**ANNUAL REPORT**

of the COMPUTER SCIENCE TEACHERS ASSOCIATION

For the Period: July 1, 2013 - June 30, 2014

Submitted by Lissa Clayborn, Acting Executive Director

Committee Chair's Name

**1. BASIC INFORMATION**

**1.1 CSTA Board**

Deborah Seehorn, Chair, North Carolina DPI (2011-2015)

David Reed, Chair-Elect, Creighton University (2014-2015)

Laura Blankenship, 9-12 Representative, The Baldwin School (2014-2016)

Myra Deister, At-Large Representative, Sunny Hills High School (2014-2016)

Patrice Gans, K-8 Representative, Fraser-Woods School (2014-2014)\*

Stephanie Hoeppner, 9-12 Representative, Clermont Northeastern High School (2013-2015)

Irene Lee, CT Task Force Chair, Santa Fe Institute (2013-2015)

Fred Martin, University Faculty Representative, UMass Lowell (2014-2016)

Tammy Pirmann, School District Representative, Springfield School District (2014-2016)

Mina Theofilatou, International Representative, Greek Ministry of Education, (2014-2016)

Alfred Thompson, At-Large Representative, Sunny Hills High School (2013-2015)

Evelyn Torres-Rangel, Ex-officio Member (2014-2015)

Fran Trees, Chapter Liaison, Rutgers University (2014-2015)

Aman Yadav, Teacher Education Representative, Purdue University (2014-2016)

\* Gans had to resign in July 2014 due to health issues. The Board is looking for a replacement.

**1.2 Mission Statement**

The Computer Science Teachers Association is a membership organization that supports and promotes the teaching of computer science and other computing disciplines. CSTA provides opportunities for K-12 teachers and students to better understand the computing disciplines and to more successfully prepare themselves to teach and learn.

**1.3 Standing Committee Chairs**

Certification and Standards: Tammy Pirmann, Chair

Curriculum: Deborah Seehorn, Chair

Executive: Deborah Seehorn, Chair

Equity: Alfred Thompson, Chair

Grants: Fred Martin, Chair

International: Mina Theofilatou, Chair

Membership: Tammy Pirmann, Co-chair, Laura Blankenship, Co-chair

Governance: Myra Deister, Chair

Professional Development: Dave Reed, Chair

Research: Stephanie Hoeppner, Chair

Chapters: Fran Trees, Chair

Computational Thinking Task Force: Irene Lee, Chair

K–8 Task Force, TBD (New K-8 Representative), Chair

**1.4 List dates of committee meetings**

November 16-17, 2013: Tucson, AZ

July 17-18, 2014: Saint Charles, IL

**2. PROJECT SUMMARY**

# **Organizational**

* Staffing: Hired new logistics staff person.
* *Nominations and Elections*: CSTA completed 2014 nominations and elections process.
* *Development of CSTA Local Chapters:* CSTA increased its support for CSTA teachers at the local level through the development of local chapters. There are now 55 CSTA chapters in 25 U.S. states and 4 Canadian provinces. This year CSTA has launched several initiatives to increase the capacity for regional chapters to provide peer-driven and peer-support professional development and to improve communications between chapter leaders to strengthen chapter leadership. Projects have included training on big data through Mobilize Prime and a series of conference calls/online hangouts for chapter leaders in several states.
* *Policies and Procedures Manual* Revised and expanded.
* *Building Teacher Leadership*: CSTA’s Computer Science Advocacy Leadership Team provides support, resources and professional development for 67 CS teacher leaders in 36 states (with active recruitment in states not yet represented). A Leadership Workshop focusing on building advocacy skills and chapter management was held July 2013 in conjunction with the 2013 CSTA Annual Conference.
* *International Outreach:* CSTA has continued to support and build affiliate relationships with similar CS*-*teacher serving organizations globally. In July 2013, the CSTA executive director moderated a panel presentation for association leaders from Australia, Israel, the U.K. and the U.S. at the 2013 ITiCSE Conference in Canterbury, U.K.
* *Building Partnerships Across the CS Educational Spectrum:* CSTA held a Birds of a Feather sessions at SIGCSE 2014 focusing on how to start local CSTA chapters. The session was very well attended. The Board Chair also served on panel, “Giving Computer Science a Boost” at the US News STEM Solutions Conference.
* *Partnership with National Computing Organizations:* CSTA has partnered with organizations such as the CCECC-ACM, the Anita Borg Institute (ABI), CAITE, Code,org, Linux Professional Institute, the National Center for Women and Information Technology (NCWIT), the National Girls Collaborative Project (NGCP), the National Science Teachers Association (NSTA), SIGCSE, STEM Connector, and TechCorps.

**Membership**

* *Growing CSTA Membership:* CSTA membership continued to grow in 2013-14 from 13,966 to 16,907 representing a 21% increase in overall membership. CSTA has continued to grow its institutional membership program with a redesign of membership fees and benefits and an aggressive marketing campaign carried out in 2014.

# **Funding**

* *Financial Review*: The Board CSTA Board completed its fiscal review of the operations, revenue, and expenditures for FY13-14 and the budget for FY14-15.
* *Funding Sources*: In FY 2013-2014, CSTA secured the following corporate and institutional funding:

|  |  |  |
| --- | --- | --- |
| Amount | Source | Purpose |
| $250,000 | ACM | CSTA Operations |
| $60,000 | ACM SGB | Chapter Mini-Grant Project (beginning 2013) |
| $60,000 | Code | CSALT projects |
| $50,000 | ECEP | Annual Gold Level Sponsorship |
| $25,000 | Microsoft | Annual Gold Level Sponsorship |
| $25,000 | Microsoft | CSTA 2014 Conference Sponsorship |
| $25,000 | Oracle | CSTA 2014 Conference Sponsorship |
| $16,500 | Oracle | US High School CS course survey |
| $15,000 | College Board | Annual Silver Level Sponsorship |
| $12,500 | Microsoft | CS Principles Computation in Action |
| $10,000 | Oracle | Annual Bronze Level Sponsorship |
| $10,000 | Code | Administrator Impact Award |
| $8,200 | Oracle | CSTA K-12 CS Standards alignment project |
| $5,000 | UTI | CSTA 2014 Conference Sponsorship |
| $2,500 | Certiport | CSTA 2014 Conference Sponsorship |
| $2,500 | Certiport | Annual Corporate Sponsorship |
| $1,500 | NCWIT | CSTA 2014 Conference Sponsorship |
| $1,200 | BirdBrain Tech | Annual Corporate Sponsorship |
| **$579,900** |  | **Total** |

We have secured the following grant funding:

|  |  |  |
| --- | --- | --- |
| Amount | Source | Purpose |
| $21,000 | NSF MSP | Mobilize PD |
| **$21,000** |  | **Total** |

# **Research**

* *Bugs in the System: Computer Science Teacher Certification in the U.S.:* This report is the result of an 18-month research study to determine the requirements for K-12 computer science teacher certification/licensure in every state and the District of Columbia. It includes a report card for every state detailing the certification requirements for middle and high school, as well as whether computer science courses are requited or count toward a graduation credit. The report was released in September 2013. Work continues to keep it up to date with the various changes in state legislation.
* *2014* *Annual Membership* *Survey*: The results of the 2014 survey of more than 16,000 CSTA members were collected and tabulated. These results, were shared with the Board and via a blog post at http://blog.acm.org/archives/csta/2014/06/what\_you\_think.html.
* *CSTA 2014 Annual Research Report*. CSTA partnered with NRCUUA to produce this report. It provides extensive data regarding students’ current and intended computer science course choices and experiences. It also provides extensive data on differing educational opportunities and barriers in urban, suburban, and rural schools. This report provides a useful comparison for CSTA’s own national surveys.
* *Participation in Partner Research:* CSTA has worked closely with several major research projects including the University of Chicago’s Center for Elementary Mathematics and the University of Chicago’s Science Education (CEMSE) and the University of Chicago’s Outlier Research & Evaluation departments Barriers and Supports to Implementing Computer Science (BASICS) study. CSTA reviewed early drafts of the survey instruments, used its practitioner channels to promote and encourage participation in both of these surveys, and provided feedback (verbal and written) on the results.

# **Policy and Advocacy**

* *Policy and Advocacy Work* CSTA has been deeply involved in Code and Computing in the Core coalition efforts to increase access to rigorous computing courses for all students, including:
  + Held meetings with policy leaders and coalitions from several states, including Alabama, California, Maine, Massachusetts, Minnesota, Texas, Utah, Washington, and Wisconsin.
  + Worked with Code on various legislative initiatives.
  + Reviewed new policy language and provided policy recommendations for Assembly member Ed Chau in CA District 49.
  + Participated in the Clinton Global Initiative America STEM work groups in Denver.
  + Jointly initiated CS Education Week panel with Oracle in Denver.
  + Met with staffers from several federal programs.
  + Managed CS Education Week petitions drive, working with CSALT members to successfully launch public petitions supporting changes in education policy in 30 states.
  + Met with legislative staff re impact of highly qualified requirements in Perkins.

**Standards:**

* *Sharing Aligned Curricula:* The Standards Committee worked with several organizations and schools to provide examples of aligned curricula and resources which can be downloaded from the CSTA website (<http://csta.acm.org/Curriculum/sub/K12Standards.html>).
* *Sharing Information on CSTA Standards:* CSTA staff and volunteers offered informational presentations on the CSTA standards at several events including the US News STEM and at several workshops.
* *Supporting the AP CS Principles Course Development and Adoption*: CSTA has been involved in many efforts directed at improving the participation of all students in the AP CS exams. Recently, these efforts have focused on disseminating information about elements of the new AP CS Principles course development project with teachers via CSTA media channels and developing tools to help teachers communicate the importance of the new Principles course. An entire strand of the CSTA 2014 annual conference was dedicataed to AP CS.

# **Communications**

* *CSTA Website:* CSTA runs and maintains a comprehensive website for K-12 computing education ([http://csta.acm.org](http://csta.acm.org/)). The site provides users a wealth of resources and information: learning standards, curriculum materials, periodicals, presentations, and research reports. The site also functions as a community board for the sharing of announcements about computer science organizations, academic programs, workshops, and summer camps. This year, CSTA has continued to improve the usefulness and relevance of its website with the addition of new standards, research reports, resource links, and publications.
* *CSTA Voice*: CSTA publishes the CSTA *Voice* six times per year. This year, the *Voice* has focused on key concerns in K-12 computing education, including: addressing equity issues in CS education, putting computing in the core curriculum, preparing students for tomorrow’s careers, best practices in computer science, CS Education Week, professional development, advocacy, collaboration, and international computer science education. Each issue of the eight-page publication also contains several regular columns, including: Classroom Tools, Research Review, and Colleague Connection.
* *Advocate Blog*: The *Advocate* blog continues to serve as a more immediate and informal channel for information sharing. Topics covered in the blog vary greatly, but all postings are intended to inform teachers about cutting edge research initiatives and new resources as well as key teaching issues and new teaching methods. This year the content/perspective of the blog has been significantly expanded with blog postings from a wider range of CSTA volunteers, particularly chapter leaders and members of the Computer Science Advocacy Leadership Team.

# **Additional Projects**

* *The 2013 CSTA Annual Conference.* The 2013 CSTA Annual Conference was held in Quincy, MA with sponsorship from Google, Microsoft Research, and the Anita Borg Institute and BirdBrain Technologies. The conference was expanded to include two in-conjunction with events; a workshop sponsored by the ECEP project and a CSTA Leadership workshop that included members of the Computer Science Advocacy Leadership Team and CSTA chapter leaders. The Planning Committee oversaw the proposal review and selection process for the 20 breakout and 10 workshops. Evaluations from the conference were exemplary. *CSTA 2014* will be held in Saint Charles, IL July 14-15 2014.(http://csta.acm.org/ProfessionalDevelopment/sub/Images\_and\_Other\_Pages/OtherPages/CSTA13.html)
* *CS Principles: Computation in Action* *Curriculum*. CSTA worked with Microsoft to develop a set of curricular resources to engage a variety of students in socially relevant, project-based learning designed to foster computational thin king within the Big Ideas and Concepts of the AP CS Principles course. The final version has been published on the CSTA website.(http://csta.acm.org/Curriculum/sub/CurrResources.html)
* *Faces of Computing Poster Project.* Staff worked with Equity Committee members to launch the *We Are the Faces of Computing* poster contest in the fall of 2013. Awards were made to first, second, and third place winners at the elementary, middle, and high school levels. The posters are now available for download from the CSTA website (http://csta.acm.org/Resources/sub/BrochuresPostersVideos.html).
* *Computational Thinking Events and Publications.* Several initiatives have contributed to CSTA’s growing reputation as the definitive source of international expertise on computational thinking in K-12. These include:
  + Worked with volunteers from the National Science Teachers Association and Oregon State University on a series of three articles on computational thinking and the Next Generation Science Standards. These articles will be published by NSTA in 2014.
  + Worked with the CSTA Computational Thinking Task Force Chair on a chapter on computational thinking to be published in the *Handbook of Computer Science*, 3rd Edition.
* *Supporting Improvements of Partner Professional Development Events for Teachers*: In addition to its own professional development events, CSTA provided consulting on several other PD events for teachers including CSTA Chapter events, the CS4HS workshops sponsored by Google, and the Tapestry workshops sponsored by the National Science Foundation through the University of Virginia.
* *Supporting Dissemination of Partner Resources*: CSTA has continued to use its website to increase knowledge and facilitate dissemination of exemplary resources through out the community.

**Resources**

* *Developing and Distributing Resources that Promote Computer Science Education:* This year CSTA distributed the following resources:
  + *ACM Careers and Computing* brochure
  + *IT is All About Me Classroom* poster
  + *CS in Sports* poster
  + *CSTA Imagine Your Future in Computing* brochure *(English and Spanish-language versions)*
  + *World of Opportunities* poster: (in partnership with CCECCS-ACM)
  + *Unlocking Your Future* poster: (in partnership with NSA)
  + *CS Connections* poster
  + *CSTA K-12 Computer Science Standards*
  + *Bugs in the System: Computer Science Teacher Certification in the U.S.*

**3.0 Plans**

**3.1 Projects to Be Completed in the Coming Year**

* *CS Principles: Computation in Action* *Curriculum*: CSTA is now working with Microsoft to develop a set of curricular resources that will engage a wide variety of students in socially-relevant, project-based learning designed to foster computational thinking within the Big Ideas and Concepts of the AP CS Principles course. This resource will be completed and distributed beginning in 2014.
* *CSTA Computer Science Education Week Events.* CSTA will again work with the CSED Week Committee and Code.org to promote and support CS Ed Week activities and to encourage CSTA members to plan and offer activities and events.
* *CSTA Annual Conference 2014:* The 2014 annual conference will be held in Chicago, IL and will feature an expanded workshop day (currently 10 half-day workshops), an expanded sessions day (currently 20 sessions), and two keynotes. Other possible in-conjunction events are also being considered.
* *Dissemination of the Bugs in the System Report.* CSTA will work with the Certification Committee and the Computing in the Core group to widely disseminate the new certification report with the goal of supporting advocacy efforts to improve computer science teacher certification requirements in target states.

**3.2 On-going Projects**

* *ACM SIG Governing Board Mini-Grant Project:* With funding from the SGB, CSTA has provided small grants to CSTA chapters to develop a new resources, provide a professional development event, or hold an advocacy event. These resources and events are scheduled to conclude in November 2014.
* *National Computer Science Principles Summit:* With funding from Google, CSTA will plan and deliver a major one-day event focused on building community support for the widespread adoption of the Advanced Placement Computer Science Principles course. This event will be held in conjunction with CSTA’s 2014 annual conference. Virtual participation will also be available.
* *Continued Fiscal Improvement*. In the coming year we will continue to rationalize spending and expand funding for CSTA at all levels. This will include efforts to grow our corporate funding base and increase membership revenues through continued expansion of the institutional membership program and development of a new corporate membership program.
* *Grow Membership.* CSTA continues to grow at more than 20% per year with current membership strategies. This year we will continue to focus on growing the segments of membership most likely to produce additional revenue (institutional and corporate) with the goal of reaching more than 20,000 members.
* *Continue to Grow and Support CSTA Chapters.* We will continue to grow our CSTA chapters with the goal of creating 5 new chapters and improving the activity and effectiveness levels of existing chapters through chapter leader workshops, the online chapter site, a new Chapter leader listserv, and new chapter protocols for ongoing leadership development.
* *Continue to Grow and Support CSTA Computer Science Advocacy Leadership Team:* We will continue to grow our CSTA Computer Science Advocacy Leadership Team with the goal of increasing capacity, especially in states that are likely to be targeted for key advocacy initiatives.
* *Continue to Develop and Distribute New CSTA Resources.* We will continue develop and distribute resources promoting computer science education, including posters, brochures and videos.

**3.3 New Projects**

* *Standards-based Assessment White Paper*: CSTA will undertake a landscape study that explores current issues in standards driven assessment in K-12 computer science education and publish a white paper on the results in the summer of 2015.
* *Oracle High School Survey:* CSTA continues to expand its partnership with the Oracle Academies Foundation. A survey on computer science and CTE offerings at the high school level including information on; enrollment, course content, and retention will be disseminated to 30,000 high schools across the U.S.
* *K-12 Educational Policy:* CSTA will play an active role in Computing in the Corp. Efforts this year will focus on the following goals:
* Using the new certification research report to assist in efforts to change state certification requirements.
* Work with Code.org and the CSTA Computer Science Advocacy Leadership Team to build and utilize advocacy capacity in targeted states to embed computer science standards in state standards, enable computer science to be counted toward a math or science graduation requirement, to improve access to professional development for current teachers, and to improve pre-service education for future teachers.
* Ensure that major educational initiatives and legislation focused on K-12 education (and most specifically on STEM education) include computer science education as a major component.
* Participate in Capitol Hill events and Senate hearings to increase support for the Computer Science Education Act and the importance of engaging underrepresented minority students.

**3.4 Recruitment and Equity Plans**

CSTA has been fortunate to attract several young and dynamic teachers to its Board and committees. Although recruitment has not been a problem to date, we feel it is very important to focus on developing the leadership skills of these younger volunteers by placing them in positions of responsibility and helping them to grow into those positions through mentoring. Both the CSTA Computer Science Advocacy Leadership Team and the CSTA Chapters program are proving to be a excellent training ground for new volunteer leaders and, in fact, two of our members of the Board of Directors came up through the chapters program.

For several years, CSTA has attempted to provide greater diversity on our Board and in the work of our committees. While we have been largely successful with the committees, we have not had the hoped for success for the CSTA Board despite the fact that we have had several direct appointments to the Board of Directors to provide more ethnic and racial diversity. The challenge seems to be that CS educators and administrators from underrepresented minority groups tend to already have significant volunteer demands upon them. The CSTA Equity Committee continues to grapple with this issue and has instituted new guidelines to help major sub-organization of the association improve their diversity and attract new leaders.

# **CSTA BOARD OF DIRECTORS AND TASK FORCE CHAIRS 2012-2013**

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