



Voice

CRITICAL
ISSUES

The Voice of K-12 Computer Science Education and its Educators

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Welcome from the President

By Robb Cutler, President, CSTA

As an educator, you know firsthand about some of the important issues facing computer science education at the K-12 level. Undoubtedly, you struggle to find funding, students, and equipment. You work to keep up with the latest information on certification, AP, and professional development. And, of course, you don't ever seem to have enough time to do the research necessary to get the answers to all of your questions.

In this *Voice*, we hope to help by offering insights on several of these critical issues. We preview CSTA's plans to gather data on teacher certification policies state by state and hear about one teacher's attempt to navigate the myriad of complex, confusing, and often contradictory state certification requirements. We interview Gail Chapman of the College Board to learn about policies regard-

ing the Advanced Placement program and the AP Computer Science exam. Finally, in part one of our reporting on the Fluency Report from the National Research Council, we review the initial findings of what it takes to be fluent with information technology.

As well as our regular Bits and Bytes column, you can also read about our new Teaching Strategies e-binder, the Tapia Conference, the latest on the TECS (Teacher Engagement for Computer Science) workshops, and the latest update on the NCAA ruling on computer science courses.

As always, your feedback is important to us. Let us know how we're doing so that we can make the CSTA and the *Voice* a useful resource for you. You can e-mail me at robbcutler@csta.acm.org. I look forward to hearing from you!

Certifiably Insane

The personal story of one man's search for certification

By David M. Devine, Computer Science Teacher and Technology Coordinator

My transformation from computer consultant in Chicago to computer science teacher in Sarasota, Florida began with the dot-com bubble burst which provided the opportunity for me to consider a career change. I always knew that my career change would be to education, specifically to teaching high school computer science (CS).

I was lucky enough to land at a private high school where I act as both the Technology Coordinator and Computer Science Teacher. While I work toward meeting the professional certification requirements,

I have a temporary teaching certificate valid for CS. Now, more than halfway through the certification process, I have reached a dead-end that could jeopardize my teaching future.

In Florida, computer science is a K-12 certification. The same certification that covers instructing a kindergartener applies to teaching AP CS. So, despite the fact that I only plan to teach high school CS, I am still required to meet the K-6 prerequisites. This is where I hit a wall.

A key requirement and source of my conundrum is a two-hour class in Special

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Letters to the Editor may be edited for space or clarification.



ACM founded CSTA as part of its commitment to K-12 computer science education.

CERTIFIABLY INSANE

continued

Methods for Teaching Computer Science K-6. There's one problem; the class doesn't exist!

I have spent dozens of hours with our school's certification specialist trying to solve this dilemma. We have reached dead-ends with universities and the Florida Department of Education and have resorted to trying to find a "backdoor" to certification.

One alternative is to become certified to teach Algebra grades 6-9. Once certified in math, I can take the CS qualifying exam.

Another way to

meet the requirement is to teach CS at an elementary school. Here the insanity reaches

new levels. The only computer education class offered in grades K-6 does not require CS certification!

This process and frustration have generated a critical question in my mind: Who actually teaches high school CS in the state of Florida?

In order to meet the K-6 requirement, a high school CS teacher must be a certified elementary teacher. Also, the teacher must have initial certification in an area other than CS; otherwise he or she would have had to take the non-existent K-6 Special Methods class. So, unless I am missing something, high school CS teachers in Florida are elementary school teachers with

primary certification in a different subject!

The CS certification process discourages anyone with a CS background from ever making the career switch to CS teacher. It would be most desirable to have those who are experienced in CS be the ones actually teaching CS. However, the certification process inherently discriminates against the exact people one would hope it is trying to attract.

The "computer consultant" in me will not allow me to point out a problem without posing a couple of solutions.

...unless I am missing something, high school CS teachers in Florida are elementary school teachers with primary certification in a different subject!

1. Two separate certifications for CS should be created. One set of certification requirements should apply to elementary schools and another to high schools to be consistent with the certification model for other subjects in Florida.

2. The other simple and easy solution is to replace the Special Methods class requirement with another appropriate education class that actually exists.

While I have concerns about the CS teaching certification process for the state of Florida, right now I am simply concerned with becoming certified to teach CS. I want to pass on my real world knowledge and experience to today's high school students.

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CSTA Voice is a quarterly publication for members of the Computer Science Teachers Association. It provides analysis and commentary on issues relating to K-12 computer science education, resources for educators, and information for members. The publication supports CSTA's mission to promote the teaching of computer science and other computing disciplines.

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CSTA Addressing Certification Issues

By Chris Stephenson, Executive Director

A series of emails from members, as well as the results of a national survey of computer science (CS) teachers, have convinced CSTA that teachers are desperately in need of information relating to teacher certification.

In 2004, CSTA conducted a survey of 15,000 computer science teachers nationwide to identify major trends in high school computer science. The survey produced some startling results. The state-by-state data relating to our question about teacher certification requirements was completely inconsistent. About half of the teachers in each state said there was no such thing as computer science certification, and half of the teachers in the same

Chair, Dr. Ghada Khoury, will be heading a major project to collect information about CS teacher certification requirements in every state. Our goal is to collect this information and to present it in a clear and consistent way through a member-accessible database.

Dr. Khoury's volunteer team is now busy collecting contact information for each state with the goal of designing and distributing a survey instrument that will help clarify the requirements for each state, and identify a contact in each state's Department of Education for questions and further information. CSTA will also be working with computer science

graduate students from Villanova University to design a simple, user-friendly database that will allow us to store and share all of the information we collect.

Collecting and sharing this information is only the first step, however. Once we have a better picture of how the requirements differ from state to state, we are planning to convene an expert committee to determine if it is possible to create a proposed set of nationally recommended standards (consistent with the NCATE standards for teacher education) that will serve as a model for all states. In this way, we hope to encourage all states to ensure the rigor of their standards for new teachers and to provide clearer and less arduous transition paths to CS certification for others.

Once we have a better picture of how the requirements differ from state to state, we are planning to convene an expert committee

state said there was. Clearly teachers were unsure as to the actual requirements in their states. (The complete results of this survey are available at <http://csta.acm.org/Research/sub/CSTANationalSurvey2004.html>.)

In addition, CSTA has received numerous queries from members interested in relocating to another state or enhancing their current state teaching certification to qualify them to teach CS. Basically all of them told us that they had no idea how to find this information or who to talk to.

Over the next few months, CSTA's Certification and Standards Committee

Bringing Fluency with Information Technology to High School

By Lawrence Snyder, University of Washington, Seattle

"What should everyone know about computers?" It's a simple question to ask, but when a committee of experts at the National Research Council was directed to answer it in 1997, it had some questions of its own.

First, "For what purpose should everyone know about computers?"

"So Americans can fully benefit from the enormous value of technology" was the answer that came back from the National Science Foundation (NSF), the federal

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The editorial board of the **CSTA Voice** is dedicated to ensuring that this publication reflects the interests, needs and talents of the CSTA membership. Please consider sharing your expertise and love for computer science education by contributing newsletter content.

Potential writers for the **CSTA Voice** should send a brief description of the proposed article, estimated word count, statement of value to members, author's name and brief bio/background info, and suggested title to the editor at: cstapubs@csta.acm.org. The final length, due date and title will be negotiated for chosen articles. Please share your knowledge.

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Virtual Binders to the Rescue

CSTA INTRODUCES Teaching Strategies Virtual Binder

- ▶ Collection of selected articles on CS teaching strategies
- ▶ Based on the recommendations of a team of volunteers
- ▶ Chosen from the ACM Digital Library
- ▶ Organized into an easy-to-use Virtual Binder (or e-binder)

The Teaching Strategies binder now joins the Equity binder as the second of the six e-binders CSTA plans to develop.

Access the Virtual Binders from the CSTA website.

<http://campus.acm.org/public/csta/binders/index.cfm>

Login using your CSTA web account.

Plans are now in the works for the next Virtual Binder focusing on computing careers!

BRINGING FLUENCY

continued

agency charged with the stewardship of America's science and technical education. NSF recognized that computers were dramatically transforming some people's lives, but for many others computers remained under-utilized. It was also agreed that everyone needed knowledge enough to participate in the public discussion of societal issues related to technology such as privacy, security, the Communication Decency Act, and other current and future issues.

The second question asked was, "Who is everyone?"

The answer was all citizens regardless of age, income, career, or geographic location.

The final question, "What constitutes the central core of computer knowledge?"

led the committee to expand the topic to encompass information technology and to produce the report, *Being Fluent with Information Technology* [National Academy Press, 1999]. It recommended a body of core knowledge based upon three kinds of learning:

Contemporary Skills—using popular applications such as information searching and word processing

Fundamental Concepts—basic foundational knowledge such as information representation and algorithmic programming

Intellectual Capabilities—higher level thinking abilities such as reasoning and problem solving

These three types of knowledge enable people to use computers today (Skills), create a basis for learning in the future (Concepts), and generate additional knowledge (Capabilities). Because the goals and solution were more ambitious than simply being able to use a computer (the traditional definition of computer literacy) the committee adopted the term *fluency* to convey a deeper knowledge and greater facility with IT. The report listed the top 10 knowledge concepts in each category.

Contemporary Skills

1. Set-up a personal computer
2. Use basic operating system facilities
3. Use a word processor to create a document

4. Use a graphics or artwork package to manipulate an image
5. Connect a computer to the Internet
6. Use the Internet to locate information
7. Use a computer to communicate with others
8. Use a spreadsheet to model a simple process
9. Use a database to access information
10. Use on-line help and instructional materials

Fundamental Concepts

1. Fundamentals of computers
2. Organization of information systems
3. Fundamentals of networks
4. Digital representation of information
5. Structuring information
6. Modeling and abstraction
7. Algorithmic thinking and programming
8. Universality
9. Limitations of IT
10. Social impact of computers and technology

Intellectual Capabilities

1. Engage in sustained reasoning
2. Manage complexity
3. Test a solution
4. Find problems in a faulty use of IT
5. Navigate a collection and assess quality of the information
6. Collaborate using IT
7. Communicate using IT about IT
8. Expect the unexpected
9. Anticipate technological change
10. Think abstractly about IT

The initial report focused on the *fluency* content rather than the strategies to teach it. However, bringing *fluency* to the general population has two parts: teaching those still in school and instructing adults beyond school. Although, colleges and universities have been adopting a *fluency* curriculum, the general consensus is that the *fluency* content is better suited as an entrance requirement to college rather than an exit outcome.

The National Research Council is again studying *fluency*. A committee workshop, "Fluency and High School Graduation Outcomes," will issue a report of recommendations to migrate the *fluency* curriculum to secondary schools. Those recommendations will be reported in the next issue of the *Voice*.

An Interview With Gail Chapman

AP Issues and Challenges

By Pat Phillips

Gail Chapman is the Director of K-12 Consultant Training and Support with the College Board. After fifteen years of teaching high school (including the first three years of the AP Computer Science course) Gail worked for ten years with the AP Computer Science Development Committee at ETS. For the last seven years, she has been at the College Board where she has maintained her connection with AP CS through the training of consultants and other professional development activities.

CSTA Voice: Who is responsible for the development of the AP CS course and examination?

GAIL: The AP CS course curriculum is developed by the AP Development Committee which is composed of an equal number of college and university academic faculty and experienced AP high school teachers. The committee members are representative of the wide range of secondary and postsecondary institutions from all regions of the country, and possess a diversity of knowledge and perspectives in the field of computer science.

CSTA: How did the College Board make the decision to change the language for the AP exam to Java?

GAIL: As part of the overall effort of the AP Program to maintain quality and ensure that AP courses reflect the current college-level introductory courses in the subject area, curriculum surveys are conducted every three to five years. Based on that information and recommendations from the field, the AP CS Development Committee recommended that a special committee be formed to investigate more fully the appropriateness of a change in language. Ultimately, this committee recommended that the course and exam move to Java.

CSTA: What is available to assist teachers in transitioning to Java?

GAIL: Resources included the AP Central site for AP CS, and the development of workshop materials and a special training

session for current workshop consultants. Workshops included information on Java in the year prior to the transition and intensive work on Java during the first year. At the same time, in conjunction with the ACM K-12 Task Force, the JETT project was developed to provide more in-depth Java training and community support for teachers. The AP CS electronic discussion group also provides an ongoing vehicle for continuing dialogue among AP CS teachers and college faculty.

CSTA: How does the College Board respond to the constant state of change in the computing disciplines?

GAIL: CS has always been unique among AP courses due to constant changes in the industry. The AP CS Development Committee continues to monitor the state of the field and makes adjustments to the current curriculum to appropriately reflect changes.

CSTA: How is the scoring for the AP exam determined?

GAIL: The AP Program periodically conducts college grade comparability studies in all AP subjects. These studies compare the performance of AP students with that of college students in comparable college courses. In general, the AP composite score cut points are set so that the lowest composite score for an AP grade of 5 is equivalent to the average score for college students earning grades of A. The lowest composite scores for AP grades of 4, 3, and 2 are equivalent to college grades of B, C and D, respectively.

CSTA: What advice do you have for AP CS teachers?

GAIL: Keep abreast of any changes in the course description and seek out professional development activities in the form of workshops, summer institutes, and attendance at professional conferences. Participate in the electronic discussion group and make regular visits to AP Central. Most importantly, have fun through interactions with peers around the country.

Meet the Authors

Robb Cutler, President, CSTA

Robb is the Assistant Head of School of The Harker School in San Jose, California and has taught AP Computer Science and Advanced Topics in Computer Science.

David M. Devine,

Technology Coordinator and Computer Science Teacher, Cardinal Mooney HS, Sarasota, Florida

David has a B.S. in Engineering Computer Science from the University of Illinois and has worked as a consultant for CSC.

Frances P. Trees, Professional Development Chair, CSTA

Fran teaches mathematics and computer science at Drew University in Madison, New Jersey. She is a College Board Consultant for AP CS, AP Central's content adviser for CS.

Michelle Friend Hutton,

Equity Chair, CSTA

Michelle teaches computer science at the Girls' Middle School in Mountain View, California.

Dr. Peggy Meszaros,

Professor, Virginia Tech

Peggy is the William E. Lavery Professor of Human Development and Director at the Center for Information Technology Impacts on Children, Youth, and Families.

Lawrence Snyder, Professor,

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Lawrence is Professor of Computer Science and Engineering and chaired the National Research Council study.

Chris Stephenson,

Executive Director, CSTA

Chris is part of the Teaching Leadership doctoral program at Oregon State University's College of Education.

John White, ACM CEO

John has been the Executive Director and CEO of ACM since 1999. He has managed research projects and the Computer Science Laboratory at Xerox PARC.

Jennifer Wroblewski,

JETT/TECS Coordinator

Jennifer has been working with CSTA since August 2003 to coordinate JETT workshops and assist with the launch of CSTA and the TECS workshop series.

Equity in Action

A Diversity of Scholars – A Tapestry of Discovery

By Pat Phillips

The 2005 Richard Tapia Celebration of Diversity in Computing conference was held October 19-22 in Albuquerque, New Mexico. This third biennial event celebrated the technical contributions of diverse people in diverse computing fields, and highlighted innovative research and applications in computing sciences.

Dozens of presenters from academic, industrial, and government communities, as well as university students, shared their knowledge through technical talks, panel discussions, workshops and a poster session. The conference aims to provide an educational and supportive networking environment for under-represented groups across the broad range of computer science and information technology. Here are just a couple highlights.

Dr. Mark Dean, IBM Fellow and Vice President, detailed the many areas of opportunity in technology during this time of “discontinuity” and global innovation for individuals willing to leave their comfort zone and to prepare with a broad spectrum of knowledge and skills. He noted especially the opportunities in the areas of nanotechnology, biotechnology, Internet services, and data manipulation.

Dr. Janice Cuny, Program Director for Broadening Participation in Computing for the National Science Foundation (NSF), noted alarming statistics on the current state of diversity in computing education and careers and shared the work of NSF in reversing these trends.

Sandra Begay-Campbell of Sandia National Laboratories urged students to dream big, work toward their goals, and to be undeterred by stereotypes. She shared her personal challenges and success strategies as a Native American woman.

The conference, sponsored by the Association of Computing Machinery (ACM) and IEEE-Computer Society in cooperation with Computing Research Association (CRA), honors the significant contributions of Dr. Richard A. Tapia, a mathematician and professor in the Department of Computational and Applied Mathematics at Rice University in Houston, Texas.

Spotlight

CSTA Launches TECS Workshop Series

By Jennifer Wroblewski, JETT/TECS Coordinator

In service of CSTA’s goal to provide meaningful professional development, we are excited to introduce the Teacher Engagement for Computer Science (TECS) program. TECS is a brand new workshop series for high school computer science (CS) educators! These workshops will provide teachers of introductory CS with meaningful, affordable professional development during one- and two-day workshops on campuses across the country.

TECS is based on the very successful CSTA Java Engagement for Teacher Training (JETT) program. Since 2003, over sixty JETT workshops have taken place, providing quality professional development to more than 500 high school CS teachers. While JETT is designed primarily for AP CS teachers, TECS will bring the same hands-on, community-spirited professional development to educators who teach introductory level CS courses.

At TECS workshops, faculty organizers will choose learning modules from a wide array of CS topics, including an introduction to programming and programming languages, principles of computer organization, computer applications, the Internet and the World Wide Web, and principles of software engineering. The TECS curriculum is broad and flexible, designed to allow host

sites to present the most relevant topics to their teacher audience. (The full list of TECS modules can be found under modules at <http://tecs.acm.org/>.)

The hub of all TECS activity is the TECS website, <http://tecs.acm.org>, where faculty members, graduate students, and ACM student and professional chapter members can find the information they need to organize a workshop. Likewise, high school CS teachers may use the website to locate and register for workshops. The website also includes CS resources, as well as information on equity in CS, program FAQ’s, and much more.

To learn about hosting or attending a TECS workshop, visit <http://tecs.acm.org> or contact Jennifer Wroblewski, the TECS and JETT coordinator, at wroblewski@acm.org and (212) 626-0507. Information on the JETT program is available at <http://www.acm.org/jett>.

THE ENROLLMENT CRISIS

CHANGE FROM 2000 TO 2004

undergraduates indicating CS major	-60%
declared CS majors.....	-39%
interest in CS among women.....	-80%

SOURCE: <http://www.cra.org/info/taulbee/bachelors>

CHANGE FROM 2002 TO 2004

AP exams taken (all areas)	+33%
AP CS (A & AB)a.....	-13%
AP CS (AB).....	-22%

NOTE: CS was the only subject to decline

SOURCE: http://apcentral.collegeboard.com/repository/examvolumechange_38944.pdf

Curriculum in Action

The CSTA Web Repository

By Frances P. Trees

The Bureau of Labor Statistics states that "...Computer systems analysts, database administrators, and computer scientists are expected to be among the fastest growing occupations through 2012... Job increases will be driven by very rapid growth in computer system design and related services, which is projected to be one of the fastest-growing industries in the U.S. economy..."

The critical issue is: "How do we empower computer science (CS) teachers to prepare students for this career market?"

In support of CSTA’s efforts to gather and develop teaching resources for CS educators, the College Board generously provided funding for CSTA volunteers to develop a set of new teaching resources. This collection includes 16 contributions from middle school, high school, and college teachers in 12 states, Australia, India, and the United Kingdom. It will be housed on AP Central and also accessed through the online Web Repository that CSTA is now building (and expects to be ready for use by the late spring, 2006).

Contributions to this collection include an introduction that lists the level for which the lesson is aimed, the time required to teach the lesson, and the objective(s) of the lesson. Additionally, a brief “guide to the teacher” is provided that includes a recommendation as to where this material fits into a CS curriculum, prerequisites, additional materials needed, and helpful hints for success. Some include a presentation, a worksheet, or a lab. The lesson topics include: Ethical and Legal Issues, Classes and Objects, Principles of Computer Organization, and Internet Concepts.

Bits and Bytes

By Michelle Hutton

Your students will one day become voting participants in our high tech society helping to make decisions for us all. You can help them in this future role by encouraging them now to think critically about issues in technology. As issues arise in the news or in class, facilitate critical thinking about the topics by guiding students to valid resources and moderating the discussions with structure and respect for the opinions of all. The New York Times Learning Network (<http://www.nytimes.com/learning/index.html>) offers useful articles, information, and lesson plans. You will find activities with supporting resources on a variety of computer science topics plus fun extras such as a computer jargon crossword puzzle.

Send important messages to your students with posters for your computer science classroom. Learn more about a poster on Ada Lovelace and Charles Babbage at <http://www.cs.yale.edu/homes/tap/ada-lovelace.html>.

A poster from Software Development Magazine entitled “Software Development – the Dream Team” is available at <http://www.sdmagazine.com/supplement/dreamteam/>.

Take a look at the promotional brochure produced by Heritage High School in Newport News, VA (http://apcsteacher.com/brochure_hhs_compsci_courses.pdf). A brochure such as this one is a great way to attract students to your classes. Be sure to share your brochure with the counselors, administration and other teachers in your school as well as with students and their parents.

Action Update

Update on the NCAA ruling for CS

By John White, ACM CEO

Editor's Note:

In a recent issue of the Voice, ACM CEO John White explained ACM's efforts to deal with the National Collegiate Athletic Association's (NCAA) recent decision to eliminate computer science (CS) as a core course for initial eligibility. In this article, John gives us an update on the situation.

ACM opened the discussion with NCAA with a letter outlining our concern about this decision and the impact it could have on students wishing to study computer science in high school. The letter, endorsed by several other societies and university presidents, pointed out that:

- the problem faced by the NCAA in determining what classes are truly CS is real;
- despite that, there was an overly negative message in much of the NCAA literature about CS;
- CS stands on its own as a fundamental area of study and cannot necessarily be considered as equivalent or similar to mathematics or physical science;
- Curriculum standards are emerging that allow for fair classification of computing courses.

ACM urged the NCAA to:

- Return CS to the list of core course areas – with the stipulation that courses must meet either the *ACM Model Curriculum for K-12 Computer Science* or the guidelines for AP CS.
- Remove messages about CS being “eliminated.”
- Communicate to all high schools the revised position.

NCAA President Myles Brand agreed that the NCAA communications about the change in status of CS needed to be improved. He

also agreed to work with high schools (or individual students) who were having difficulty “counting” CS courses as “mathematics.”

During the summer, the NCAA did indeed modify its messages around the status of CS. There are no longer any “headlines” about CS being “eliminated.” The literature points out that while CS is not a core course, it can be counted if the high school gives credit for the course as mathematics or natural/physical science.

Unfortunately, there has been little movement with high schools reclassifying AP CS as a valid core course. This may be an issue of momentum or, more likely, a reluctance or inability to classify AP CS as mathematics.

ACM has specifically asked the NCAA to:

- Revisit its decisions and actions regarding CS.
- Encourage all high schools to consider moving their AP CS from “denied” to “eligible.”

ACM will continue to engage the NCAA in discussions concerning CS because we feel it is fundamentally unfair to students studying computing and one of many factors behind the declining interest in studying CS.



“Software is the embodiment of human intelligence—the mediator between man and machine—conveying our questions or orders to the computers that surround us.”

Steve Lohr, *New York Times* 2004



Career Corner

Power of Partners—Out and About the Community

By Peggy Meszaros

Researchers at Virginia Tech have launched a new DVD-based video and guide to help address the continuing under-representation of women in the Information Technology (IT) field.

The new video, called *The Power of Partners: Helping Females Find Their Way to High Tech Careers* was developed by researchers Peggy S. Meszaros, Elizabeth Creamer, and Carol Burger. The video and the accompanying Facilitator's Guide are designed to help college advisors, parents, and teachers understand their role in supporting girls.

The idea for this video came out of a National Science Foundation-sponsored research project at Virginia Tech called Women in Information Technology: Pivotal Transitions from School to College. The study explored women's under-representation and developed a path analysis to identify the influences on girls as they made career choices, especially in IT careers.

The video applies the theoretical framework developed as part of the study to better understand the career decision-making process. The Facilitator's Guide also provides lessons and resources to help young women and their advisors interact more effectively.

The video was premiered on the Virginia Tech campus on October 14, 2005. The Facilitator's Guide is under development this fall. Both the DVD and Facilitator's Guide will be available for distribution in the summer of 2006. For more information, contact meszaros@vt.edu.

We're on the web! <http://csta.acm.org>

MARK YOUR CALENDAR

Texas Computer Education Association (TCEA) Conference

February 6 - 10 in Austin, Texas
<http://www.tcea2006.org/>

Special Interest Group – Computer Science Education (SIGCSE) Conference

March 1 - 5 in Houston, Texas
<http://www.cs.rut.edu/%7Esigcse06/>

Michigan Association of Computer Users in Learning (MACUL) Conference

March 8 - 10 in Grand Rapids, Michigan
<http://www.macul.org/conferences/2006/index.html>

Florida Educational Technology Corporation (FETC) Conference

March 22 - 24 in Orlando, Florida
<http://www.fetc.org/>

National Council of Teachers of Mathematics (NCTM) Conference

April 26 - 29 in St. Louis, Missouri
<http://www.nctm.org/meetings/stlouis/>

National Education Association (NEA) Conference

June 30 - July 5 in Orlando, Florida
<http://www.neaexpo.com>

National Educational Computing Conference (NECC)

July 4 - 7 in San Diego, California
<http://center.uoregon.edu/ISTE/NECC2006/>

Computer Science & Information Technology Symposium

July 8 in San Diego, California

Advanced Placement National Conference

July 12 - 16 in Lake Buena Vista, Florida

Plan to Join Us

Computer Science & Information Technology Symposium

July 8, 2006
San Diego, California



CSTA has launched
a new blog!
Keep in touch.

Visit

<http://blog.acm.org/csta/>

RESOURCES

Here's more information on topics covered in this issue of the *CSTA Voice*.

PROFESSIONAL DEVELOPMENT

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Page 3: NCATE Teacher Education Standards <http://www.ncate.org/>

Page 4: National Academy Press <http://www.nap.edu/>

Page 5: AP Central <http://apcentral.collegeboard.com>

Page 5: AP CS email list <http://lyris.collegeboard.com/cgi-bin/lyris.pl?enter=ap-compsci>

Page 6: Richard Tapia Conference <http://www.ncsa.uiuc.edu/Conferences/Tapia2005/>

Page 6: TECS <http://tecs.acm.org>

Page 6: JETT <http://www.acm.org/jett>

Page 7: NCAA Clearinghouse <http://www.ncaaclearinghouse.net/ncaa/NCAA/common/>

TEACHING RESOURCES

Page 6: CSTA Virtual Binders <http://campus.acm.org/public/csta/binders/index.cfm>

Page 7: New York Times Learning Network: <http://www.nytimes.com/learning/index.html>

Page 7: Computer Jargon Crossword <http://www.nytimes.com/learning/teachers/xwords/20010916.html>

Page 7: Heritage High School brochure http://apcsteacher.com/brochure_hhs_compsci_courses.pdf

Page 7: Ada Lovelace and Charles Babbage poster http://www.mines.edu/fs_home/tcamp/poster.jpeg

Page 7: The Dream Team poster <http://www.sdmagazine.com/supplement/dreamteam/>

Occupational Outlook Handbook <http://www.bls.gov/oco/ocos042.htm>



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