Chapter Mini Grants
Project Overviews

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October 2014
Agenda

- Overview: Chapter Mini Grants
- Project Summaries
- Next Steps
Overview: Chapter Mini Grants

In 2014, the SIG Governing Board allocated $60,000 to CSTA chapters to:

• Perform Leadership and Advocacy Training
• Provide Professional Development for Chapter Members
• Promote CSTA Chapter as Leaders in K–12 CS Education
• Build Community
Connecticut
Community Outreach Programs

• Will host four community-level workshops where parents and other members of the community engage with hands-on programming experience

• Workshops followed by writing letters to Congress in support of the CS Education Act HR 2536 and the CS Education and Jobs Act S1407

• Planned for December 2015
Georgia Poster Project
Maryland Conference, Event Website, and Apparel

Athena Conference
Thank you to all the participants, parents, volunteers and other helpful hands at the conference! We are so glad you were able to make it. Please check out the pictures from the Conference under the Pictures Tab! We also put together a manual documenting the conference. Check it out here!

The Athena Conference (TAC) is an initiative to introduce high school girls to technology and engineering fields. Inspired by The Artemis Project, a five-week technology program for high school girls, TAC has the goal of informing and encouraging girls to consider a career in these areas.

TAC aims to increase exposure in fields such as computer science and engineering to the underrepresented female population. By learning new concepts, connecting with peers and college students, and receiving mentoring from industry professionals, the students will be able to build the confidence necessary to be successful in technology-related areas.

The Athena Conference will run May 10th, 9-4 at UMBC. There will also be a parent session in the morning from 9-12.

A big thank you to our sponsors!
Maryland
Conference, Event Website, and Apparel
CSTA-MN The Gopher State Summer Workshop

Agenda for August 5

8:30
Registration in Thomson Reuter's main entrance (8:45 escorted to conference workshop room)
Continental Breakfast served in workshop room.

9:00 – 10:00
Opening Session
Welcome from President Doug Maine of the CSTA-MN, The Gopher State
Welcome and Logistics from Thomson Reuter’s - Liz Cherif, Corporate Technology Recruitment
Department of Education STEM Initiative in IT/Computing, Doug Paulson

10:15 – 11:40
Panel—Women in IT
Ida Lano, Principal Solution Specialist, Microsoft
Sophia Rubbelke, Securian
Naadia Sayed, Technical Account Manager, Microsoft
Janet Svedal, VP Technology/CTO, Thomson Reuters
Marine Thomas, Lead Software Engineer, Thomson Reuters
Shirley Walz, Sr. Director IT Services Transformation, Thomson Reuters

11:45 – 12:30
Lunch with table talks
Advocacy for the CS Programs – Table leader Jen Rosoto
Resources – Table leader Cindy Drahos
Robotics – Table leader Cheryl Moeller, High Tech Kids
Advance IT Minnesota – Russel Fraenkel
eMentor & More – Bonnie Vagasky, BestPrep

12:30 – 1:00
Tour – Jill Keller

1:00 – 1:30
Technology Briefing from Thomson Reuter’s
Liz Cherif, Thomson Reuters and Roger Peterson, Director of Mobile Technology

1:30 – 2:00
Guest Speaker – Tika Kude, Computer Science Instructor at Wayzata High School and NCWIT Teacher of
New Jersey CS Awareness Campaign

CS Job Opportunities

Missed Opportunities

2013 AP Computer Science Statistics for New Jersey

2013 AP Computer Science
Statistics for New Jersey

Schools

Only 17.2% (1396) of NJ high schools offer AP CS

Students

Less than 0.5% (1582) of NJ high school students took the APICS exam

Underrepresentation

Of the students taking APICS in NJ

15.3% Female (242)
2.1% Black (44)
6.1% Hispanic (96)

Computer Science Education

Good for our Students

Good for our State

Computer Science Education

Good for our Students

Good for our State

There will never be a shortage of opportunities for people who know how to solve problems.
Dean Kamen – FIRST Robotics Founder

Projected Annual Growth of STEM Job Openings 2010-2020

10 of 50 States, Computer Science Classes Don’t Count Toward High School Graduation Math or Science Requirements.

In 10 of 50 States, Computer Science Classes Don’t Count Toward High School Graduation Math or Science Requirements.

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Resources:
csta.org
computinginthecore.org
cstacnj.org
newsit.org

CSNJ

Advocacy Outreach of the Computer Science Teachers Association of NJ (CSTANJ)

Make CS Count!
New Jersey CS Awareness Campaign
New Jersey Conferences

  - Workshop: Teaching Computer Science in K through 12 (Daryl Detrick and Gary Hull)

- **New Jersey Education Association (NJEA) Convention 2014** – November 6-7, 2014
  - Workshop: Computer Science Education: Good for our Students and our State (Daryl Detrick and Mayra Bachrach)
Ohio
CSTA Advocacy & PD Workshops

• Three one-day workshops in different locations throughout the state of Ohio.
• Each will include a mix of leadership, advocacy, and programming training.
• Currently scheduled Spring 2015.
Support Computer Science Education in Rhode Island!

Computer science drives job growth and innovation throughout our economy and society. More than half of projected jobs in STEM fields are in computing occupations; computing occupations dominate "help wanted" ads; and computer science is one of the hottest degrees for new college graduates. Further, computer science is fundamental knowledge all students need for the 21st century. However, computer science education is marginalized throughout K-12 education—denying access to this critical knowledge, particularly among underrepresented groups.

What can your state do to improve K-12 CS Education?

1. Allow computer science classes to satisfy existing graduation or higher education requirements for math or science. Current computer science courses often do not count towards a student's required coursework—they are treated as electives. And these courses often do not meet entrance requirements for college. Given the academic demands, college-bound students cannot afford to take computer science as an elective. This policy would not require schools to offer computer science or students to study it. It simply allows existing computer science courses to satisfy a core requirement that already exists.

2. Establish computer science standards. Most states do not have discrete computer science standards within their existing state standards. States should establish rigorous standards for computer science focused on the creation (not just the use) of software and other computing technologies. The Computer Science Teachers Association has model K-12 CS standards.

3. Establish or strengthen computer science teachers. Most states do not have clear pathways for people to become computer science teachers. Those that have the desire, knowledge and skills to teach young people computer science should have a clear, navigable and rewarding path to K-12 classrooms.
New York Spring 2015 Conference

• Two-day conference for K–12 CS professional development

• Anticipating 20+ attendees

• Scheduled for March 2015
Virginia #1
Bus Advertisement

27,000 computer jobs can’t be filled in Virginia.*
It’s time to teach our kids the new language.

* Government jobs in Northern Virginia alone
Virginia #2

The Digital Divide: Who will fill the 1.4 million US computing jobs in China?

It's the world's fastest growing job sector. And 90% of our schools don't teach it. Yet.

In Virginia, computer jobs are growing at more than triple the national rate. But 90% of our schools don't even teach computer science. If this continues, about 1 million US computer jobs will be unfilled due to lack of training.

CodeVA seeks to build a strong, vibrant 21st-century Virginia workforce by providing access to computer science education for every child. Anyone can code. Everyone should.

Go to codevirginia.org to learn more.
Wisconsin Brochure and Resource Development

Q&A

Who can teach Computer Science?

Exploring Computer Science can be taught by anyone with any valid high school license. Other high school courses having more than 25% programming content require a teacher with CS 405 Endorsement.

Counting Computer Science for Mathematics credit:

- Will require inclusion of a set of Mathematics Practices and topics.
- Will require a CS 405 endorsement and likely a Math 400 license.
- Likely courses to qualify may be APCS-A and APCS Principles but not ECS

Coming: Praxis-like test to allow a teacher with a Mathematics 400 license and some CS experience to obtain the CS 405 Endorsement.

Why is there high interest in broadening the teaching of real computer science in K-12?

The opportunities are huge for this decade:
- For example, nearly 2/3 of new STEM job openings will be in Computing.
- The projected number of total computing jobs (new and replacement) is about 1.3 million per year 2012-22.
- The numbers of students in the pipeline for these careers is only about 40% of the number of job openings (new and replacement) in Computing.

The severe shortage of CS pipeline is both an economic and a national security issue (Bureau of Labor Statistics, Dept of Labor, Jan 2014)

Recommended Curriculum

Elementary School Level from Code.org
- Gr K-5 modules
- G: 68 multidisciplinary units
- G: K-8 Intro to Computer Science course

High School Level

Exploring Computer Science (ECS) (complete curriculum and Professional Dev., gr 9-10)
APCS Principles of Computer Science (gr 10-12) (APCSP)
APCS-A Java (gr 11-12)

What professional development opportunities are there?

- NSF CE2I PUMP-CS sponsored Summer workshops in ECS and APCSP in 2015 and 2016: http://pumps.cs.wisc.edu
- During the school year workshops and sessions that are sponsored by NSF and CSTA-WI Dairyland.
- Computer Science Methods course Computer Science 405 endorsement in 2015 and beyond.
Thank you for supporting CSTA!
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