ISTE Computer Science Network

Newsletter
May, 2019 (V12 N9)

Congratulations to this year's 2019 ISTE - CSN Winner!

Alfred C Thompson II is currently a computer science teacher at Bishop Guertin High School in New Hampshire. He is responsible for teaching Explorations in Computer Science, Programming Honors (C#), Mobile Application Development, and Advanced Placement Computer Science Principles.

For the past two years he has worked very closely with the State Department of Education in New Hampshire to develop standards for computer science education. He was part of a collaborative team that created a path to computer science teaching certification, wrote state standards for K-12 CS, and helped get CS listed as part of an adequate education by law.

Alfred has also served on the K-12 CS Framework writing team and the ACM/IEEE CS 2013 Task Force that developed guidelines for what an undergraduate computer science program should include, as well as on the advisory boards of many career technical schools. He has been an active member of the Computer Science Teachers Association (CSTA), as he served on the annual conference committee, was elected to the Board, and volunteered on several committees.

As a seasoned presenter and consultant, Alfred has presented at ISTE, SIGCSE and at the CSTA conferences, as well as local events. He has also conducted professional development workshops all over the US and in Canada.

Please check out his blog, as it contains a wealth of resources:

http://blog.acthompson.net

CSN Excellence Award Winner 2019

On behalf of the ISTE - Computer Science Network Leadership Team, we would like to congratulate Alfred on his dedication to CS education. A special thank you to all those who applied and for the CS members who volunteered to help evaluate the applications! We look forward to continuing to help support our CS professional learning community throughout ISTE 2019 and into the 2019-20 school year.

Best wishes as you close out your school years,
Kimberly Lane (CSN president) & Heidi Williams (CSN in-coming president)

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New→ Planning professional development for teachers through the lens of computational thinking.

By Verena Zimmer (Twitter: @blaho_blaho) *(click here to download this doc)*

As an educational technology coach, I had the chance to attend numerous conferences over the last few years.

When teachers at our school go to conferences, they are asked to implement a new idea, document and share it with the wider community. This year the sharing will happen at a Professional Development day organized by the coaches. My colleagues and I were very excited to organize a conference style PD day which is aligned with our educational technology vision and the theme “Recreate together”.

For the final assignment of the ISTE U course “An Introduction to Computational Thinking for Every Educator” I took the opportunity to look at the organization of the PD Day through the lens of the four parts of Computational Thinking.

What does this look like?

Decomposition

- Structure/Learning experiences
  - Inspiration: keynote speaker, student led inspiration stations, wellbeing program
  - Participation: workshops, unconference
  - Celebration: social media (#GESSlearns), photos, network event
- Coaching of the workshop leaders
- Workshop participants (inform, sign up, follow ups)
- Communication with various stakeholders (leadership, workshop leaders, keynote speaker, marketing, …)
- Well-being (Catering, Appreciation workshop leaders, Wellbeing opportunities)
- Other requirements

Pattern Analysis

- Comparing previous PD Days at school and other conferences
  - What made them so successful?
  - What should rather be avoided?
  - What should be done differently/similarly?
  - What doesn’t make sense in our context?

- Successful conferences follow a similar pattern – the learning is personalized. Participants are first, it is organized by teachers for teachers, and it is understood as a social act.

Abstraction

- What is unimportant/important for the PD Day? What drives the decision?
- The PD day follows the theme “recreate together”. Our goal is to inspire teachers, let them be active participants, as well as to celebrate together.

Algorithm

- The timeline for the project is a step-by-step description. We separated it in four phases, determined what we have to do, when it will be done and who is responsible for it.

The level of engagement during the PD Day (observations, feedback forms, conversations) will show how successful we will be. More importantly - What will the call for action after the PD day look like? What happens in the classroom in the following weeks? Can the school build a group of teacher leaders who can coach their colleagues? Will there be an interest for new PLCs? And, from the perspective of us Edtech coaches, will the perception of our work change?

Looking through the lens of CT showed me how I can take any kind of problem or situation and use CT as a structured way of problem solving and thinking. It convinced me even more that CT is a way of thinking and should be part of the learning experiences for all of us.

Verena Zimmer (Twitter: @blaho_blaho)

GUEST AUTHOR:

Our topic for June will be on resources Elementary Teachers will be exploring over the summer. What are your ‘Hot’ items to explore? If you are interested in writing an article and being featured in our newsletter, please contact Heidi Williams (heidi@stretchinstructor.com).

Computer Science Network Events

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

- **One more chance →** Come join us on Sunday morning, June 23, 2019!

  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, NCWIT, BlocksCAD3D, MADLearn among others.

  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. If you know someone whom you think would like to be part of the playground, please point them to this URL and have them fill out our form. tinyurl.com/ISTECSN

- **Updated →** **CS/CT Strand** throughout the Conference - We will be creating a list of sessions in the ISTE 2019 which will augment the CSN picks already identified in the program. We intend to have this ready towards the end of May. 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.

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

ISTE Computer Science Network News

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

Reminder → **Standards for Educators: Computational Thinking Competencies** Download them at <https://www.iste.org/standards/computational-thinking>

Last Chance → **Provide input into the ISTE 2019-20 Professional Development Webinar Series. What would you like to see for PD next school year?**

We 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)

New discussions → **CS Network Discussion Forum on ISTE Connect**

Recent topics have included:

- Coding
- Computational thinking
- Summerj PD
- Calls for various proposals
- In the recent past,,,
    - K12 Curriculum and Coding Plan at District Level Request
    - Online CS Curriculum and computer classes
    - Summer Study for HS Girls?
    - Impacts of Computing

To get to the CSN Discussion area:
<https://connect.iste.org/communities/community-home/digestviewer?communitykey=6fed01aa-9e1f-4c27-87d1-95d0afcbbbeb&tab=digestviewer>

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

- May 15 “Professional Development”
- June 5 - “Getting the most out of the CSTA Conference’

The co-leaders are Vicky Sedgwick and Sheena Vaidyanathan. Vicky and Sheena host a Faceboo page for the K-8 CS community <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

Reminder → New Special Reports: **Computer Science Education Week 2018 (and beyond)** (see previous issues or the site for a description)

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 → **Mobile MAPPing - vol 5 #11**
Mobile apps that combine mapping technologies with layers of data can make every flight, hike, or drive an adventure. For example, location-based technologies can help you learn about landscape features, fossil digs, cities, and more... making Earth Science more accessible to everyone!

New issue → **In a Galaxy Far Far Away… - vol 5 #12**
Mobile apps that combine mapping technologies with layers of data can make every flight, hike, or drive an adventure. For example, location-based technologies can help you learn about landscape features, fossil digs, cities, and more... making Earth Science more accessible to everyone!

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**
Vol 5 #6: **Floodaware**
Vol 5 #7: **DIY Engineering/Paper Mechatronics**
Vol 5 #8: **Celebrating Black Women in Tech**
Vol 5 #9: **Phishing**
Vol 5 #10: **The Power of Static**

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 is a recent email summary from CS For All Teachers

CS For All Teachers Want Your Feedback - CS for All Teachers wants to understand your experiences as a member of the community. You should have received an invitation to participate in our second annual community survey, if you've been active in the community within the last year and agreed to participate in research when you created your account. If you have not received an invitation but would like to participate in the survey, please reach out to us at csforallteachers@air.org and we'll be happy to help. We look forward to hearing from you!

Did you miss the April webinars? The community ambassadors hosted two great sessions on cooperative learning strategies and entrepreneurship in the CS classroom. Be sure to visit the event archives to access the webinar materials and recordings. Also, check back with the community calendar for several new
Webinars coming soon!

Have you seen the new resources? As the end of the school year approaches, we know elementary teachers may be struggling to keep their kids focused, while high school teachers are pushing their students to the AP CSP finish line! Check out these two new multimedia products from our community ambassadors for ideas on how to make the next few weeks successful:
Scratch is as easy as 3-2-1! and Tips to Prepare Students for the AP Explore Performance Task.

Beauty and Joy of Computing - Time is running out to
register for the *Beauty and Joy of Computing regional workshops* hosted across the country.
Don't miss your chance to sign up by May 15, 2019.

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

See their site and the January 2019 issue of this newsletter

Reminder → AI for K-12 (that's Artificial Intelligence for K-12). See the April issue of this newsletter; they will be presenting at ISTE2019 and at the ISTE CSN Playground.

Student Opportunities

NEW and Hurry - week of May 13, 2019 startup!

PACTF - high school cyber security contest

Registration is OPEN for PACTF -- high school cyber security contest: http://pactf.com.

Teams of 1-5 students, two rounds, starting May 13 (or later that week). Lots of prizes!

Details and to register: https://2019.pactf.com/
Historical perspective: https://en.wikipedia.org/wiki/PACTF
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New → **WAICY 2019 - World Artificial Intelligence Competition for Youth**. A global competition where students learn about and use artificial intelligence (AI) technology to solve real problems. This competition will be held on the Carnegie-Mellon University campus in Pittsburgh, PA on July 27,. 2019 WAICY 2019 is now open for registration

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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.

Apply here: <https://www.iste.org/learn/iste-u/computational-thinking>

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.

NEW → **Raspberry Pi Foundation Free Courses**.

Whatever age group you teach, the Raspberry Pi Foundation has something for you.

For 2nd - 6th grade teachers, they have gentle introductions to programming like Teaching Programming in Primary Schools.

For teachers of 7th grade and above, they have useful courses like Scratch to Python: Moving from Block- to Text-based Programming.

Then, if you teach at a high school, they have more advanced courses that you can use to inspire and stretch students like Object Oriented Programming in Python.

You can find these courses and many more (a total of 14 free courses) on the Raspberry Pi homepage on FutureLearn: rpf.io/csatnews. If you wish a completion certificate, there is a charge otherwise the courses are totally free.

Professional Development/Conference Opportunities

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. Our PLN leaders Joe Kmoch and Karen North will be facilitating a panel discussion on "**Building the Computational Mindset in STEM Education to scale Computer Science For All.**" If in Texas, we hope you be there.

Registration opens February 1, 2019. Full details at: https://stemcenter.utexas.edu/events/18

new → **Beauty and Joy of Computing Workshops.** PD applications are now open for the Beauty and Joy of Computing, an AP CS Principles curriculum (AP level high school).

BJC is an introductory computer science curriculum for high school or college students. BJC emphasizes the joy and complexity of creating visual computer programs and applications. BJC is balanced with critical reflection on the impacts of new computing technology. BJC is an AP Computer Science Principles course supported by the NSF and endorsed by the College Board and code.org.

Flyer here: https://bjc.berkeley.edu/documents/bjc-pd-2019-flyer.pdf
More info here: https://bjc.berkeley.edu/summer-pd/

The PD workshop costs $75, but covers all materials and on-going teacher support for the upcoming academic year. Additionally, we will be able to help with travel, lodging, and meal costs.

BJC offers PD workshops nationally. These week-long workshops are between the weeks of June 24 through August 5, 2019. See the flyer for one of the dozen workshops available this summer. Applications to any of their national locations are due May 15, 2019.

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

NEW → **Free Week-long CS and Making PD Opportunity at Pathfinders Summer Institute**

Infosys Foundation USA will host the **Pathfinders Summer Institute 2019**, an intensive week of in-person professional development in Computer Science and Making, at Indiana University Bloomington from July 14-19, 2019.
Over 700 US K-12 public school teachers will convene at **#InfyPathfinders** for high-quality hands-on training. All tuition, airfare, room and board for teacher participants will be paid. To make it possible for teachers to attend Pathfinders at no cost, funds from Infosys Foundation USA will need to be matched by schools, districts, PTAs or the donor community at DonorsChoose.org. Click **here** for detailed information on how the process works.
All K-12 public school teachers are invited to apply. Special consideration will be given to high-needs schools, teachers from under-represented communities, those new to teaching CS and Making, and districts demonstrating significant commitment to these subjects.
Last day for accepting teachers into a Pathfinders course is April 15, 2019.

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>

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>

Join Global Scratch Day!

https://day.scratch.mit.edu/

Scratch Day @ TC
December 7, 2019
9:00 AM – 1:00 PM
Check back here in September when we will issue a call for volunteers to lead workshops. General registration for Scratch Day will open in late November.

Scratch Day @ TC

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

NEW → *Your Reading/Viewing - Call to Action Items*

Why women leave engineering.

After learning the reasons behind this steady exodus, UWM researchers are exploring how diversity can impact innovation in engineering work teams. The reasons and ideas here largely apply to computer science and to software development in particular.
<https://uwm.edu/news/why-women-leave-engineering/>

Fake News: 60 Minutes Doesn't Check Facts.

The 60 Minutes piece that aired on Sunday, March 3, 2019, "Closing the Gender Gap in the Tech Industry," not only contained several pieces of misinformation, it also omitted the voices of the many organizations who are actively working on gender diversity in computing and achieving successes. Instead, one female tech employee's opinions and one male entrepreneur's perspective were held up as facts.
<https://www.ncwit.org/blog/fake-news-60-minutes-doesn%E2%80%99t-check-facts#.XJ_E3o4B8JE.twitter>

Five Research Questions Raised by a Pre-Mortem on the 60 Minutes segment on Code.org

Prof Mark Guzdial esteemed computer science educator and researcher from the University of Michigan, points to the controversy of the 60 Minutes segment and poses five research questions which should help to frame the problem - a great read including his links to both the blog post of Reshma Saujani, founder and CEO of Girls Who Code and the apology of Hadi Partovi, co-founder and CEO of Code.org.
<https://cacm.acm.org/blogs/blog-cacm/235884-five-research-questions-raised-by-a-pre-mortem-on-the-60-minutes-segment-on-code-org/fulltext>

Archived Monthly CSN Newsletter readings October 2012 - February 2019
<*http://istecsn.pbworks.com/w/page/125926169/Monthly-Newsletter-Readings*>

National Center for Women and IT - Resources

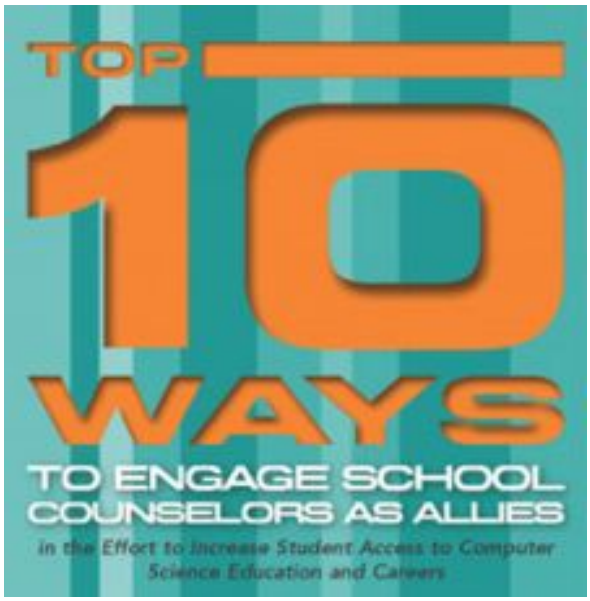
(www.ncwit.org)

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:

Top 10 Ways to Engage School Counselors as Allies in the Effort to Increase Student Access to Computer Science Education and Careers
www.ncwit.org/counselorsasallies



School counselors are eager to direct students to viable education and career opportunities. Consider these key points for collaboration as you plan to meet with counselors to discuss ways their professional responsibilities align with your goals to increase student access to computing.

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

New Resources This month…

Barb Ericson updated links. For those of you who don't know Barb Ericson and her husband Mark Guzdial relocated to the University of Michigan. Links to her many varied resources located at Georgia Tech no longer are active. Here are a few of her prized resources.

CSForEveryone - Barb's new blog <https://cs4all.home.blog> Her research on the recent APCS exams is currently being featured.

eBook for APCS-Principles <http://tinyurl.com/StudentCSP-new>

eBook for APCS-A <http://tinyurl.com/JavaReview-new>

Have ideas or resources to include in our newsletter? Please contact Joe Kmoch <joe@jkmoch.com>

Social media links:

- CSN Connect Community: <http://bit.ly/computing_teachers_network> (ISTE members only)
- 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>