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SIGCSE News in Brief

Welcome to the October issue of the SIGCSE Bulletin. We begin with a discussion of the newest addition to the family of SIGCSE conferences: SIGCSE Virtual, which will take place entirely online in December 2024. Members of the Steering, Organizing, and Program Committees discuss the challenges and opportunities of this new venue.

This issue also includes a recap of ITiCSE 2024 in Milan, an invitation to attend the Koli Calling Conference in November 2024, and a call for participation in the SIGCSE Technical Symposium in Pittsburgh, USA in February/March 2025. Note that second-round submissions are due in mid-October 2024.

The Member Spotlight focuses on the work of Bruce Scharlau and his innovative ideas on providing students with meaningful learning experiences in team collaboration.

Finally, the editors note the untimely passing of Brett Becker, who was serving as Vice-Chair of the SIGCSE Board. Brett was an enormously creative, energetic, and inclusive member of the SIGCSE community, and he leaves a tremendous legacy that we have all benefited

from. We will include a longer tribute to Brett in our next issue. We were fortunate to have him share his reflections in the Member Spotlight for [October 2021](#) Issue (53.4). We offer our deepest condolences to Brett’s family, friends, and colleagues.

Upcoming Dates and Deadlines

Conference	Location	Dates	Submission Deadline
Koli Calling	Koli, Finland	12 – 17 Nov 2024 (on-site/virtual)	20 Sep (posters/demos)
SIGCSE Virtual	online	5 – 7 Dec 2024 (virtual)	-----
SIGCSE TS	Pittsburgh, Pennsylvania	26 Feb – 1 Mar	14 Oct (second round submissions)
CompEd	Gabarone, Botswana	21 – 25 Oct 2025	20 Jan (phased papers) 17 Mar (working groups, panels, regular papers) 5 Jun (posters)

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

Introducing SIGCSE Virtual

By Mohsen Dorodchi, Judith Gal-Ezer, and Stephen Cooper

SIGCSE Virtual 2024, the First ACM Virtual Global Computing Education Conference, will be held fully online from December 5 to 8, 2024. The conference has different themes based on the global aspects of CS education, while considering regional circumstances, and the sessions are offered considering time-zone constraints.

The Origins:

In 2023, after a series of productive discussions, the ACM Special Interest Group on Computer Science Education (SIGCSE) board approved SIGCSE Virtual as its newest conference. The conference was announced at the 2024 SIGCSE Technical Symposium in Portland, OR, as an online-only conference, offered biannually on the years CompEd was not held. Following the pathways of the existing SIGCSE conferences,

this conference also addresses problems common among educators researching and practicing the design, development, and further implementation of new pedagogies, curricula, programs, and tools at all levels in all types of computing education settings. The conference aims to provide support for all levels of CS education researchers and practitioners including PhD students, junior faculty, K-12 teachers, and community college faculty, as well as faculty from primarily undergraduate or doctoral granting institutions.

Since this is the first conference designed to be fully online, the steering committee had to address many challenges. For example, the time differences to plan an inclusive program could pose obstacles to participation, particularly with large groups of authors and contributors from all over the world, as is common at SIGCSE conferences. The decision taken was that Thursday is the day of Europe, Africa, the Middle East, and Western Asia, while Friday is

the day of Eastern/Southeastern Asia, Australia and New Zealand. Saturday is selected as the day for the South and North Americas. Another challenge was what technology to use that is reliable and can be used in all areas and countries.

What opportunities are present in a virtual-only conference that are not as easily achievable in an in-person or hybrid event?

One of the major goals of SIGCSE Virtual is to promote an inclusive and easily accessible conference to all who are interested in CS education practice and research. The hope is to allow those who are not able to easily travel to SIGCSE conferences to participate virtually from around the world. For this reason, the core of the conference follows all other SIGCSE conferences by providing papers, panels, posters/lightning talks, working groups, and doctoral consortium sessions dedicated to CSed research and practice. Furthermore, it is an opportunity for those who are new to CSed research and ACM SIGCSE to interact and gain an experience with the SIGCSE community. More specifically, faculty of some colleges and universities, K12 teachers, and PhD students interested in CSed research and practice may not be able to travel to SIGCSE conferences for different reasons such as the dates of the conferences. Nor do many faculty members, who do not have the financial resources to travel to SIGCSE conferences. Travel and hotel expenses are saved, and the registration fee is relatively very low compared to face-to-face or hybrid conferences.

Another opportunity is a new format of a conference which you may want to call “flipped sessions.” In this format, the presenters provide recordings early which will be accessible from the conference site before the session. The audience is encouraged to watch the videos before the session. The presenter during the live session would provide a quick pitch of the work followed by about 5 essential questions related to the work and will answer them while

interacting and discussing with the audience. This model will be communicated to the presenters and audience. There are break times between sessions, which allows the audience to watch the videos before the next session. Moreover, there will be opportunities for certain groups of audience and presenters to use a private room after the presentation to continue their discussions.

One of the best things about SIGCSE conferences is the experience of connecting with others in the community. How do you hope to achieve that kind of connection in SIGCSE Virtual?

Another goal of SIGCSE Virtual is to create opportunities for CS practitioners and researchers to get to know each other and initiate collaborations. For this reason, our first SIGCSE Virtual includes working groups as well as a doctoral consortium. The plan is to also create casual virtual meeting rooms for attendees to get to know each other and talk about different topics more casually and from practice to research standpoints. There will be many timely topics, such as generative AI in education and the potential changes of the landscape in teaching and learning. Moreover, expect to see interesting and engaging social and community building activities in a dedicated track with different themes.

The organizing team (led by social and community co-chairs) are working on details of diverse and engaging plans to connect participants to each other based on the shared ideas and interests. Social and community building as essential elements of this conference are highlighted through different activities on a dedicated track separate from the presentations.

In addition, sponsors will have an additional dedicated track to promote their products and services and provide opportunities for CS educators to further discuss details of their needs with them.

There are some obvious benefits to a virtual conference in terms of equity of access. What are your hopes for the conference in that regard?

We hope that attendees from around the world can participate in the conference and exchange ideas and further learn more about what the SIGCSE community is dedicated to and supports. Moreover, members of different disciplines who are interested in collaborating with CS education researchers have a chance to participate and find opportunities for new forms of collaboration. The cost of conference registration is very low and reasonable compared to many other conferences of the same type. Also, all the presentations will have captions verified and edited by the presenters and accessibility guidelines are followed as well.

Anything else to share with the community about SIGCSE Virtual?

We would like to request all SIGCSE members to participate in this wonderful experience and promote it to all their colleagues and collaborators from around the world. With the contributions of everyone, this global event will be a unique and successful experience for all. For more information, please refer to the conference website: sigcsevirtual.acm.org Please forward your questions, suggestions, or concerns to sigcsevirtual2024@sigcse.org

We extend special thanks to members of the Steering Committee, Program Committee, and Organizing Committee for their planning efforts. Hope to see you all at this wonderful event!

ITiCSE 2024 Recap

By [Violetta Lonati](#), [Mattia Monga](#), and [Erik Barendsen](#)

The 29th annual ACM conference on Innovation and Technology in Computer Science Education (ITiCSE) was held in Milan, Italy, July 5-10, 2024. Despite some last-minute changes due to an ongoing student protest at the University of Milan, we can consider this edition a success. A

total of 345 participants attended ITiCSE, coming from 36 different countries.

As usual, the first days were dedicated to Working Groups – ten this year – with a total of 125 participants who are still working on the final reports (due in November). The 44 program committee members, chaired by Judy Sheard and James Paterson, with the help of 402 reviewers, assessed 1613 submissions (acceptance rate for the paper track: 27%) and put together a dense program, spanning three full days, with one keynote (Simone Martini: “Teaching programming in the age of generative AI”), one panel (“Computer Science Curricula 2023 (CS2023): Rising to the Challenges of Change in AI, Security, and Society”), eight paper sessions, fourteen doctoral consortium lightning talks, 29 posters, two “Tips, Techniques, and Courseware” sessions, and one sponsor session.

Participants also had the opportunity to visit some of the attractions in Milan: the Duomo, one of the biggest and grandest Gothic cathedrals in the world, the Brera art gallery, Sforza Castle, and the “Triennale” Design Museum. The concert by “Quartetto Alfieri,” on Monday evening, received special appreciation, featuring music by Scarlatti, Mendelssohn, and Turina. The participants enjoyed the pleasant atmosphere during the conference. They engaged in many friendly discussions during sessions and breaks, as often happens with so many passionate researchers and provoking ideas floating around.

The Best Paper Award went to “Desirable Characteristics for AI Teaching Assistants in Programming Education”, by Paul Denny, Stephen MacNeil, Jaromir Savelka, Leo Porter and Andrew Luxton-Reilly. This study explored a natural synergy between Explain in Plain English (EiPE) questions and code-generating Large Language Models (LLMs), proposing to use an LLM to generate code based on students’ responses to EiPE questions, in order to help

students develop essential code comprehension and prompt crafting skills in parallel.

The Student Best Paper went to “Let Them Try to Figure It Out First – Reasons Why Experts (Do Not) Provide Feedback to Novice Programmers,” by Dominic Lohr, Natalie Kiesler, Hieke Keuning and Johan Jeuring. This work leveraged previous ITiCSE working groups that investigated when and how experts give feedback and hints at steps novice programmers take when solving programming problems, focusing instead on why educators give their feedback at particular steps.

A special thanks to all of those who made ITiCSE 2024 possible, including the 2024 organizing committee, steering committee, ITiCSE Supporters (GitHub Education and Ed Discussion), Sponsors (SIGCSE, ACM Europe, and Informatics Europe), student volunteers, and all the presenters. Let's now prepare for a great 30th edition in Nijmegen, The Netherlands, 30 June-2 July 2025. See you there!

Koli Calling 2024: Call for Participation

By Juho Leinonen

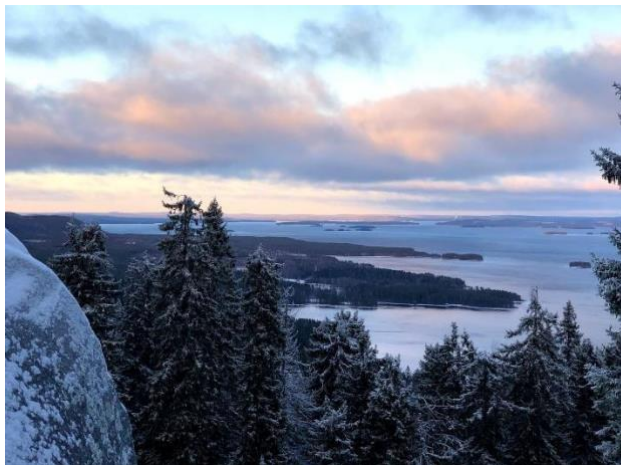


Photo credit: Juho Leinonen

We warmly invite you to attend the 24th Koli Calling International Conference on Computing Education Research (Koli Calling 2024), taking place from November 14-17, 2024, in the beautiful Koli National Park in Eastern Finland.

A pre-conference workshop will be held in Joensuu, Finland, on November 13th, with the

Koli Calling Doctoral Consortium organized as an in-person event in Joensuu from November 12th-13th. The main conference will begin on the afternoon of November 14th, one day earlier than usual. While there will be an asynchronous online component where some work will be presented and discussed remotely, we hope to see many of you in person, as the majority of accepted submissions will be presented on-site. The conference will be hosted at Hotel Koli, located in the scenic Koli National Park, about 60km north of Joensuu, Finland.

This year's submissions cover a diverse range of topics, from the educational impacts of generative AI to traditional subjects such as block-based programming, automated feedback, and educational systems and tools. As always, the conference will feature strong empirical research as well as more theoretical work.

We hope many of you will join us at Koli Calling 2024, either online or in person in Finland, and help us make this conference as enjoyable and memorable as it has been in previous years!

SIGCSE Technical Symposium 2025:

Leading the Transformation

By Jeffrey A. Stone and Timothy Yuen

The 2025 SIGCSE Technical Symposium will take place in Pittsburgh, Pennsylvania, from February 26 to March 01, 2025. The SIGCSE community will gather at the David L. Lawrence Convention Center on the banks of the Allegheny River. Our theme for this year is “Leading the Transformation,” reflecting the role of the computer science education community in adapting educational practice to new technologies and challenges.

The Symposium Organizing and Program Committees have been hard at work preparing for Pittsburgh, and participation from the SIGCSE community has already been very high. Round 1 submissions closed in July, and we are pleased to report that we had over 650 papers, panels, special sessions, and tutorials submitted for review. We would once again like to thank our authors, without whom there would not be a

Technical Symposium. As we complete the reviewing and discussion phase for Round 1, we would also like to extend a huge thank you to the almost 800 reviewers who took the time to review these submissions. We truly appreciate your efforts and your dedication.

As Round 1 draws to a close, please remember there is still time to participate. Our Round 2 submissions are due on October 14, 2024. This includes Birds of a Feather, Demo, Lightning Talk, Nifty Assignment, Affiliated Events, Poster, and the Student Research Competition submissions. If you volunteered to review for Round 2, please know that the Program Committee will soon be contacting you. If you have not yet volunteered and are interested in reviewing, please complete the Round 2 portion of the reviewer registration form (tinyurl.com/review-sigcse25).

We are pleased to announce that the 2025 Technical Symposium keynote speakers will be Dr. Cecilia Aragon, the CTO of Traffigram and the director of the Human-Centered Data Science Lab at the University of Washington, and Jamika Burge, Ph.D., the Co-Founder & CEO of blackcomputeHER.org, Inc. Dr. Aragon will speak during the opening plenary session on Thursday morning while Dr. Burge will speak at the symposium's closing plenary session on Saturday.

The 2025 SIGCSE Technical Symposium will include both in-person and online attendance options. For those who will be attending the Technical Symposium in person, Pittsburgh is a vibrant city bursting with excellent restaurants, abundant shopping, historical sights, and a diversity of cultural events. Public bus transportation is available from Pittsburgh International Airport, and light rail transportation is available to a variety of areas. We have five conference hotels, all within walking distance of the Convention Center. Hotel rooms can now be reserved using the information found on the conference website: sigcse2025.sigcse.org/attending/Hotels

Registration for the 2025 SIGCSE Technical Symposium will open later this fall.

For those interested in attending online, our hybrid offering will be similar to 2024. An online registration fee will provide access to a subset of the Technical Symposium content. Attendees that participate online will be able to attend the keynote presentations, the Nifty Assignments session, a selection of streamed panels, special sessions, and online paper presentations, and a selection of online tutorials. Please check out the Technical Symposium site (sigcse2025.sigcse.org/) to learn more.

Thank you for supporting the SIGCSE Technical Symposium. We hope to see you in Pittsburgh in February!

Member Spotlight: Bruce Scharlau
By Julie M. Smith and Charles Wallace, *SIGCSE Bulletin* Co-Editors; Bruce Scharlau

Dr. Scharlau is an Emeritus Senior Lecturer in the Department of Computing Science at the University of Aberdeen, UK.

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

I've always enjoyed teaching people how to do what they need to do in an experiential manner. I was on a teaching and scholarship track at the University of Aberdeen in Scotland. This meant preparing students for what they'd encounter after they finished their degree. I wanted the students to be able to do everything from gathering requirements to deploying their software applications. At first, they deployed locally, but then eventually they were deploying to the cloud.

Later I broadened this to include students having good team experiences developing software too. I noticed this wasn't covered in the software engineering textbooks. I realised they had to be taught this, so created experiences to guide them in team collaboration.

My first CSE paper was presented in London in 2007 at the Java and Internet in Computing

Curriculum Conference. I talked about my experience using Ruby on Rails alongside PHP in a web development course. I'd started seeing Ruby and Rails mentioned a lot on Twitter. I found it was much easier and fun to teach and use than PHP. The following year we dropped PHP from the course. For about ten years we taught Ruby, and then switched to Python.

From early on I realised that my perspective on teaching CS was different from what others were doing. I was interested in different aspects from what others were writing about.

At JICC I also met others, who pointed me towards the Higher Education Academy special interest computing conferences, which I started attending in 2009. There I presented papers building on teaching cloud computing, and on the use of games in teaching. This led to presenting a paper at ITiCSE in Canterbury in 2013, and then regularly at ITiCSE when possible.



Photo credit: Michael Sahota

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

Twitter helped me connect with other people and pointed me to Ruby and Rails. This led me to the Scottish Ruby Conference. That led me to agile conferences, and I haven't stopped learning from the developer community and bringing their ideas back to the classroom.

I presented a few times at SRC, and had wonderful conversations about teaching CS to students, and how I might make the classroom more like what developers experience in the workplace. I also gained stories to bring back to the classroom about how people work in software development. This mainly resolved down to teaching students XP practices; in particular, testing, pairing, and having conversations about user stories.

At the first Agile Lean Europe conference in Berlin in 2011 I also met people who I'd conversed with on Twitter and had many more conversations about teaching CS. At ALE I also met people who encouraged me to attend Play4Agile, which I did in 2012. I've been to each one since then, and always learned something new to bring back to the classroom.

These conversations reinforced two things that I'd been doing previously: First, bring what happens in the classroom closer to what happens in industry. Second, make the classroom more experiential. I aimed to introduce agile practices more fully in the classroom, and to do more group assessments, because in industry almost no one that I was speaking to worked on their own. Even the lone developers were working with graphic artists, and their clients. Everyone is part of a team.

Students should learn how to create good team experiences while at university. They should have multiple team experiences too, so that, hopefully, one of them can be good. One of my goals was to aid students in gaining these skills so that they would have them in their team collaborations. Part of this was version control, other parts were automated testing, as well as pairing and then mobbing, or ensemble work.

An interesting part of this was bringing Lego bricks into the classroom. This was a mixture of Lego Serious Play processes, and also the bricks themselves to teach the scrum process, or aid in understanding testing. This was always a fun part of teaching. This led to other games being

used to teach too, as everyone learns faster when play is involved.

I also realised that we should be doing academic conferences differently. I kept telling people about the industry ones that I went to, and the little things that made them more welcoming: coffee and soft drinks always available. Breakout spaces for carrying on your conversations, and lean coffee sessions in the morning before the conference so that you can talk to people about current issues you're facing and find some possible solutions to take home and try.

Eventually friends told me to either put up or shut up. They wanted me to host ITiCSE in Aberdeen. After confirming with Roger McDermott from Robert Gordon University that he would be willing to co-host the event, we proposed hosting ITiCSE in Aberdeen. This then meant finding the right people to ask, finding out how to make a proposal, and everything else that goes with hosting large events.

This meant taking part in committee work for ITiCSE in the years running up to hosting it, which meant working more behind the scenes with people. This was a great experience. During this I was able to try lean coffee sessions at ITiCSE and discuss other ideas with people too.

When we hosted ITiCSE in 2019 it was the largest edition until the Dublin edition in 2022. I also found that universities can only offer coffee all the time if staff are there to serve. Leaving coffee flasks unattended at conferences is not an option it seems, even though they do this for working lunches. Universities are strange places.

During the pandemic I realised that I needed to put my ideas on teaching down. I'd been blogging on and off for ages, but an online session on creativity made it clear I needed to do this now. That led to me writing "101+ Ideas to Improve Team Collaboration." The goal of that was to aid students in their collaboration.

After finishing that book I realised that I needed to write one for academics to share my

experience and to explain why we need to focus on the human side of software development. In my experience, software engineering textbooks focus only on the code and architecture. There is no explanation of why team members should collaborate regularly and build their applications in thin vertical slices, amongst other things. This led to the "Teaching Team Collaboration: The Human-Side of Software Development" book. Both books are available at LeanPub.

I found that writing helped me clarify my thinking and made space for deeper thinking on teaching software development in general. I'd strongly suggest doing a blog, or journalling if you're not doing that already.

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

While lots of people think that generative AI will make things easier for students and more challenging for educators, I suspect that there will be less change than we expect. Yes, ChatGPT will make marking more challenging, and will probably mean more handwritten exams. It should also mean more interesting assignments too.

I expect to see more collaborative assessments across disciplines. For a few years I was able to co-teach a course which took level three or higher students from any discipline from either the University of Aberdeen or Robert Gordon University. We asked the students to prototype projects which could make the city better. One of them, an electric tuk-tuk to take surplus food from supermarkets for use in a food charity, became reality. That was cool to see happen.

This course had mixed teams of students from CS, anthropology, fashion design, architecture, and biology, etc. This was such fun to teach. Students learned issues around communication across disciplines and challenged their disciplinary mental models as they worked together. I expect to see more courses like this in

the future. If done for early year students, it might also encourage more students to study CS.

More of this is bound to happen as universities prepare students to address the multi-disciplinary challenges of our future. Teaching students in disciplinary silos only takes you so far. This is also not what they will encounter after graduation.

We will still need students who know how to use algorithms and who can develop AI applications. The type of work our students will do will change, but some will still stay the same. Human knowledge work will become more valued as its unique aspects become more apparent in time.

Generative AI will not write the applications that we need. It might aid developers, but only up to a point. We still need to teach students to talk and collaborate with team members and clients more than they do now. This is the edge people will have over AI. The human-side of software development, which I've written about, is something that I expect to see appearing more in CS teaching. We should see more team-based work by students. Yes, it is harder to mark, but it is also more useful to students for their professional development.

What do you think are the biggest challenges facing the community?

The biggest challenge is that we keep people in the loop. Students and others think the hard part of software development is the coding. Following this thought, people think AI will solve this for us. As I said, AI will not solve this. The hard part of software development is the human collaboration, which is required. Developers need to talk to clients, and they all need to talk to the people who use the software. We need to spend more time focusing on teaching our students how to talk to each other, how to do more collaboration in their work that they do together.

Encouraging more people to take up CS and seeing it taught at more secondary schools. People will think this is no longer needed now

that ChatGPT is here. They are wrong. We still need people to develop software to a good standard. Software development is a co-creative process. All sorts of people from both the development and purchaser and user side need to be involved from the start to the finish. I'm sure you all know at least one story of how things went wrong when the end users weren't consulted. Teaching students that the computer and AI can't do it for them will continue to be a challenge.

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

In CS we still tend to be mostly white men. We need to bring more non-white people to CS so that students have a wider range of people as role-models. Anyone can be in CS. Maths help for some parts of CS, but there is lots of CS where that is less important. This means we have to make it more welcoming to everyone. We also need to talk to people in industry so that they too realise that anyone can be in CS. Everyone uses software. Everyone should participate in its co-creation and development.

What do you enjoy doing when you are not working?

Keeping the laptop closed.