



# Voice

**INAUGURAL  
ISSUE!**

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

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## Welcome to CSTA

By Robb Cutler

Welcome to the inaugural issue of the *CSTA Voice*, the newsletter for members of the Computer Science Teachers Association!

As a charter member of CSTA, you recognize the importance of technology education at the elementary and secondary school levels. But teaching students to use computers is only a small part of what we have to do. Schools must prepare students to succeed in tomorrow's technology-driven world. And you need support to make this happen.

That's where CSTA can help. We intend to be the premiere national organization serving K-12 computer science teachers. Other groups focus on using technology; we focus on teaching computer science. From the *ACM Model Curriculum for K-12 Computer Science* to our website to this newsletter, we can offer the resources you need to be successful.

In the *CSTA Voice* you will find special bulletins for members, gather ideas for teaching computer science, learn about professional development opportunities, read about the issues that really matter to computer science teachers, and get the latest news on research relevant to education. In addition, we invite you to participate by sharing your talents with us.

In this issue read about the benefits of belonging to CSTA, the NCAA ruling that affects your students, and the research to discover the state of K-12 computer science education. Be sure to check out the regular features including Bits and Bytes, Out and About the Community, Volunteer Network and Mark Your Calendar.

Thank you for joining CSTA; we're glad you're with us. It is only with your participation that we can truly have a national voice in K-12 computer science education.

## NCAA Ruling Affects Your Students

By John White

In mid-January I received a copy of an email that said: "... the NCAA is eliminating computer science." My initial reaction was: "What has the National Collegiate Athletic Association (NCAA) got to do with computer science and, more importantly, why are they eliminating it?" The more I pursued these questions, the deeper my concern. So what happened, and why should we care?

**The Issue** Every high school student who wants to participate in intercollegiate ath-

letics at an NCAA Division I or Division II school must meet NCAA Initial Eligibility Requirements. They include:

- Graduating from high school
- Completing 13 "core" courses
- Obtaining a minimum GPA in the core courses
- Obtaining a minimum SAT or ACT score.

To be considered "core" by the NCAA, a course must meet the following criteria:

- Recognized academic course which

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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.

## NCAA RULING AFFECTS YOUR STUDENTS

*continued*

qualifies for high-school graduation credit in one or a combination of:

English, math, science, social studies, foreign language, computer science, non-doctrinal religion, philosophy;

- Course must be considered college preparatory for entrance into a four-year college;
- Mathematics must be at the level of Algebra I or higher;
- Course must be taught by a qualified instructor;
- Course must be at or above regular academic level.

Effective August 1, 2005, computer science is being eliminated from the list of what is considered "core" courses. This decision, made in 2001, was an attempt by the NCAA to deal with the fact

that many courses called "computer science" taught basic computer skills and IT literacy. These courses were classified as

"core" college-prep courses even though they had little to do with programming, computation, or algorithmic thinking that form the basis of computer science.

**Concerns** The change implemented by the NCAA underscores the way computer science is being marginalized in high schools.

The NCAA aimed to eliminate computer skills/literacy courses from being considered "core," but their implementation has led to discounting all computer science courses.

The message to parents and students is: "If you are a high school boy or girl interested in athletics (the whole broad spectrum of college athletics – not just guys playing football) don't bother with computer science."

Throughout its promotional literature, the NCAA is saying high school computer science doesn't count.

The health of computer science in high schools – a major concern and core issue for CSTA – is at stake. That said, it is not an issue for CSTA alone to engage. The NCAA is inherently collegiate, but their decision is impacting high schools as well. Thus, all segments of the computing community need to be engaged in finding a viable solution to defining the computer science

The health of computer science in high schools – a major concern and core issue for CSTA – is at stake.

discipline and reversing this decision.

We all would agree that the problem faced by the NCAA was real. Moreover, my examination of NCAA background documents shows that the intent of the decision was to keep bona fide computer science as a core course, since the NCAA decision stated that computer science

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**CSTA Voice** is a publication of the Computer Science Teachers Association.

**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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courses that are counted as math or natural/physical science by a high school may be considered as “core courses.”

Their solution, however, is to effectively eliminate computer science as a core course, and to send the message that it doesn't count. For example, the Advanced Placement computer science courses at Palo Alto Senior High School in California are now listed as “denied courses” in the NCAA Initial Eligibility Clearinghouse. Every high school's listing in the NCAA Clearinghouse includes the statement:

**IMPORTANT NOTE:** Computer science courses cannot be used to fulfill core course requirements for student-athletes first entering a collegiate institution on or after August 1, 2005.

Yet, Advanced Placement computer science courses clearly meet the intent of an NCAA core course.

**Next Steps** The lack of consistency and standards for what we call computer sci-

ence – particularly in high schools – is contributing significantly to the marginalization of our discipline. It is ironic that the NCAA has become the clearest focal point for what we need to address.

The immediate impact of the NCAA decision is currently being assessed within the major education groups in ACM – its Education Board and SIGCSE (ACM's Special Interest Group on Computer Science Education) – and within CSTA. In addition, discussions have been initiated with other computing societies.

ACM must challenge this decision. It is fundamentally flawed and seriously detrimental to the health of our discipline. In challenging this decision, we must: 1) acknowledge the problem; 2) challenge the solution chosen by the NCAA; and 3) offer a viable alternative. By engaging all segments of the computing community, I believe we can develop an alternative to the NCAA position and re-establish the integrity of computer science in high schools.

## Creating a National K-12 Computer Science Community

By Chris Stephenson

In September of 2004, the Computer Science Teachers Association (CSTA) was launched with the sole purpose of supporting K-12 education in computer science and the computing disciplines.

Over the last five years, it has become increasingly clear that computer science education in high schools is approaching a crisis state. A large list of issues including: lack of administrative support, reduced funding, the absence of curriculum standards, little understanding of the discipline and its place in the curriculum, and lack of opportunities for teachers to develop their skills and interests have resulted in reduced course offerings and shrinking enrollments. Without a national-level organization to advocate for K-12 computer science, there is a good chance it could disappear from K-12 education altogether.

CSTA has been created to serve as a professional membership organization for teachers of computer science in elementary through high school. Its mission is to support and promote the teaching of comput-

er science and other computing disciplines at the K-12 level by providing opportunities for teachers and students to better understand the computing disciplines and to more successfully prepare themselves to teach and to learn.

CSTA's primary goal is to create a community of individuals and organizations working together to address critical issues in K-12 computer science education. To achieve this goal, CSTA is pursuing the following core objectives:

- **Communications:** CSTA will be the primary source of information and resources for K-12 computer science teachers.
- **Professional Development:** CSTA will provide multiple levels of professional development for teachers with the goal of improving their technical knowledge and pedagogical skills.
- **Research:** CSTA will conduct and disseminate ground-breaking research relating to K-12 computer science education.

*continued on page 4*

## Contribute to the CSTA Voice

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](mailto:cstapubs@csta.acm.org). The final length, due date and title will be negotiated for chosen articles. Please share your knowledge. **Volunteer today.**



Your First Year of CSTA Membership is FREE!

Join Today

<http://csta.acm.org>

## REGISTER NOW!

### for the June 2005 Computer Science & Information Technology Symposium in Philadelphia, Pennsylvania!

This high-profile event, hosted by ACM/CSTA and ISTE, is a professional development opportunity for grades 9–12 computer science and information technology teachers who need practical, relevant information to help them prepare their students for the future. Take advantage of this opportunity for meaningful professional development!

- ◆ Explore issues and trends relating directly to your classroom
- ◆ Network with top professionals from across the country
- ◆ Interact with other teachers to gain new perspectives on shared challenges

The June 2005 Symposium is being held in conjunction with the National Educational Computing Conference (NECC) 2005. To register visit: [www.iste.org/profdev/cs2005](http://www.iste.org/profdev/cs2005)

## CREATING NATIONAL K-12 COMMUNITY

*continued*

- **Opportunities:** CSTA will promote computer science as a field of study and as a career destination that provides a wealth of opportunities to students regardless of their gender, race, and socio-economic status.
- **Standards:** CSTA will significantly broaden awareness of the need for curriculum standards, and will provide valuable information to support a rationale for computer science teacher certification standards.

The achievement of these goals is essential to giving students the opportunity to develop the critical thinking skills and knowledge of computing, which are necessary to every educated person living and working in our increasingly computerized world. They are essential to providing students with opportunities to participate in ways that fully engage their learning and earning potential.

Although CSTA only began accepting members in January of 2005, its membership has grown quickly to include more than 2000 educators throughout the world. Volunteer educators from across North America are also working on numerous CSTA projects, including:

- an initiative to develop teacher support materials for the new *ACM Model Curriculum for K-12 Computer Science*,

- the Java Engagement for Teacher Training (JETT) workshops taking place at universities across the country,
- a comprehensive national research study on high school computer science education,
- the upcoming Computer Science and Information Technology Symposium in Philadelphia (June), and
- a national web-based repository of teaching and learning materials for K-12 computer science.

In addition, discussion is already proceeding with several key corporate and educational partners about support for new initiatives such as pre-AP teacher workshops, new teaching and learning

CSTA is committed to being more than just a virtual space to find stuff...

resources geared to the model curriculum, and workshops focusing on a broad range of skills for all K-12 computing disciplines.

CSTA is committed to being more than just a virtual space to find stuff...it is an environment in which members' opinions are sought and listened to, and member needs are addressed in practical and relevant ways. It is a true community that speaks with one voice, educating people on the essential role of computer science in education, and advocating to ensure that teachers have the tools necessary to meet the learning needs of their students.

## Membership Has Its Benefits

By Chris Stephenson

As a new member of CSTA, you should already be enjoying some of the benefits that we hope will make your participation worthwhile. You should have received the *ACM Model Curriculum for K-12 Computer Science*.

If you have not done so yet, also please take a few minutes to set up your .csta forwarding email address. You will be amazed at how much it cuts down on spam! As a member, you also receive access (sometimes automatic and sometimes opt-in) to several e-publications including:

- **TechNews** – a comprehensive news gathering service, scanning the headlines to bring topics of interest.
- **Crossroads** – a quarterly student-produced publication offering diverse opinions of our readers; reviews of books, software, and conferences; and articles to help students make educational and career decisions.
- **CareerNews** – reliable, balanced career news and features concerning career decisions and opportunities.

- **Table of Contents** – email alerts for new materials as they are added to the ACM Digital Library

You also get access to all information and resources available on the CSTA website, including cutting edge research, theme-based resource e-binders, and access to the ACM Career Resource Centre.

Finally, as a CSTA member, you get first notice of, and discounts on, CSTA-sponsored professional development such as workshops and symposia.

In the coming months we will be adding new resources and benefits to serve you in both your learning and teaching. Please let us know what we can do to make your membership in CSTA more valuable.

## Java Workshops to Follow JETT Model

By Fran Trees

The Java Engagement for Teacher Training Program (JETT) provides workshops and resources in Java for secondary high school computer science teachers. JETT was developed to meet the immediate needs of secondary computer science educators preparing to teach Advanced Placement Computer Science in Java. The workshops were successfully hosted by many universities throughout the nation. The first Java AP CS Exam was offered in May, 2004.

Based on the successful JETT workshop model, the Professional Development Committee of CSTA is developing similar workshops for computer science teachers involved in the computer science curriculum prior to Advanced Placement. A core goal of CSTA is to develop, support and promote the teaching of computer science and other computing disciplines at the K-12 level by provid-

ing opportunities for teachers and students to better understand the computing disciplines and to more successfully prepare themselves to teach and to learn. It is the hope of CSTA that computer science education will be a community of teachers who share knowledge and resources, support each other's work, and engage in professional development that builds and strengthens computer science K-12 education for all students.

With this in mind, our workshops will focus on the needs of computer science teachers and the skills defined in the ACM Model Curriculum. Many universities have expressed initial interest in hosting such workshops and we are confident that computer science education and educators will benefit from these efforts. Check future issues of the newsletter and the CSTA website for more information.

## Promoting CS: Think Outside the Box

By Pat Phillips

Promoting CS classes in your school is about more than just keeping your job. It is vital to the economy and the future success of all students. Here are some tips that will help make your promotional events more successful.

First, consider audiences that you might have overlooked in the past, such as the classes and clubs where students thinking about a career in engineering, math, physics, biology, economics, music or the visual arts might congregate. Look beyond the students who want a career in the obvious computer-related fields.

Also, computer science impacts almost any career you can think of and it is important to send this message to students. Many

students are unaware that computer science is an integral part of engineering, math, and physics majors and might even be required for particular majors in their chosen college. Investigate a few of the colleges popular with students in your school. Check out the requirements for students majoring in biology or math for instance. What majors require computer science credits? Share that information with your targeted audience.

Finally, tap into another large segment of your school population. The young women in your school are potentially a huge audience. Watch for the next issue of the *CSTA Voice* focusing on equity issues and strategies for balance.

## Meet the Authors

**Charmaine Bentley,**  
*Membership Chair, CSTA*

Charmaine has taught computer science at Roosevelt High School, Dallas ISD, for 17 years. She is a yearbook sponsor and an active member of TCEA TACS SIG and CSTA.

**Robb Cutler,** *President, CSTA*

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## Bits and Bytes

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*Cooking up the Perfect Lesson*

By Michelle Hutton

Bits and Bytes is a regular column made up of little pearls of teaching wisdom and ideas. The column is based on the *Cook's Illustrated* Quick Tips feature. (*Cook's Illustrated* is the *Consumer Reports* of cooking and I highly recommend it!) We are in search of ideas to share with members – if you can briefly describe a novel and useful teaching technique, a website you find invaluable, or some other tidbit that would help your fellow CSTA members, please send it to [cstaequity@csta.acm.org](mailto:cstaequity@csta.acm.org)

### CROCHETING THE HYPERBOLIC PLANE

David Henderson and Daina Taimina of Cornell University recently presented “Crocheting the Hyperbolic Plane,” about non-Euclidean geometry and interesting applications including lettuce leaves and sea slug anatomy. They used crochet to build hyperbolic models. What an unusual way to help students understand a complex topic! A gallery of crocheted models, along with links to the presentation, an interview, and a pattern, are available at <http://www.theiff.org/lectures/05b.html>.

### THERE'S A HOLE IN THE BUCKET

At the February CS&IT Symposium in St. Louis, Fran Trees gave a terrific presentation, “Teaching Recursion,” that offered teaching strategies beyond the Towers of Hanoi activity. She suggested helping students understand recursion through music. The children’s folk song, “There’s a Hole in the Bucket,” is a fun way to introduce the topic. Engage the class through singing the song, with the boys taking Dear Henry’s part and the girls taking Dear Liza’s part. Fran’s presentation plus others from the Symposium are available at: <http://csta.acm.org/ProfessionalDevelopment/sub/CSITSymposiaSites.html>

### BOXES AND BOXES

Philip East of the University of Northern Iowa and I agree that students often have difficulty with abstract concepts; the more abstract, the more difficult it seems to be for students to grasp. As a way to make variables more concrete, I recommend using boxes. Label the outside of each box with the variable name, then write the value on a piece of paper and store it inside the box. Values can easily be read and changed. For lists, I use drugstore seven-day pillboxes. I relabeled the sections using a paint pen. The students can swap variables in and out, move them around, and experience lists in a kinesthetic way. You might try egg cartons for a more economical solution.

### FREE PROMOTIONAL POSTER

Check out the resources from the Women@SCS organization at Carnegie Mellon University. (<http://women.cs.cmu.edu/Teachers/>) They offer materials and ideas for attracting young women to computer science classes and are pleased to share with you a new poster illustrating some of the many exciting areas and the ubiquity of computer science. It is free to download, circulate and display.

Don't forget! Send us your Bits and Bytes at [cstaequity@csta.acm.org](mailto:cstaequity@csta.acm.org)

## Curriculum in Action

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*ACM Model Curriculum for K-12 Computer Science*

By Anita Verno

Help has arrived to guide you in selecting computer science topics that create a complete package of technology learning for your students. The CSTA Curriculum Committee has created a new *Level II*

*Objectives and Outlines* document to help you implement the Level II course in the *ACM Model Curriculum for K-12 Computer Science*.

The *ACM Model Curriculum for K-12 Computer Science* clearly defines a program for K-12 computer science education, and provides a broad outline for K-12 computer science teachers to build upon. It provides an overview of computer science for four levels of instruction. Level I, recommended for students in grades K-8, closely follows ISTE NET standards and is a well-developed set of learning objectives with available resource materials. Level II, recommended for students in grades 9 or 10, is an introduction to the principles of computer science and its place in the modern world. Levels III and IV are recommended for students in upper grades.

The *Level II Objectives and Outlines* document divides the course into 14 topics and provides a general description, list of necessary resources, specific learning objectives, assessment measures, and sample educational activities for each topic. You can access the *Level II Objectives and Outlines* document directly from the CSTA website at: [http://csta.acm.org/Curriculum/level\\_2\\_objectives\\_outlines.pdf](http://csta.acm.org/Curriculum/level_2_objectives_outlines.pdf)

CSTA encourages you to review the document and provide feedback to [cstacurriculum@csta.acm.org](mailto:cstacurriculum@csta.acm.org) as requested on pages 2 and 3 of the document. Your comments will help us create better, more classroom-ready resources.

Additional resources to support the curriculum will be available from the CSTA Web Repository currently under development. When completed, teachers will be encouraged to contribute their own original materials to the Repository. Watch for postings to the CSTA website and notices in future CSTA Voice newsletters to learn how to share teaching resources with your colleagues.

## Out and About the Community

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*Computer Science on the Move in Texas*

By Charmaine Bentley

On Tuesday, February 8, 2005, the Technology Applications Teacher Network (TATN) presented the third annual Texas Computer Education Association (TCEA) pre-conference TATN Academy. Funded and supported by the Texas Education Agency Division of Educational Technology and the Education Service Center Technology Task Force, this event is designed for Technology Applications teachers in grades K-12. Significantly, participation in the computer science strand has grown each year.

Throughout the day, outstanding computer science teachers from across the state shared teaching resources, lesson plans, and student projects that provided an opportunity to discuss curriculum issues. Using a variety of strategies and languages, teachers provided ideas and examples as they exchanged their stories. Each teacher’s dedication was evident as they addressed the instructional needs of their students.

Terry Lee of Ore City ISD showed samples of student contributions illustrating the independent work of “exceptional students.” Charmaine Bentley of Dallas ISD, and Karen North of Houston ISD demonstrated lessons to help students who might lack required fundamentals. Karen has developed a course that combines computer science with mathematics so that the student can receive credit for both. Charmaine’s presentation focused on teaching students the processes required for algorithmic thinking using candy.

Kim Garcia of Georgetown ISD, Rita Woodfill of Northside ISD (San Antonio), and Steve Smiley of Arlington ISD provided strategies to attract and introduce beginning students to Computer Science. Kim presented student team projects programmed using

JCreator while Rita showed how students could develop connections using C#. Steve demonstrated a basic introduction for Java. Sam Black of Lubbock ISD excited his colleagues, as he does his students, with *RoboCode*.

Higher-level topics were not left out. Pam Willis of Silsbee ISD and Tom Halbert of Cypress Fairbanks ISD provided lessons for more advanced students. Pam illustrated how students could simulate stacks and queues using linked lists. Tom demonstrated lessons using graphics to teach object-oriented design and programming.

All Computer Science lesson plans from state and regional events are posted on the TATN website, [www.techappsnetwork.org](http://www.techappsnetwork.org). Discussion boards are also available for communication among technology applications teachers. The Texas Education Agency Division of Educational Technology and the Education Service Center Technology Task Force are commended for supporting the work of computer science teachers in Texas.

## Research Review

### *Building CS Image Through Research*

By Greg Halopoff

The CSTA research committee has embraced the vision of applying research to re-establish the academic status computer science education once held. Using a recent national questionnaire of computer science (CS) teachers, developed to survey the current landscape of CS education in our K-12 schools, we will analyze and report on ways to develop a basis of support of the CSTA mission.

An important outcome of this research will be a taxonomy of challenges CS teachers and students face daily. Once the challenges are known, CSTA can establish the priorities and resources needed to support members and their students. One example might be the wide variance in certification requirements among states. A thorough understanding of this trend can lead to accurate placement of CS education within the K-12 curriculum. CSTA can then partner with universities, state departments of education, and other stakeholders to better define core academic standards that benefit both K-12 and higher education. Another is the difficulty of the subject for some learners. Through practical application, purposeful learning experiences at the introductory level can be promoted to ensure student success and build confidence in their ability to achieve in advanced study.

Another effort will be to couple questionnaire results with research reviews covering the benefits of CS education to teachers, students, the workforce, and the economy. Correlations and inferential statistics can be helpful to identify the cognitive and

academic impacts on learning, and how a strong CS education can lead to improved professional performance in all fields of study. For example, research has clearly demonstrated that students with an introduction to programming can achieve higher in all academic areas. Students with a background in CS also tend to be better problem solvers – an important attribute all members of the workforce need in today's society.

Ultimately, research-based goals and objectives can be used to attract students of all academic abilities to the field. This can be accomplished through gender and grade-level case studies, research, and marketing success stories from decision makers to students. CS education needs to become known for what it truly is – not what it's perceived to be. Through research, CSTA will present a window into the world of K-12 CS education and strive to define accurate perceptions of the field.

## Volunteer Network

### *Grow With Us*

By Pat Phillips

I know you're busy – between teaching, extra school duties, family, home, and maybe even a second job, you barely have a chance to catch your breath. These multiple life goals seem in endless conflict with opportunities to share your knowledge and skills through volunteering. But volunteering can actually help you further those goals. In particular, volunteering can expand the influence of your life's work. Let me tell you how volunteering with CSTA can extend your reach.

- **Professional growth.** Volunteering with CSTA provides numerous opportunities to learn more about computer science and more about teaching. You will have a real impact on the direction of computer science education by offering your insights to CSTA.
- **A chance to develop leadership skills.** You can become a committee member or perhaps assume responsibility as a committee chair. The skills you develop will enhance your professional skills and are definitely a plus on your résumé.
- **A networking tool.** This is perhaps the biggest career-related advantage to volunteering. It pulls you out of your limited work and social circles. You will meet new people as you work on projects, as well as at conferences and special events.

Please share your talents for the growth and influence of CSTA and for your personal professional growth. Contact us at [cstahelp@csta.acm.org](mailto:cstahelp@csta.acm.org) today.

### WORDS FROM SOME CURRENT CSTA VOLUNTEERS:

"As a computer professional, an educator, and the mother of three children, I felt the need to provide input towards improving the type and quality of computer education in our schools, with the goal of ensuring our children have the necessary background to compete in the real world."

*Anita Verno, Hackensack, NJ*

"I have a passion to see computer science reach the academic status it once held in K-12 education. CSTA offers the best hope to work toward achieving that goal."

*Greg P. Halopoff, Ph. D., Las Vegas, NV*

"Computer Science serves as both an equalizing force and as a means for our young people to achieve their maximum potential. CSTA has the potential to extend the reach of computer science education. I volunteer to support this goal."

*Charmaine Bentley, Dallas, TX*

### CSTA MEMBERSHIP OVERVIEW

**Board:** 12 members      **Total number of CSTA members:** 1922  
**Advisory Council:** 9      **Number of countries:** 40

#### COUNTRIES WITH MOST MEMBERS:

<b>USA:</b>	1711 (90%)		
<b>Canada:</b>	37	<b>South Africa:</b>	16
<b>Israel:</b>	27	<b>India:</b>	6

#### TOP TEN US STATES:

<b>TX:</b>	212	<b>PA:</b>	80	<b>NJ:</b>	65
<b>CA:</b>	137	<b>IL:</b>	74	<b>MI:</b>	64
<b>NY:</b>	92	<b>OH:</b>	69	<b>NM:</b>	54
				<b>VA:</b>	47

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

## MARK YOUR CALENDAR

### JETT Workshops

The Java Engagement for Teacher Training Program is a partnership between CSTA and the College Board.

Brooklyn College, NY	April 13, 2005
Stony Brook University, NY	May 7, 2005
Morehead State University, KY	May 20 to May 21, 2005
Northface University, UT	June 21 to June 22, 2005
University of Pennsylvania, PA	June 23 to June 24, 2005
College of St. Rose, NY	July 21 to July 22, 2005
Hendrix College, AR	August 4 to August 6, 2005

Contact for more information and additional dates: <http://www.acm.org/jett/>

### Computer Science & Information Technology Symposium

June 26, 2005

Join us for a day-long event designed specifically for computer science and computer applications teachers of grades 9–12.

Philadelphia, PA

<http://www.iste.org/profdev/cs2005>

### National Educational Computing Conference

June 27 to June 30, 2005

NECC offers opportunities for all levels and interests in Computer Science Education.

Philadelphia, PA

<http://center.uoregon.edu/ISTE/NECC2005/>

### 2005 AP National Conference

July 14 to July 18, 2005

Hilton Americas-Houston, Houston, Texas

<http://apcentral.collegeboard.com/> Click on 2005 AP National Conference

### AP CS Summer Institutes scheduled for June, 2005:

Login at AP Central. Click on **Institutes and Workshops** at the top of the page.

<http://apcentral.collegeboard.com/>

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## RESOURCES

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

### CSTA MEMBERSHIP

**Page 1:** The Computer Science Teachers Association website is <http://csta.acm.org>

**Page 1:** Read more about the NCAA ruling at <http://www1.ncaa.org/eprise/main/parent-prospect/index.html>

**Page 4:** Join CSTA at <http://csta.acm.org>

**Page 7:** The CSTA research results can be found at <http://csta.acm.org/Research/sub/TuckerSurveyResults.html>

### COMMUNITY

**Page 6:** Learn more about organizations for computer science teachers in Texas

The Technology Applications Teacher Network (TATN) <http://www.techappsnetwork.org>

### PROFESSIONAL DEVELOPMENT

**Page 3:** ACM website is <http://www.acm.org>

**Page 4:** Check out the details for the CS and IT Symposium at <http://www.iste.org/profdev/cs2005>

**Page 4:** ISTE website is <http://www.iste.org>

**Page 5:** Advanced Placement Computer Science is located at <http://apcentral.collegeboard.com>

**Page 5:** JETT website is <http://www.acm.org/jett/>

### TEACHING RESOURCES

**Page 5:** More resources for teachers with gender and cs issues in mind at <http://women.cs.cmu.edu/Teachers/>

**Page 6:** The words to the song "There's a Hole in the Bucket" are at <http://www.kididdles.com/mouseum/t028.html>

**Page 6:** The complete *ACM Model Curriculum for K-12 Computer Science* can be found at <http://csta.acm.org/Curriculum/sub/ACMK12CSModel.html>