SIGCSE *Bulletin*
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Contents

SIGCSE Board

Chair – Brian Dorn, University of Omaha, USA
Vice-Chair – Claudia Szabo, University of Adelaide, Australia
Secretary –Mark Sherriff, University of Virginia, USA
Treasurer – Michelle Friend, University of Omaha, USA
At Large – Oluwakemi Ola, University of British Columbia, Canada
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At Large – Chris Gregg, Stanford University, USA
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SIGCSE News in Brief
By Julie M. Smith and Charles Wallace, Bulletin co-editors

We are excited to share this issue with you. It features updates on the SIGCSE Board election and the SIGCSE TS student poster competition as well as announcements related to several upcoming conferences. We are also pleased to feature a member spotlight highlighting the interesting work of Amruth N. Kumar.

We welcome the new SIGCSE Board, and we're excited about the depth of experience and commitment that they bring to computer science education and to the work of SIGCSE.

We always welcome announcements and other brief pieces of general interest to the SIGCSE community. And we now have a new email address, SIGCSE-Bulletin-Editors@acm.org, for these submissions.

Upcoming Dates and Deadlines

Conference	Location	Dates	Submission Deadline
RESPECT	Raleigh, NC, USA	14 – 16 July, 2025	----
ICER	Charlottesville VA, US	3 - 6 August, 2025	----
CompEd	Gaborone, Botswana	23 25 October, 2025	----
Koli Calling	Koli, Finland	11 – 16 November, 2025	Abstract: 20 July; Full paper: 27 July
SIGCSE TS	St. Louis, Missouri, US	18 - 21 February, 2026	Round Two: 2 October

Other conferences operate in cooperation with SIGCSE and are posted on the SIGCSE web site at sigcse.org/events/incoop.html

SIGCSE Election Results
By Adrienne Decker, Chair, Elections Committee

Results for our elections are now official and finalized. Congratulations to the incoming SIGCSE Board! And thanks to the elections committee (DaQuan Bashir, Alison Clear, Tamara Pearson, Manuel Pérez Quiñones, Jan Vahrenhold) for their efforts during the election process.

Results of all the ACM elections can be found here. Specifically, SIGCSE's results are here.

2025 ACM SIGCSE Election Results (For the Term 1 July 2025 – 30 June 2028)

Chair: Brian Dorn, University of Omaha

Vice-Chair: Claudia Szabo, University of Adelaide

Secretary: Mark Sherriff, University of Virginia

Treasurer, Michelle Friend, University of Omaha

Member At Large: Oluwakemi Ola, University of British Columbia

Member At Large: Ethel Tshukudu, San Jose State University

Member At Large: Chris Gregg, Stanford University

ICER 2025: Call for Attendance
By Briana Morrison, Calkin Suero Montero, Leo Porter, and Neil Brown, ICER 2025 Chairs

Photo credit: UVA Rotunda, Photo from UVA Images

Start your August off right by attending the ACM International Computing Education Research (ICER) Conference in Charlottesville, Virginia, USA! Festivities begin on Sunday, 3rd with the Doctoral Consortium and Works-In-Progress in Rice Hall. All attendees are invited to the opening reception in The Rotunda, the original library designed by Thomas Jefferson (3rd President of the United States) and centerpiece of the Academical Village on Sunday evening, 5-6:30pm. While dining on light refreshments you can reconnect with old friends while meeting new ones.

The main conference kicks-off on Monday morning (August 4) at the Kimpton The Forum Hotel on the beautiful grounds of the University of Virginia. The program promises to be a highlight, with 31 accepted papers to be presented along with 16 in-person posters, 5 virtual posters, 6 lightning talks as well as learning about the 19 DC participants and their research efforts.

You are sure to enjoy the conference dinner, to be held at the Tasting Room & Taphouse at Mount Ida Reserve on Tuesday evening, with transportation being provided.

Photo credit: Mt. Ida Reserve, from Mt. Ida website

The conference is being held in both face-to-face and hybrid modes to allow for maximum participation. Online attendees will once again use Discord where there will be options for online discussions to mimic the in-person table talks after each paper presentation. Be sure to register BEFORE July 15, 2025 as any registrations after that time may not receive Conference Dinner tickets, and are subject to space constraints.

You can find information related to registration, making your travel plans and hotel reservations at the conference website: https://icer2025.acm.org/. When you are making your plans to attend, please be sure to stay a few extra days on either side of the conference. You will be in one of the most beautiful locations in the USA and there are many local activities (Monticello, hiking, Skyline Drive to mention a few) or visiting one of the numerous breweries, wineries, or restaurants. See Things to Do in Charlottesville or Charlottesville Vineyards and More for additional information on local activities.

Photo credit: Charlottesville, UVA Today

Additional information can be found on the conference website, https://icer2025.acm.org/, including any updates. If you have questions you can email site-chairs@icer.acm.org. We look forward to seeing you soon in the heart of Virginia!

Koli Calling: Call for Participation
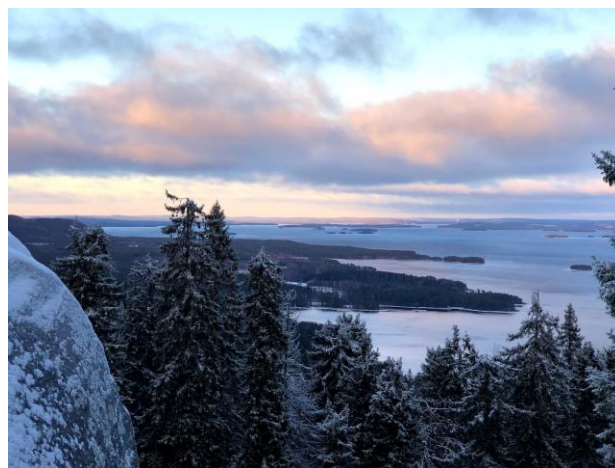### By Juho Leinonen and Rodrigo Duran

Photo credit: Juho Leinonen

We warmly invite you to attend the 25th Koli Calling International Conference on Computing Education Research (Koli Calling 2025), to be held 13-16 November 2025 in the beautiful Koli National Forest in Eastern Finland. The submission deadline for full papers and discussion papers is quickly approaching! The deadlines are 20 July 2025 (abstracts) and 27 July 2025 (papers).

There will be a pre-conference workshop held in Joensuu, Finland on November 12th, and the Koli Calling Doctoral Consortium will be organized before the conference, November 11th – 12th as an in-person event at Joensuu. The conference itself will begin on November 13th in the afternoon. All accepted submissions need to be presented in person at Koli Calling. At least one author has to attend the conference in person for the paper to be included in the proceedings. The main conference will be held at the Hotel Koli, located in scenic national park about 60km north of Joensuu, Finland.

Koli Calling is one of the leading international conferences dedicated to the exchange of research and practice relevant to the scholarship of teaching and learning and to education research in the

computing disciplines. Koli Calling publishes high-quality papers that combine teaching and learning experiences with solid, theoretically anchored research. Koli Calling is a single-track conference for original and novel work with research, practice and systems presentations as well as a keynote and invited talks. The conference is known for its moderate size, intimate atmosphere, and lively discussions.

We hope that many of you join us at Koli Calling 2025 and help us to make this conference as enjoyable and memorable as in the previous years!

SIGCSE Technical Symposium 2026: Call for Participation
By Sa Liu and Tyler Menezes, SIGCSE TS 2026 Publicity Co-Chairs

SIGCSE TS 2026

You are invited to participate in SIGCSE TS 2026, held from February 18-21, 2026 at the Cervantes Convention Center in St. Louis, Missouri.

SIGCSE TS tackles challenges that educators face when creating, running, or assessing CS programs and courses. It serves as a platform for educators to share approaches to curriculum design, hands-on labs, teaching methods, and other instructional strategies across all educational levels.

We offer a variety of ways to share your work and ideas: papers, panels, special sessions, tutorials, the ACM Student Research Competition (SRC), Birds of a Feather (BoFs), demos, lightning talks, nifty assignments, posters, and pre-symposium events.

Full details are available here.

Deadlines (11:59pm AOE):

- June 26, 2025: Paper Abstracts
- July 3, 2025: Full Papers, Affiliated Events, Panels, Special Sessions, Tutorials
- October 2, 2025: ACM SRC, BoFs, Demos, Lightning Talks, Nifty Assignments, Posters, Doctoral Consortium

Reviewers Needed: The program committee needs 700+ volunteers to review submissions. Whether you're new to academic reviewing or a seasoned expert, we need your expertise! This is a great opportunity to learn what makes a great submission, so graduate students and prospective authors new to the TS are especially encouraged to apply. To volunteer, please fill out this form as soon as possible.

Hybrid Participation: Limited hybrid participation will be available for keynotes, nifty assignments, and a selection of papers, panels, tutorials, and special sessions. The rest of the conference will be offered only in-person, and authors will be expected to present in-person (except for a limited number of papers and tutorials that are scheduled to be virtual).

Join Us at RESPECT 2025: Designing an Accessible Future for Equitable Computer Science
By Brianna Blaser

The ACM SIGCSE Conference on Research on Equity and Sustained Participation in Engineering, Computing, and Technology (RESPECT) 2025 will be held July 14–16 in Newark, NJ, at the New Jersey Institute of Technology with the main conference held July 15-16. The theme for this year is 'Designing an Accessible Future for Equitable Computer Science.' 2025 marks the fiftieth anniversary of the Individuals with Disabilities in Education Act, landmark legislation developed to ensure students with disabilities receive a free, appropriate public education. When we began planning the conference, we envisioned an opportunity to reflect on disability inclusion. At this present moment, diversity, equity, and inclusion work faces significant challenges. Seventeen states have initiated legal actions aiming to abolish Section 504 of the Rehabilitation Act of 1973. This section prohibits discrimination based on disability in entities receiving federal funding. Additionally, in 2024 the Department of Justice published a final rule about accessibility in public entities. At a time when tools such as generative AI are on the rise, it is important that the CS education community remain steadfast in its commitment to accessible and inclusive spaces and publishing rigorous research aligned to these laws.

We have an exciting line-up of accessibility-focused plenaries. The conference will kick off with Chancey Fleet's keynote on 'AI and Accessibility: A Peer Educator's Perspective.' The 2-day conference will also include a panel on accessible computing education, a discussion on the state of accessibility in higher education, and a panel on disability inclusion in technology design.

We are proud that many RESPECT 2025 papers directly addressed disability inclusion. This year was an opportunity to learn more about the specifics of accessibility and disability inclusion together as a community. All authors were asked to make a good faith attempt to address the theme in their papers. We look forward to paper sessions on Professional Learning Experiences for K–12 Teachers; Data, Identity, and Science; Accessible Solutions in STEM Education; Confronting Inaccessibility in Higher Ed Spaces; Inclusive Design; and Strategic Partnerships and Collective Action, among others.

This year also marks the inaugural SIGCSE 2025 Doctoral Consortium at ACM RESPECT. The Doctoral Consortium provides doctoral students working at the intersections of computing education and broadening participation with the opportunity to grow as researchers alongside like-minded peers and faculty mentors.

Given ongoing concerns about federal funding challenges, efforts were made to keep ACM RESPECT 2025 registration rates affordable to ensure broad participation. ACM RESPECT 2025 will be a hybrid event featuring accessible sessions both in-person and online. We hope you will join us! See more information at our website.

Adapting the SIGCSE Technical Symposium Student Research Competition
By Steven A. Wolfman

The ACM Student Research Competition (SRC) began at the SIGCSE Technical Symposium back in 2003. At that time, it was the only SRC, and it made sense to welcome every student's work at SIGCSE. Shortly after that, other conferences joined with their own SRCs. As of today, the SIGCSE Technical Symposium still accepts submissions in any area at its SRC, in large part because of this history.

Starting with the 2026 SIGCSE Technical Symposium, the symposium's Steering Committee has directed that the symposium restrict graduate level submissions to those relating to computing education. While we especially encourage undergraduate work in computing education, we continue to welcome undergraduate level submissions in any area. Undergraduates may have difficulty joining an SRC in a conference whose area is closer to their research, and the SIGCSE Technical Symposium is a uniquely welcoming environment for students still working toward their undergraduate degree. However, graduate students working in other areas are likely better served presenting their work and networking with audiences in a conference and SRC close to that area. We will strive to maintain a broad interpretation of what computing education means to welcome research work at the SIGCSE Technical Symposium SRC from any sub-discipline and with any methods.

We look forward to decades more successful SRCs at SIGCSE Technical Symposium!

Member Spotlight: Amruth N. Kumar
By Julie M. Smith and Charles Wallace, SIGCSE Bulletin Co-Editors; Amruth N. Kumar

Amruth N. Kumar is Professor of Computer Science at Ramapo College of New Jersey. He is a Distinguished Member of the ACM and a Distinguished Contributor to the IEEE Computer Society.

How did you first get involved with the computer science education community?

I became interested in CS education because I wanted my students to engage with active learning components—tools that could both grade their work in real time and provide immediate feedback. This search led me to the field of intelligent tutoring systems. I soon realized that model-based reasoning, the focus of my dissertation research, was a perfect fit for modeling domains in intelligent tutors. Around the same time, Java emerged with its promise of "write-once, run-anywhere," making it easier to amortize development costs. The convergence of these interests and technologies led me to CS education research—an area that could benefit both my teaching and scholarship.

Photo credit: Carolyn Herring

Can you describe some of the ways you've contributed to the development of computer science education?

Over the last 25 years, my work has focused on three key areas: intelligent tutoring systems for programming, computer science curriculum development, and the study of professional dispositions in computing students.

Problets: Code-Tracing Tutors

My first major project was Problets (problets.org), a suite of 17 intelligent tutors for code-tracing. They cover 249 core programming concepts and are available for C++, Java, and C#. With over 2,800 parameterized built-in problems, they present a unique problem set to each student. Problets identify errors in student solutions and provide step-by-step feedback. Since 2004, over 600 K–16 instructors worldwide have adopted them.

Evaluations show that Problets improve students' ability to trace and debug code, and evaluate expressions. They've also served as research tools to study various issues such as feedback, adaptation, reflection, learner agency, visualization, stereotype threat, test anxiety, and self-efficacy. Code-tracing problems similar to those in Problets have since become a staple in electronic textbooks and are regaining popularity in the age of generative AI as code comprehension exercises.

Epplets: Parsons Puzzles

Next, I developed Epplets (epplets.org), a suite of 6 intelligent tutors for solving Parsons puzzles—where students reconstruct a scrambled, correct program. In Epplets, students reassemble one line at a time, receiving feedback after each step. Unlike Problets, which follow a mastery learning model, Epplets allow students to complete puzzles through repeated attempts. What is interesting is the order in which they solve a puzzle (strategy), and the number of attempts they take to do so (proficiency). Epplets have supported research on puzzle-solving strategies, motivational support, and the role of mnemonic variables. The suite includes 120 puzzles on 15 concepts and supports C++, Java, and C#.

Solvelets: End-to-End Problem Solving

With Solvelets (solvelets.org), I aimed to support students through the entire programming process— from formulating an algorithm to designing and coding a solution. Solvelets provide immediate feedback at each step, requiring students to correct errors before moving forward. This ensures that students always write a complete and correct program for a given problem. The number of attempts they take to do so reveals their proficiency. Based on the idea that learning to solve problems (in any domain) is learning to ask the right questions in the right sequence, Solvelets promote computational thinking. The suite consists of 5 intelligent tutors and supports C++ and Java. Evaluations show that practicing with Solvelets helps students solve problems in less time and with fewer errors.

Auglets: Refactoring Without Rewriting

My current work focuses on Auglets (auglets.org), intelligent tutors that teach refactoring skills without requiring students to write new code. Auglets focus on a subset of refactoring problems solvable through transformations alone. Despite the restriction, evaluations show that both novice and advanced students need and benefit from using the tutors. Auglets support C++, Java, and C#.

All of these tutoring systems have been made freely available to educators, thanks to sustained support from the National Science Foundation.

Curriculum Development

I've been actively involved in three computer science curricular revision efforts of the ACM:

- In Curriculum 2001, I served on the Pedagogy Focus Group on Advanced Study.
- In CS2013, I served on the Steering Committee of the ACM/IEEE-CS Task Force, leading the revision of the Intelligent Systems knowledge area.
- Most recently, I was invited to co-chair the ACM/IEEE-CS/AAAI CS2023 Task Force, which involved 17 Steering Committee

members and 77 Task Force members from 17 countries who worked for three years to produce curricular guidelines.

Key contributions of the CS2023 guidelines (csed.acm.org) include:

- Emphasis on Society, Ethics, and the Profession (SEP)
- An expanded role for mathematics
- A framework for creating a competency model of the curriculum tailored to local needs
- Revision of the concept of core topics that all graduates must know
- A curricular focus on educating for the whole solution and not just a technical solution, and educating the whole person by emphasizing professional dispositions.

Fostering Professional Dispositions

Currently, I'm part of a collaborative research team exploring how to foster professional dispositions in computing students. Dispositions such as meticulousness, persistence, and self-directedness aren't optional—they're essential for success. As educators, we must explicitly communicate this message to our students and give them opportunities to develop their dispositions while still in school. We're always looking for collaborators on this work (https://dispositions-project.org).

Where is computer science education headed in the next 5–10 years?

One certainty is that generative AI will reshape every facet of CS education—from curriculum and pedagogy to assessment and policy. Teaching itself is likely to evolve significantly, not just in CS but across disciplines. Generative AI might finally deliver on the long-standing goal of personalized, one-on-one tutoring. This will force a reevaluation of how we structure teaching and learning—potentially altering course formats, delivery methods, and degree models.

I also expected that non-traditional platforms like drones, robots, and autonomous vehicles would become more prominent in undergraduate CS education. While this hasn't happened at scale yet, industry demand may still drive it. Such changes would counterbalance the fragmentation of areas like AI 2.0 (sub-symbolic AI) which are emerging as standalone disciplines.

What are the biggest challenges facing the CS education community?

The most pressing challenge is integrating generative AI into the teaching and learning of computer science. It's a time of both excitement and uncertainty, with a high-stakes conversation underway.

Another challenge is public perception: CS is often narrowly equated with programming. With tools that enable "vibe-coding", the value of a CS degree may be questioned, potentially leading to a drop in enrollment—as we've seen in the past. Hopefully, this too will be temporary.

Additionally, the number of entry-level programming jobs (as distinct from software development jobs) has dropped significantly as of 2025. Educators must help students move up the value chain so that they remain employable.

Finally, I believe our community needs to take on the challenge of globalizing the CS curriculum. This includes establishing a shared vocabulary and bringing in voices from underrepresented regions. CS is a problem-solving discipline, and we need both diverse problems, both local and global, and diverse problem-solvers.

What do you enjoy doing when you're not working?

I enjoy do-it-yourself (DIY) projects. In these projects, I put into practice my belief that learning to solve problems is learning to ask the right questions in the right sequence. The rules that apply to DIY problem-solving are the same that apply to programming: attempt one subproblem at a time, don't lose the forest for the trees, start with approximations, incrementally refine solutions, etc. According to Perry's model of cognitive development, learners evolve from dualist (believing there's only one correct answer), to multiplicist, to relativist (recognizing multiple valid perspectives). Every time I tackle a new DIY project, I start as a naïve dualist—even though I may be a relativist in CS. I find this both amusing and humbling, and it helps me relate to my students just beginning their learning journey as dualists in computer science.

Disclosure: Dr. Amruth Kumar used ChatGPT to improve the clarity of this article.