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SIGCSE News in Brief

Welcome to the October issue of the SIGCSE Bulletin for 2023. SIGCSE Board Vice-Chair Brett Becker kicks off the issue with an announcement of the 2024 SIGCSE award winners. Meghan Allen and Mohammad Azhar offer an opportunity for newcomers to CS education: a professional development workshop held in conjunction with SIGCSE TS 2024. Koli Calling 2024 organizers Andreas Mühling and Ilkka Jormanainen invite us to this exciting (and rapidly approaching) conference. Diana Franklin, Kathi Fisler, Paul Denny, and Margaret Hamilton give us a summary of the highly successful ICER 2023 conference in Chicago. Finally, our Member Spotlight features Tamara Pearson and her work on equity in computing, based at Georgia Tech’s Constellations Center. As always, we invite you to contribute to future issues of the Bulletin, by sending brief pieces of general SIGCSE interest to the co-editors.

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Upcoming Dates and Deadlines

Conference	Location	Dates	Submission Deadline
Koli Calling	Koli, Finland	Nov 13-14, 2023 (virtual) Nov 16-19, 2023 (on-site)	-----
CompEd	Hyderabad, India	Dec 7-9, 2023 (on-site)	-----
SIGCSE TS	Portland, OR	Mar 20-23, 2024 (hybrid)	October 13 (posters, nifty assignments, demos, lightning talks, student research competition, birds of a feather)
ITiCSE	Milan, Italy	Jul 10-12, 2023 (on-site)	-----

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

Announcing the ACM SIGCSE 2024 Award Winners

By Brett Becker, SIGCSE Board Vice-Chair

The SIGCSE Board is honored to announce the 2024 ACM SIGCSE Award winners:

The 2024 ACM SIGCSE Award for Outstanding Contribution to Computer Science Education has been awarded to **Michael Caspersen**.

The 2024 ACM SIGCSE Award for Lifetime Service to the Computer Science Education Community has been awarded to **Chris Stephenson**.

The 2024 ACM SIGCSE Award for Broadening Participation in Computing Education has been awarded to **Jandelyn (Jan) Plane**.

The 2024 ACM SIGCSE Test of Time Award has been awarded to “Evaluating a new exam question: Parsons problems” by **Paul Denny, Andrew Luxton-Reilly, and Beth Simon**. In Proceedings of the 4th International Workshop on Computing Education Research (ICER '08). <https://doi.org/10.1145/1404520.1404532>

The winners will be recognized at the SIGCSE Technical Symposium in Portland, Oregon, USA, March 20-23, 2024.

Please join us in congratulating these upstanding members of the SIGCSE community.

The SIGCSE Awards page contains more information about these awards, including nomination guidelines and lists of previous winners: <https://sigcse.org/programs/awards/>.

SIGCSE Technical Symposium 2024: Blazing New Trails in CS Education

By Ben Stephenson and Jeffrey Stone

The 2024 SIGCSE Technical Symposium will take place in Portland, Oregon from March 20 to 23, 2024. This year the SIGCSE community will be returning to the Oregon Convention Center after the unfortunate last minute cancellation of our 2020 symposium. The symposium will also continue to offer an online attendance option for those who are unable to attend in person. We look forward to a spirited symposium where everyone can learn about the latest advancements in computer science education. This year’s conference theme is “Blazing New Trails in CS Education.” It is a theme that is intentionally broad while simultaneously capturing this community’s ongoing efforts to teach in innovative ways that have a positive effect on student learning.

While it is only September much has already been accomplished. Round 1 submissions are now closed and the reviewing and discussion phases are approaching completion. We are pleased to report that we had a record-breaking number of paper submissions this year – over 40 percent higher than last year! Submissions of

panels, special sessions and workshops were also higher than last year. If you didn't get your work submitted to a Round 1 track there's still time to submit to Round 2. Birds of a Feather, Demo, Lightning Talk, Nifty Assignment, Poster, and the Student Research Competition submissions are due on October 13, 2023. Thank you to all of our authors; the conference wouldn't exist without your work. We, and the Program Chairs, also wish to extend a huge thank you to the more than 1,000 reviewers who have dedicated their time to carefully reviewing all of these submissions, and who will continue to work once the Round 2 submissions have been received. Your efforts are truly appreciated.

We are pleased to announce that the 2024 Technical Symposium keynote speakers will be Dr. Rachel Rose, from Industrial Light and Magic, and Dr. Todd Zakrajsek, from the University of North Carolina. Dr. Zakrajsek is the President of the International Teaching Learning Cooperative Network, and has extensive expertise on faculty development, effective instructional strategies, student learning, and organizational leadership. He will speak during the opening plenary session on Thursday morning. Dr. Rose will speak at the symposium's closing plenary session on Saturday. She will share her experiences as a R&D Supervisor where she has led the development of innovative hardware and software solutions for challenging problems in media and entertainment. She will also speak about her work in open source software, including her outreach and education efforts to encourage students of diverse backgrounds to consider a career in the industry.

The 2024 SIGCSE Technical Symposium will include both in-person and online attendance options, with registration for both options opening later in the fall. For those who will be attending the symposium in person, we'd like to remind you that Portland is a lovely city with excellent restaurants, intriguing sights, and a world-class public transportation system. The light rail system makes it easy for attendees to

travel from Portland International Airport to the three conference hotels, all of which are conveniently located within walking distance from the Oregon Convention Center. The train also provides easy access to downtown restaurants and attractions. We encourage everyone to check out the "Attending" section of the Technical Symposium site to learn more about the convention center, hotels, and city: <https://sigcse2024.sigcse.org/>.

For those interested in attending online, we want to highlight that our hybrid offering is different than in years past. We have reduced the online registration fee so that it is approximately one-third the price of in-person attendance, and will provide access to a curated subset of the symposium's content. Attendees that participate online will be able to attend the keynote presentations and the nifty assignments session, as well as a selection of streamed panels and special sessions, a selection of online paper presentations, and a selection of online workshops. Please check out the Technical Symposium site to learn more about the hybrid program.

Thank you for supporting the SIGCSE Technical Symposium as an author, reviewer, volunteer, attendee, or other member of this community. We are excited to see you in Portland in March!

Professional Development Workshop for New and Aspiring Educators at SIGCSE TS 2024

By Meghan Allen and Mohammad Azhar

A successful career as an educator involves more than a deep understanding of a research area. Even so, many new CS educators experience relatively little training *as educators* – and face more questions than answers, e.g., How do I find a career path and institution that are right for me? What strategies can I use during the job search and interviewing process to achieve my goals? What tips could help me organize a course, scaffold engaging experiences, and build lasting relationships with students? What practical steps can I take to support equity, diversity, and

inclusion in my work? How can I navigate the AI coding revolution for CS education? How can I find a balance between my teaching and scholarly work?

The Professional Development Workshop for New and Aspiring Educators is a pre-symposium event at SIGCSE TS 2024 that, through presentations, discussions, and small-group community building, will tackle these questions. The workshop is designed to assist aspiring and early-career educators in exploring the non-research facets of an academic career. It will run on **Wednesday, 20 March 2024 at the Oregon Convention Center in Portland from 8:30 am to 5:30 pm**, and is open to postdocs and graduate students in any year who are considering careers in academia, as well as pre-tenure faculty members and new teaching-track faculty seeking guidance and/or networking support. This workshop is one of several career-focused, SIGCSE-affiliated events at the 2024 Technical Symposium that have served more than 200 educators over the past decade.

Join us for the 2024 Professional Development Workshop for New and Aspiring Educators! More information and application instructions are available at the workshop website which also contains a tentative workshop schedule, links to prior workshops, and a repository of career-mentoring advice collected from previous years: <https://www.cs.ubc.ca/~meghana/educator-workshop-2024/>

We thank the SIGCSE Board for its generous support of the **2024 Professional Development Workshop for New and Aspiring Educators workshop, which is free for SIGCSE Technical Symposium participants**. Some travel support is available, with preference given to graduate students; please submit your application by Sunday, December 10th, 2023 to be considered for travel support. Seats are limited, so interested graduate students, postdocs, and pre-tenure faculty are encouraged to apply early. And **you need to register for the conference**.

Koli Calling 2023 Invitation

By Andreas Mühling and Ilkka Jormanainen



Photo credit: Ilkka Jormanainen

We once more warmly invite you to attend the 23rd Koli Calling International Conference on Computing Education Research (Koli Calling 2023), to be held both online, 13-14 November 2023 and in Koli, Finland, 16-19 November 2023 in the beautiful Koli National Forest in Eastern Finland.

The online part will present the strong research papers that were accepted this year, including those of the still rather new “systems and tools” category. The in-person part will focus on the presentation of the discussion papers, posters, demos and a special session from the Koli Calling doctoral consortium that is held right before the start of the conference.

We hope for a lively discussion and exchange both online and (especially) in-person and we welcome everyone to join us. This year’s submissions cover a range of topics, of course including the educational use and effect of large language models, but also have revisited both general and computer science specific educational theories such as constructive alignment, threshold concepts or algorithmic thinking. There are strong empirical submissions as well as the theoretical work that has always been a strong suite for Koli Calling.

We hope that many of you join us at Koli Calling 2023, be it online or personally in Finland and help us to make this conference as enjoyable and memorable as in the previous years!

ICER 2023 Recap

By Diana Franklin, Kathi Fisler, Paul Denny, and Margaret Hamilton, Conference co-Chairs

The first hybrid North American ICER was held in Chicago, Illinois, USA, from August 7-11, 2023. A total of 194 participants attended ICER, including 172 physically and 22 virtually. Attendance was roughly split between students and professionals, with over 100 professionals and over 80 students. The program consisted of three full days due to a record number of papers, lightning talks, and poster sessions. This represented a more than 50% increase in the number of each type compared with last year.

In-person attendees were treated to mild weather, perfect for a cruise with views of Lake Michigan, classic Chicago architecture, and fireworks. Located on the grounds of the 1893 World's Fair, the venue featured snacks (Wrigley's gum, Cracker Jack, Hershey's chocolate) and technology (alternating current electricity) introduced at the fair.

There were 35 research papers accepted out of 164 submissions, resulting in a 21% acceptance rate. Thank you to the 95 PC members and 20 Senior PC members for your hard work! ICER maintained its structure of paper presentations followed by round-table discussions and Q&A, resulting in thought-provoking discussions and questions.

Paper presentations were interspersed with four lightning talk sessions and two poster sessions to accommodate 31 main conference lightning talks and posters as well as 22 doctoral consortium presentations.

The ICER 2023 Best Paper Award went to "[Funds of Knowledge used by Adolescents of Color in Scaffolded Sensemaking around Algorithmic Fairness](#)," by Jean Salac, Alannah Oleson, Lena Armstrong, Audrey Le Meur, and Amy Ko. This study used a slow reveal technique to explore algorithms in four separate layers: whether a computer was used in decision-making, what algorithm was used, what data was used, and what the composition of the team

behind the algorithm was. Their results showed that with this pedagogical technique, participants were able to deeply analyze these algorithms from many perspectives, including considering sources of bias and impacts of unfairness at different levels of individuals, communities, and society. However, when designing solutions, they tended to design for hypothetical "average" users instead of considering nuances of user populations.

The ICER 2008-2013 Lasting Impact Award went to "[Subgoal-labeled instructional material improves performance and transfer in learning to develop mobile applications](#)," 2012, by Lauren Margulieux, Mark Guzdial, and Richard Catrambone. This line of inquiry has spawned a wealth of research in teaching techniques that reduce cognitive load in novice computer science instruction.

As in previous years, the conference was preceded by the Doctoral Consortium and Works-in-Progress workshop. The Doctoral Consortium cohort, at 22 participants, was double the size of last year. This year also marked a return of post-conference workshops, "Starting Down the Trail" (hosted by Brianna Dym and co.) and "R Workshop" (hosted by Stephen R. Piccolo) highlighting the dual purpose of computing education in supporting learners' unique needs (teaching reflective and inclusive learning practices) and performing rigorous research (teaching how to use R to analyze quantitative data).

A special thanks to all of those who made ICER 2023 possible including the 2023 organizing committee, steering committee, ICER sponsors (SIGCSE, ACM, Google, and UChicago Computer Science), student volunteers, and all the presenters.

It was a pleasure to see the ICER attendees, in person and virtually. See you in Melbourne, Australia, in 2024.

Member Spotlight: Tamara Pearson

By Julie M. Smith and Charles Wallace, SIGCSE
Bulletin Co-Editors; Tamara Pearson

Tamara Pearson is Senior Director of Research at the Constellations Center for Equity in Computing, based in the College of Computing at Georgia Tech.

How did you first get involved with the CS education community?

My path into CS education is a bit of a winding road. Both of my parents worked for IBM, so we got our first computer when I was very young. I quickly became fascinated by coding, going so far as to attend computer camp one summer in elementary school. However, for many reasons I never considered a career in CS. When I got to Spelman College in 1992, I majored in mathematics with plans of a career as a math teacher. However, a research project with a faculty member brought me back to my love of computing. I added a minor in CS and decided to pursue my PhD in CS as well. Unfortunately, being a Black woman in a CS PhD program is a rare occurrence, and I was the only Black woman PhD student in my program. The isolation became unbearable, so after two years I left and transitioned to the PhD program in educational technology. It allowed me to pursue my love of technology and education in a much more welcoming environment.



Photo credit: Kevin Beasley

When I left my computer science PhD program in 1998, I did not code again for almost 20 years until my position at Georgia Tech's CEISMC

positioned me as the lead on a partnership with Carnegie Mellon University's CREATE Lab. As part of that partnership, I worked with the team at Birdbrain Technologies on introducing their Hummingbird robotics kit to teachers at our partner school. Working with the team at Birdbrain rekindled my love for CS and sparked my interest in more deeply understanding the barriers to participation in CS, and as they say, "The rest is history."

Can you describe some of the ways you have been involved in developing and enhancing computer science education?

In my role at Constellations, my work lives on both the programmatic and research side of things. Programmatically, we support equitable engagement in computer science through a variety of outreach initiatives. Our Computing Equity Project partners with Atlanta Public Schools to address persistent inequities in computer science participation. BridgeUp STEM, in collaboration with NCWIT, brings together Atlanta-area high school girls and non-binary individuals with Georgia Tech College of Computing undergraduate mentors, research faculty, and graduate students to learn computer science. We are also developing pipeline programs to engage Black and Latinx students in our degree programs both at the undergraduate and graduate level.

On the research side, my focus is on Black women in STEM. With funding from Google, one of my projects is exploring the experiences of Black women who teach high school CS. Myself and my research partner, Dr. Pamela Leggett-Robinson, believe that the site of our research, secondary education, and the subject, computer science education, are representative of the larger experiences of Black women who seek to enter and be included in traditionally white spaces, and using a theoretical framework grounded in Black feminist epistemologies, we seek to highlight the ways Black women teaching computer science address and dismantle systems of oppression. A key

component of broadening participation in K–12 computer science to include Black children is elevating the voices and expertise of Black women teachers, and our initial findings point to the ways Black women stand in the gap for their students, disrupt CS ideologies, develop their students for life beyond the classroom, and create space for belonging in CS.

Where do you think computer science education is headed in the next 5-10 years?

I would be remiss if I didn't say two words: artificial intelligence. I remember being a graduate student in the late 90s, and AI was one lecture on one day in one class. Now, here we are scrambling to figure out how to leverage this powerful technology as a tool for expanding opportunity, not limiting it. If I'm honest, I'm nervous about what this means for not only the future of CS education, but the future of education in general. We haven't done the best job keeping up thus far, and AI has skyrocketed the world forward, while we seem to be standing still, continuing to fall farther and farther behind. If we truly want CS education to be more inclusive in the future, we must listen to voices like Safiya Noble, Joy Buolamwini, Timnit Gebru, Ruha Benjamin, Latanya Sweeney and other Black women who are critically interrogating the impact of AI on marginalized and subjugated communities. Their work can help us to better frame informed educational research questions whose outcomes can illuminate, and hopefully assist in dismantling, systems of oppression.

What do you think are the biggest challenges facing the community? What are the biggest challenges for diversity, equity, and inclusion in CS education today? And what can CS educators do to help encourage diversity?

There's not enough space to really dive into the myriad of challenges related to DEI and CS education, but I will say that our community is sorely in need of researchers who engage in critical, theoretically grounded analysis. We must grapple with how (and if) education can

disrupt the use of technology to further marginalize. If we are serious about creating change that is sustainable and systemic, understanding the system we are working within is a must. What I mean is that CS education sits within a larger system of education, which sits within an even larger system, and so on. Therefore, we need an approach that understands the variety of levers at play in these concentrically located systems, determines which lever we want to pull on for our desired outcome, and creates tools that allow us to measure our impact on not just CS education, but the system as a whole.

I believe critical epistemologies give us the language for that work, and the most authentic way to engage in the use of critical epistemologies is to create interdisciplinary teams that include our colleagues in cultural anthropology, gender and race studies, sociology, learning sciences, political science, economics, and other fields where these epistemologies were created. Engaging with our colleagues in these fields, instead of reinventing the wheel, allows us to avoid spending time being surprised by the ways racism, sexism, heterosexism, and other forms of marginalization play out in CS education, and instead get to work on solutions. I want to remain hopeful for the future, but the world we live in is complex, and not enough of the work we are currently engaged in uses the lens of CS to recognize and operationalize those complexities.

What do you enjoy doing when you are not working?

Time away from work is precious and important. So, I make sure to create space in my life for things that replenish and refresh my spirit. The biggest one is yoga. I started doing yoga when I was that isolated, stressed out graduate student, and it continues to provide much needed balance in a world that can feel upside down. I also teach yoga, which some may see as another job, but I see it as another part of my yoga practice. I also love to travel, and I'm learning to sew.