

SIGCSE TS 2022 Global Attendee Roadmap

The sessions and events shown below may be of interest to non-US attendees or anyone interested in Geographic Diversity. Each falls into one or more of the following categories: specifically about geographic diversity (marked *), set in global contexts, authored by global authors, organized by global organizers, etc. They are organized in the following order:

- Pre-Symposium Events
- Papers
- Posters
- Birds of a Feather
- Demonstrations
- Student Research Competition (SRC)
- Workshops

There are many other aspects of diversity that are not included here but may be of interest — again, all of these we feel may be particularly interesting for attendees coming from outside the United States. If you notice something missing or have questions, feel free to contact Brett Becker, the SIGCSE Technical Symposium Global Liaison global@sigcse2022.org.

All Symposium First-timers are encouraged to attend the **First Timer's Lunch (March 03 12:00 pm to 1:45 pm)** and **2022 SIGCSE Award for Outstanding Contribution to Computer Science Education Keynote "Improving Diversity in Computing through Increased Access and Success"** by Barbara Ericson on Friday, March 04 / 08:15 AM (ET) - 09:45 AM (ET).

THURSDAY, MARCH 03 2022

Demos (10 am – 10:45 am)

CodeToon: A New Visual Programming Environment Using Comics for Teaching and Learning Programming. Sangho Suh, *University of Waterloo*.

Run, Llama, Run: A Collaborative Physical and Online Coding Game for Children. Stacey A. Koornneef, Jeremy S. Bradbury, *Ontario Tech University*; Michael A. Miljanovic, *University of Toronto*.

Paper Sessions (10:45 am – 12:00 pm)

English Language Learners in Computer Science Education: A Scoping Review. Yinchun Lei, Meghan Allen, *University of British Columbia*.

From the Horse's Mouth: The Words We Use to Teach Diverse Student Groups Across Three Continents. Brett A. Becker, Daniel Gallagher, *University College Dublin*; Paul Denny, *University of Auckland*; James Prather, Colleen Gostomski, Kelli Norris, Garrett Powell, *Abilene Christian University*.

Preventing Cheating in Hands-on Lab Assignments. Jan Vykopal, Valdemar Švabenský, Pavel Seda, Pavel Celeda, *Masaryk University*.

Help Supports during Online Delivery: Student Perception and Lessons Learnt from an Online CS2. Andrew Jiang, Bogdan Simion, *University of Toronto Mississauga*.

Paper Sessions • 1:45 pm - 3:00 pm

Early Identification of Student Struggles at the Topic Level Using Context-Agnostic Features. Kai Arakawa, Qiang Hao, Wesley Deneke, Indie Cowan, *Western Washington University*; Steven Wolfman, *The University of British Columbia*; Abigayle Peterson, *Western Washington University*.

Exploring Common Writing Issues in Upper-Year Computer Science. Rehmat Munir, Francesco Strafforello, Niveditha Kani, Michael Kaler, Bogdan Simion, Lisa Zhang, *University of Toronto Mississauga*.

Opening Sentences in Academic Writing: How Security Researchers Defeat the Blinking Cursor. Didem Demirag, Jeremy Clark, *Concordia University*.

Using Assignment Design as an Instrument to Collect Student Voice. Rita Garcia, Bradley Alexander, *University of Adelaide*.

Paper Sessions • 3:45 pm - 5:00 pm

How Well do Students Understand the All-Encompassing, Ubiquitous, and Interconnected Nature of IoT? Evaluating Student Capstone Projects. Timo Hynninen, *South-Eastern Finland University of Applied Sciences*; Antti Knutas, *LUT University*.

Relationships Between an Early-Stage Spatial Skills Test and Final CS Degree Outcomes. Jack Parkinson, Quintin Cutts, *University of Glasgow*.

Are Undergraduate Creative Coders Clean Coders? A Correlation Study. Wouter Groeneveld, *KU Leuven*; Dries Martin, Tibo Poncelet, *Hasselt University*; Kris Aerts, *KU Leuven*.

Birds of a Feather • 5:30 pm - 7:20 pm

Building a Multinational Community Among Graduate Students in CS Education Research. Sophia Krause-Levy, *University of California, San Diego*; Melissa Perez, *University of Michigan*.

Should Quantum Processor Design be Considered a Topic in Computer Architecture Education?. Marcelo Pias, *Federal University of Rio Grande (FURG)*; Brett Becker, *University College Dublin*; Qiao Xiang, *Xiamen University*; Mohamed Zahran, *New York University*; Monica Anderson, *University of Alabama*.

Community Input and Engagement for CS202x: Data Management. Mikey Goldweber, *Xavier University*; Sherif Aly, *The American University in Cairo*.

Bridging the Gap between Academia and Industry in CSEd to Promote Opportunities for CSEd Grads and Research in Practice. Ethel Tshukudu, *University of Glasgow*; Carolina Moreira Oliveira, *Federal University of Paraná*; Alejandra S. Méndez, *University of Puerto Rico*; Alan Peterfreund, Brianna Johnston, Stacey Sexton, *SageFox Consulting Group*.

Community Input for CS202X: Software Engineering. Titus Winters, *Google*; Brett Becker, *University College Dublin*; Christian Servin, *El Paso Community College*.

How to Gamify Computer Science Courses?. Darina Dicheva, Keith Irwin, Christo Dichev, *Winston-Salem State University*; Lillian (Boots) Cassel, *Villanova University*; Rita Ismailova, *Kyrgyz Turkish Manas University*.

TA Competencies for Inclusive Learning Spaces. Oluwakemi Ola, *University of British Columbia*; Jacqueline Smith, *University of Toronto*; Barbara Rotundo, *Mount Holyoke College*; Justin Hsia, *University of Washington*.

Lightning Talks • 3:45 pm - 5:00 pm

Are Executable Exams Executable?. Yael Erez, *Technion - Israel Institute of Technology & Ort Braude College of Engineering*; Orit Hazzan, *Technion - Israel Institute of Technology*.

CoTinker - A Toolkit for Supporting Computational Thinking and Collaboration in High School Education. Line Have Musaeus, Marianne Graves Petersen, Clemens Nylandsted Klokmose, Ole Sejer Iversen, *Aarhus University*

Computer Science Teacher Preparation to Address Bloom's 2 Sigma Problem in the Post-COVID19 Age. Rinat B. Rosenberg-Kima, *Technion - Israel Institute of Technology*.

FRIDAY, MARCH 04 2022

Demos • 10:00 am - 10:45 am

Strype: Frame-Based Editing Tool for Programming the Micro:bit through Python.

Charalampos Kyfonidis, Pierre Weill-Tessier, Neil Brown, *King's College London*.

Paper Sessions • 10:45 am - 12:00 pm

Experience Report on the Use of Breakout Rooms in a Large Online Course. Sadia Sharmin, *University of Toronto*; Larry Yueli Zhang, *York University*.

If in Doubt, Try Three: Developing Better Version Control Commit Behaviour with First Year Students. Amanda Berg, Simon Osnes, Richard Glassey, *KTH Royal Institute of Technology*.

What is a Computer Scientist?: Unpacking the Ontological Beliefs of Black and Hispanic Female Computing Students. Jake Lopez, Monique Ross, Atalie Garcia, Carolina Uribe-Gosselin, *Florida International University*.

An Analysis of Stress and Sense of Belonging Among Native and Non-native English Speakers Learning Computer Science. Vardhan Agarwal, Yada Chuengsatiansup, Elise Kim, Yuzi LYu, Adalbert Gerald Soosai Raj, *University of California, San Diego*.

Comparing Student Experiences in Synchronous CS1 Classes in Gather.Town vs. Zoom. Celine Latulipe, Amy De Jaeger, *University of Manitoba*.

Panel, Special, and Supporter Sessions • 10:45 am - 12:00 pm

A Hands-On Tutorial on How To Incorporate Computing for Social Good in the Introductory Course Sequence. Mikey Goldweber, *Xavier University*; Lisa Kaczmarczyk, *Lisa Kaczmarczyk PhD Consulting, LLC*; Rick Blumenthal, *Regis University*; Alison Clear, *Eastern Institute of Technology*; Johanna Blumenthal, *Regis University*.

Paper Sessions • 1:45 pm - 3:00 pm

Gender Influence on Communication Initiated within Student Teams. Rita Garcia, Chieh-Ju Liao, Ariane Pearce, *University of Adelaide*; Christoph Treude, *The University of Melbourne*.

Embedding Ethics in Computer Science Courses: Does it Work?. Diane Horton, Sheila McIlraith, Nina Wang, Maryam Majedi, Emma McClure, Benjamin Wald, *University of Toronto*.

Panel, Special, and Supporter Sessions • 1:45 pm - 3:00 pm

Transitioning from Blocks to Text. Neil C. C. Brown, Michael Kölling, Charalampos Kyfonidis, Pierre Weill-Tessier, *King's College London*.

Demos • 3:00 pm - 3:45 pm

Demo Session #4: Advanced Courses (Security/Databases)

Chairs: Lina Battestilli, *North Carolina State University*; Jennifer Campbell, *University of Toronto*.

Paper Sessions • 3:45 pm - 5:00 pm

Large-Scale Analysis of Error Frequencies in Logo Programming. Jacqueline Staub, Zaheer Chothia, *ETH Zurich*.

Automatic Generation and Marking of UML Database Design Diagrams. Sarah Foss, Tatiana Urazova, Ramon Lawrence, *University of British Columbia*.

Panel, Special, and Supporter Sessions • 3:45 pm - 5:00 pm

Piecing Together the Next 15 Years of Computing Education Research Workshop Report

Adrienne Decker, *University at Buffalo*; Mark Allen Weiss, *Florida International University*; Brett A. Becker, *University College Dublin*; John P. Dougherty, *Haverford College*; Stephen H. Edwards, *Virginia Tech*; Joanna Goode, *University of Oregon*; Amy J. Ko, *University of Washington*; Monica M. McGill, *CSEdResearch.org*; Briana B. Morrison, *University of Virginia*; Manuel Perez-Quinones, *University of North Carolina at Charlotte*; Yolanda A. Rankin, *Florida State University*; Monique Ross, *Florida International University*; Jan Vahrenhold, *Westfälische Wilhelms-Universität*; David Weintrop, *University of Maryland*; Aman Yadav, *Michigan State University*.

Friday Workshops • 7:00 pm - 10:00 pm

Getting Started with Source Code Analysis for Programming Education Research

Neil C. C. Brown, Michael Kölling, Charalampos Kyfonidis, Pierre Weill-Tessier, *King's College London*.

A Tutorial for Adopting the μ MPS3/Pandos Project in the Operating Systems Course.

Mikey Goldweber, *Xavier University*; Renzo Davoli, *Università di Bologna*.

Poster Sessions • 10:00 am - 05:00 pm

ITT: An Interactive Tutoring Tool to Improve the Learning and Visualization of Compiler Design Theory From Implementation. Rafael Del Vado Vírveda, *Universidad Complutense de Madrid*.

Using Deep Learning to Localize Errors in Student Code Submissions. Shion Fujimori, Mohamed Harmanani, *University of Toronto*; Owais Siddiqui, Lisa Zhang, *University of Toronto Mississauga*.

CLICK: A Mentoring Approach to Increasing Female Participation in Computer Science. Amanda O'Farrell, *TU Dublin*; Micheal Griffin, *Kishoge Community College*; Keith Nolan, *TU Dublin*.

Building K-12 Teacher Capacity to Expand Uptake in a National CS Curriculum. Keith Quille, *Roisin Faherty, TU Dublin*; Brett A. Becker, *UCD*.

The Sol y Agua RPP: A Bilingual and Culturally Responsive Approach to Introduce Computational Thinking in Middle School. Monika Akbar, Katherine Mortimer, Grecia Navarrete, Stephanie Galvan, George Molina, Romelia Reyes, *The University of Texas at El Paso*; Cynthia Ontiveros, Scott Gray, Sarah Escandon, Monica Lyons, Pedro Delgado, Victor Medrano, Haleigh Kneedler, Patricia Benitez, Jacob Ramirez, Jesus Vazquez, Melissa Anderson, *El Paso Independent School District*.

XDesign: Integrating Interface Design into Explainable AI Education. Hyungyu Shin, Nabila Sindi, Yoonjoo Lee, Jaeryoung Ka, *KAIST (Korea Advanced Institute of Science and Technology)*; Jeanyoung Y. Song, *DGIST (Daegu Gyeongbuk Institute of Science and Technology)*; Juho Kim, *KAIST (Korea Advanced Institute of Science and Technology)*.

INSPIRE: Fourth Industrial Revolution Teaching in the Classroom. Oli Howson, Patricia Charlton, Francisco Iniesto, Wayne Holmes, *The Open University*.

CS_{LINC} a Nationwide CS MOOC for Second level Students. Karen Nolan, Keith Quille, *TU Dublin*; Brett A. Becker, *University College Dublin*.

Measuring the Impact of COVID-19 on the Health and Wellbeing of Computer Science Practitioners. Tom Crick, Cathryn Knight, *Swansea University*; Richard Watermeyer, *University of Bristol*.

Add Some Action to the Output: A Ready-to-Use, Customizable Asset for Easily Adding Animation to Python Programs. Madalene Spezialetti, Brian Garten, *Trinity College*.

From the Game Ideas Prototypes to their Final Versions using International Intensive Project Results. Piotr Milczarski, Norbert Borowski, Artur Hłobaż, Michał Beczkowski, *University of Lodz*.

First Impressions of Using Stack Overflow for Education in a Computer Science Bachelor Programme. Stefan Hugtenburg, Andy Zaidman, *Delft University of Technology*.

Are We There Yet? Novices' Code Smells linked to Loop Constructs. Cruz Izu, Shrey Chandra, *The University of Adelaide*.

Inclusive Thinking Questionnaire: Preliminary Results. Dhruv Nagpal, Jaskaran Singh Bhatia, Dev Goel, Parthasarathy P D, Snigdha Tiwari, Swaroop Joshi, *BITS Pilani*.

A Novel Machine Learning and Artificial Intelligence Course for Secondary School Students. Joyce Mahon, *University College Dublin*; Keith Quille, *Technological University of Dublin*; Brian Mac Namee, Brett A. Becker, *University College Dublin*.

A Tool to Teach Expressions with Feedback About Broken Laws. Oleg Sychev, Nikita Pensko, Grigory Terekhov, *Volgograd State Technical University*.

Student Research Competition • 03:45 pm - 05:00 pm

The Development of Computational Thinking in Computing Higher Education. Carolina Moreira Oliveira, *Federal University of Paraná*.

Finding the Most Relevant Pages of the Learning Materials on which a Student Just Focuses. Taichi Imbe, *Meisei University*.

Cross-grade Comparison of Computational Thinking in Young Children Using Normalized Unplugged Assessment Scores. Emily Relkin, *Tufts University*.

Celer: A Smart Fleet Management System (Optimizing Traffic Flow in New York City). Ugo Dos Reis, Maheen Ferdousi, Ilir Dema, *University of Toronto*.

SATURDAY, MARCH 05 2022

Paper Sessions • 9:45 am - 10:35 am

Additional Evidence for the Prevalence of the Impostor Phenomenon in Computing. Angela Zavaleta Bernuy, *University of Toronto*; Anna Ly, *University of Toronto Mississauga*; Brian Harrington, *University of Toronto Scarborough*; Michael Liut, Andrew Petersen, *University of Toronto Mississauga*; Sadia Sharmin, *University of Toronto*; Lisa Zhang, *University of Toronto Mississauga*.

Panel, Special, and Supporter Sessions • 9:45 am - 10:35 am

(Virtual Session) CC2020 Visualization Tool. Alison Clear, *Eastern Institute of Technology*; Ernesto Cuadros-Vargas, *Universidad San Ignacio de Loyola*; Shingo Takada, *Keio University*.

Paper Sessions • 11:15 am - 12:30 pm

A Time-Optimized Content Creation Workflow for Remote Teaching. Sebastian Hofstätter, Sophia Althammer, Mete Sertkan, Allan Hanbury, *TU Wien*.

Training Teaching Assistants by Offering an Introductory Course. Emma Riese, Viggo Kann, *KTH Royal Institute of Technology*.

Evaluating Two Approaches to Assessing Student Progress in Cybersecurity Exercises. Valdemar Švábenský, *Masaryk University*; Richard Weiss, *The Evergreen State College*; Jack Cook, *New York University*; Jan Vykopal, *Masaryk University*; Pavel Čeleda, *Masaryk University*; Jens Mache, *Lewis & Clark College*; Radoslav Chudovský, *Masaryk University*; Ankur Chattopadhyay, *Northern Kentucky University*.

Design and Use of a Visualization for Teaching Integer Coercion. Steven Carr, *Western Michigan University*; Yu Chin Cheng, *National Taipei University of Technology*; Yu-Hsiang Hu, *National Taipei University of Technology*; Jean Mayo, *Michigan Technological University*; Ahmed Radwan, *Western Michigan University*; Ching-Kuang Shene, *Michigan Technological University*; James Walker, *Michigan Technological University*.

EdGENI: Making GENI User-Friendly for General Computer Education. Yongzhi Wang, Wen-Jung Hsin, Manish Lamsal, *Park University*.

Panel, Special, and Supporter Sessions • 11:15 am - 12:30 pm

VIRTUAL SESSION. Exploring Lightweight Practices to Support Students' Well-being. Oluwakemi Ola, *University of British Columbia*; Brian Harrington, *University of Toronto Scarborough*.

Nifty Assignments • 10:35 am - 12:30 pm

Food Webs or the Zombie Apocalypse. Ben Stephenson, Jonathan Hudson, *University of Calgary*.

Poster Sessions • 10:35 am - 12:30 pm

Investigating the Impact of Voice Response Options in Surveys. Pan Chen, *University of Toronto*; Naaz Sibia, *University of Toronto Mississauga*; Angela Zavaleta Bernuy, *University of Toronto*; Michael Liut, *University of Toronto Mississauga*; Joseph Jay Williams, *University of Toronto*.

Predicting Success in CS1 - An Open Access Data Project. Keith Quille, Keith Nolan, *TU Dublin*.

An Introduction to Computer Science in the New Curriculum for Wales. Tom Crick, *Swansea University*.

Using WebAssembly to Teach Code Generation in a Compiler Design Course. Ariel Ortiz, *Tecnologico de Monterrey*.

A Preliminary Study of Peer Assessment Feedback within Team Software Development Projects. Tom Crick, *Swansea University*; Tom Prickett, Jill Bradnum, *Northumbria University*.

Grading Mastery: Calculating Grades from Domain-Law Violations. Oleg Sychev, Yaroslav Kamennov, *Volgograd State Technical University*.

VIRTUAL Thematic Groups

The Impact of Optional Groups on Students. Jonathan Calver, Jennifer Campbel, Michelle Craig, Jonathan Lam, *University of Toronto*.

Experiences Implementing and Utilizing a Notional Machine in the Classroom. Paul E. Dickson, *University at Buffalo*; Tim Richards, *University of Massachusetts Amherst*; Brett A. Becker, *University College Dublin*.

Play Your Cards Right: Using Quantitative Card-Sort Data to Examine Students' Pattern-Like Concepts. James Finnie-Ansley, Paul Denny, Andrew Luxton-Reilly, *The University of Auckland*.

Design Recommendation for Using Textual Aids in Data-Science Programming Courses. Heeryung Choi, *University of Michigan*; Caitlin Mills, *University of New Hampshire*; Christopher Brooks, *University of Michigan*; Stephen Doherty, *University of New South Wales*; Anjali Singh, *University of Michigan*.

Time-on-Task Metrics for Predicting Performance. Juho Leinonen, *Aalto University*; Francisco Enrique Vicente Castro, *University of Massachusetts Amherst*; Arto Hellas, *Aalto University*.

A Comparison of Immediate and Scheduled Feedback in Introductory Programming Projects. Juho Leinonen, *Aalto University*; Paul Denny, *The University of Auckland*; Jacqueline Whalley, *Auckland University of Technology*.

How to Integrate Environmental Challenges in Computing Curricula? Anne-Laure Ligozat, *Universit Paris-Saclay, CNRS, ENSIE, LISN*; Kevin Marquet, *Univ Lyon, INSA Lyon, Inria, CITI, EA3720*; Aurélie Bugeau, *Univ. Bordeaux, CNRS, Bordeaux INP, LaBRI, UMR5800*; Julien Lefèvre, *Aix Marseille Univ, CNRS, INT, Inst Neurosci Timone*; Pierre Boulet, *Univ. Lille, CNRS, Centrale Lille, UMR 9189 CRISTAL*; Sylvain Bouveret, *Univ. Grenoble- Alpes, CNRS, Grenoble INP, LIG*; Philippe Marquet, *Univ. Lille, CRISTAL, UMR 9189*; Olivier Ridoux, *Univ. Rennes, Inria, CNRS, IRISA*; Olivier Michel, *Université Paris Est - Créteil, LACL, EA 4219*.

A Four-year Study of a Placement Exam for an Introductory Programming Course. Stefan Podlipnig, *TU Wien*.

Barriers to New Zealand High School CS Education - Learners' Perspectives. Chamindi K. Samarasekara, Claudia Ott, Anthony Robins, *University of Otago*.

How Creatively Are We Teaching and Assessing Creativity in Computing Education: A Systematic Literature Review. Wouter Groeneveld, *KU Leuven*; Brett A. Becker, *University College Dublin*; Joost Vennekens, *KU Leuven*.

Code Quality Defects Across Introductory Programming Topics. Tomáš Effenberger, Radek Pelánek, *Masaryk University*.

Novice Reflections During the Transition to a New Programming Language. Paul Denny, *The University of Auckland*; Brett A. Becker, *University College Dublin*; Nigel Bosch, *University of Illinois*; James Prather, Brent Reeves, *Abilene Christian University*; Jacqueline Whalley, *Auckland University of Technology*.

Sympathy for the (Novice) Developer: Programming Activity When Compilation Mechanism Varies. Simon Caton, Seán Russell, Brett A. Becker, *University College Dublin*.

What Fails Once, Fails Again: Common Repeated Errors in Introductory Programming Automated Assessments. Simon Caton, Seán Russell, Brett A. Becker, *University College Dublin*.

Scratch and Sense: Using Real-Time Sensor Data to Motivate Students Learning Scratch. Hussel Suriyaarachchi, Paul Denny, Suranga Nanayakkara, *The University of Auckland*.

Online Tutorial Tools to Practice Data Representation. Bin Peng, *Park University*.

Parental Involvement in Computer Science Education and Computing Attitudes and Behaviours in the Home: Model and Scale Development. Nina Bresnihan, Aibhín Bray, Lorraine Fisher, Glenn Strong, Richard Millwood, Brendan Tangney, *University of Dublin*.

An Empirical Study of Students' Perceptions on the Setup and Grading of Group Programming Assignments. Efthimia Aivaloglou, *Leiden Institute of Advanced Computer Science, The Netherlands and Open Universiteit, The Netherlands*; Anna van der Meulen, *Leiden Institute of Advanced Computer Science, The Netherlands*.

“Los programadores debieron pensarse como dos veces”: Exploring the Intersections of Language, Power and Technology with Bi/Multilingual Students. Sara Vogel, *New York University*.

Beyond Programming: A Computer-Based Assessment of Computational Thinking Competency. Rina Lai, *University of Cambridge*.

Towards a Framework for Teaching Artificial Intelligence to a Higher Education Audience. Becky Allen, Andrew Stephen McGough, Marie Devlin, *Newcastle University*.

Cognitive Load Theory in Computing Education Research: A Review. Rodrigo Duran, *Federal Institute of Mato Grosso do Sul and Aalto University*; Albina Zavgorodniaia, Juha Sorva, *Aalto University*.