry learning. Though this Q&A is focused on science, we in computer science can learn a lot from the way a good science class is taught and these ideas are explored here. <https://ssec.si.edu/stemvisions-blog/what-inquiry-based-science>

What Does Computer Science Professional Development Look Like? Author Sheena Vaidyanathan writes "To go beyond the Hour of Code, we need to train teachers to teach computer science. But what should this computer science professional development look like?" Sheena (@sheena1010) is an EdSurge columnist and teaches computer science to middle-school students in Los Altos School District in California. She is also the co-moderator of the CSK-8 Twitter Chat noted above.
<https://www.edsurge.com/news/2018-11-26-what-does-computer-science-professional-development-look-like>

8 reasons why every child should learn to code. If we want to set our children up for academic success, every child should learn to code. Coding for kids not only helps improve their mathematics and writing skills but also gives them valuable skills in life and eventually in the workforce. <https://teachyourkidscode.com/why-coding-is-important-to-learn/>

Monthly CSN Newsletter readings October 2012 - December 2018

<*http://istecsn.pbworks.com/w/page/125926169/Monthly-Newsletter-Readings*>

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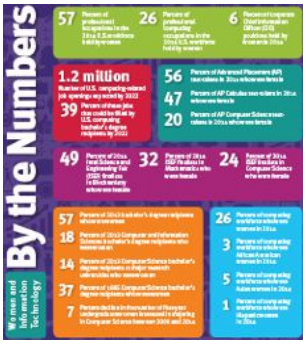
National Center for Women and IT (www.ncwit.org)

The National Center for Women & Information Technology (NCWIT) is a non-profit community of more than 1,100 universities, companies, nonprofits, and government organizations nationwide working to increase girls' and women's meaningful participation in computing. NCWIT equips change leaders with resources for taking action in recruiting, retaining, and advancing women from K–12 and higher education through industry and entrepreneurial careers. Find out more at www.ncwit.org/resources or email us at info@ncwit.org

NCWIT Resource of the Month:

By the Numbers
www.ncwit.org/bythenumbers



NCWIT's Women in IT: By the Numbers presents the most compelling statistics on women's participation in IT on a single page.

Visit www.ncwit.org/resources for additional resources; email info@ncwit.org to request hardcopy resources.

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Several links...

If you have favorite links you'd like to share (we could use some on IT topics such as networking, support, information systems and web design), please email Joe Kmoch.
< joe@jkmoch.com >

This month…

Notable Women in Tech Cards Women have been leaders in tech from the start, but not enough of their contributions are remembered. These cards can help.
<http://www.notabletechnicalwomen.org>

What Employers of Computing Professionals Want. A CSTA blog post by Bobby Schnabel, co-founder of NCWIT among many accomplishments. He like many maintains that employers need professionals to have strong non-technical as well as technical skills.
<http://advocate.csteachers.org/2019/01/17/what-employers-of-computing-professionals-want/>

"With a Little Help from My Friends". This CSTA blog post by Jane Prey contains many links to articles and ideas relevant to CS. Take a look!
<http://advocate.csteachers.org/2019/02/01/with-a-little-help-from-my-friends/>

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Contact Joe Kmoch <joe@jkmoch.com> to include an item in the next issue.
Social media links:

- CSN Community: <http://bit.ly/computing_teachers_network> (site registration needed)
- CSN on Facebook: <https://www.facebook.com/pages/ISTE-CTN/132261473482000>
- CSN on ISTE Wiki: <http://iste-csn.wikispaces.com> also <http://istecsn.pbworks.com>
- CSN on LinkedIn: <https://www.linkedin.com/groups/6784194/profile>
- CSN on Twitter: <https://twitter.com/ISTE_CTN>