



DRAFT SCHEDULE

...the schedule may change, some sessions may move...

Inspire, Innovate, Improve!
March 8th - 11th, Seattle, Washington, USA

SIGCSE 2017 welcomes colleagues from around the world to present demos, lightning talks, papers, panels, posters, special sessions, and workshops, and to discuss computer science education in birds-of-a-feather sessions and informal settings. The SIGCSE Technical Symposium addresses problems common among educators working to develop, implement and/or evaluate computing programs, curricula, and courses. The symposium provides a forum for sharing new ideas for syllabi, laboratories, and other elements of teaching and pedagogy, at all levels of instruction.



Day / Time	Theme	Topic	Track	Title	Authors
Thu March 9th 10:45am - noon	K-12 / Novice Learners	Computational Thinking	Paper	Assessing Children's Understanding of the Work of Computer Scientists: The Draw-a-Computer-Scientist Test	Alexandria K. Hansen, Hilary Dwyer, Ashley Iveland, Mia Talesfore, Lacy Wright, Danielle Harlow and Diana Franklin
			Paper	Assessing Computational Thinking in CS Unplugged Activities	Brandon Rodriguez, Cyndi Rader and Tracy Camp
			Paper	Designing CS Resource Sharing Sites for All Teachers	Mackenzie Leake and Colleen M. Lewis
	Diversity	Robots & Wearables	Paper	Making Robot Challenges with Virtual Robots	Kevin J. Gucwa and Harry H. Cheng
			Paper	A Modern Wearable Devices Course for Computer Science Undergraduates	Chris Gregg, Raewyn Duvall and Kate Wasynczuk
			Paper	Applying End-User Robot-Programming Tools to Computer Science Outreach	Vivek Paramasivam, Sarah Elliott, Justin Huang and Maya Cakmak
	CS1	Novice Learners	Paper	Measuring Student Learning in Introductory Block-Based Programming: Examining Misconceptions of Loops, Variables, and Boolean Logic	Shuchi Grover and Satabdi Basu
			Paper	Variable Evaluation: An Exploration of Novice Programmers' Understanding and Common Misconceptions	Tobias Kohn
			Paper	Semantic Reasoning in Young Programmers	David Touretzky, Christina Gardner-McCune and Ashish Aggarwal
	Advanced Topics	Data	Paper	Teaching Big Data and Cloud Computing with a Physical Cluster	Jesse Eickholt and Sharad Shrestha
			Paper	Computing with CORGIS: Diverse, Real-world Datasets for Introductory Computing	Austin Bart, Ryan Whitcomb, Eli Tilevich, Dennis Kafura and Cliff Shaffer
			Paper	Introducing Data Science to School Kids	Shashank Srikant and Varun Aggarwal
	Learning / Instructional styles	Analytics	Paper	Deconstructing the Discussion Forum: Student Questions and Computer Science Learning	Mickey Vellukunnel, Philip Buffum, Kristy Elizabeth Boyer, Jeffrey Forbes, Sarah Heckman and Ketan Mayer-Patel
			Paper	Using Programming Process Data to Detect Differences in Students' Patterns of Programming	Adam Carter and Christopher Hundhausen
			Paper	Investigating Student Plagiarism Patterns and Correlations to Grades	Jonathan Pierce and Craig Zilles
		CS FOR ALL	Panel	The Role of CS Departments in The US President's "CS for All" Initiative	Mark Guzdial, Barbara Ericson, W. Richards Adrion and Dianne O'Grady-Cunniff
		FOSS	Panel	Community Engagement with Free and Open Source Software	Christian Murphy, Kevin Buffardi, Josh Dehlinger, Lynn Lambert and Nanette Veilleux
		CS1	Special Session	CS1: Beyond Programming	Jessen Havill, Douglas Baldwin, Valerie Barr, Amy Briggs, Bruce Maxwell and Henry Walker
		ED RESEARCH	Special Session	CS Education Research Knowledge Forum	Kelsey Finkel, Kenneth Graves and Leigh Ann Delyser

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Thu March 9th 1:45pm - 3pm	K-12 / Novice Learners	K-12 Professional Development	Paper	Reflecting on Three Offerings of a Community-Centric MOOC for K-6 Computer Science Teachers	Katrina Falkner, Rebecca Vivian and Nick Falkner
			Paper	Preparing STEM Teachers to offer [course name removed]	Irene Lee, Maureen Psaila Dombrowski and Ed Angel
			Paper	A Comparative Analysis of Online and Face-to-Face Professional Development Models for CS Education	David Webb, Hilarie Nickerson and Jeffrey Bush
	Diversity	Making	Paper	Toward Computational Making with Madeup	Chris Johnson
			Paper	Understanding High School Students' Reading, Remixing, and Writing Codeable Circuits for Electronic Textiles	Yasmin Kafai, Breanne Litts, Debora Lui, Justice Walker and Sari Widman
			Paper	"Creating cool stuff": Pupils' experience of the BBC micro:bit	Sue Sentance, Jane Waite, Steve Hodges, Emily MacLeod and Lucy Yeomans
	CS1	Addressing Motivation	Paper	Gamifying Course Modules for Entry Level Students	Yin Pan, Sumita Mishra and David Schwartz
			Paper	Improving Students' Learning and Achievement in CS Classrooms through Computational Creativity Exercises that Integrate Computational and Creative Thinking	Duane Shell, Leen-Kiat Soh, Abraham Flanigan, Markeya Peteranetz and Elizabeth Ingraham
			Paper	Getting students to earnestly do reading, studying, and homework in an introductory programming class	Alex Edgcomb, Frank Vahid, Roman Lysecky and Susan Lysecky
	Advanced Topics	Architecture	Paper	Impact of Prior Exposure to the PLP Instruction Set Architecture in a Computer Architecture Course	Sohum Sohoni and Scotty Craig
			Paper	A Collaborative Approach to Teaching Software Architecture	Arie van Deursen, Maurício Aniche, Joop Aué, Rogier Slag, Michael de Jong, Alex Nederlof and Eric Bouwers
			Paper	MIPSUnit: A Unit Testing Framework for MIPS Assembly	Zachary Kurmas
	Learning / Instructional styles	Performance Analytics	Paper	Using Learning Analytics to Investigate Patterns of Performance and Engagement in Large Classes	Hassan Khosravi and Kendra Cooper
			Paper	Automatically Classifying Students in Need of Support by Detecting Changes in Programming Behaviour	Anthony Estey, Hieke Keuning and Yvonne Coady
			Paper	Evaluating Neural Networks as a Method for Identifying Students in Need of Assistance	Karo Castro-Wunsch, Alireza Ahadi and Andrew Petersen
		ER	Panel	We've Grown Our Female Undergraduate Enrollment in Computer Science: You Can Too	Wendy Dubow, Ignatios Vakalis, Amber Benton and Helen Hu
		CS FOR ALL	Panel	Building CS Teaching Capacity: Comparing Strategies for Achieving Large Scale Impact	Carol Fletcher, Leigh Ann Delyser, Anthony Owen and Kimberly Hughes
		ACCESSIBILITY	Special Session	Teaching Accessibility	Richard Ladner and Matt May
		INDUSTRY	Special Session	Holistic Development of Underrepresented Students through Academic – Industry Partnerships	Marlon Mejias, Legand Burge, Kamar Galloway, Kinnis Gosha and Jean Muhammad

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Fri March 10th 10:45am - noon	K-12 / Novice Learners	K-8	Paper	Covering Edge Cases: An Analysis of Computer Science Learning Goals Theorized and Tested in Literature	Kathryn Rich, Carla Strickland and Diana Franklin
			Paper	Evaluating the Effect of Using Physical Manipulatives to Foster Computational Thinking in Elementary School	Ashish Aggarwal, Christina Gardner-McCune and David Touretzky
			Paper	Arts Coding for Social Good: A Pilot Project for Middle-School Outreach	Anita Dewitt, Julia Fay, Madeleine Goldman, Eleanor Nicolson, Linda Oyolu, Lukas Resch, Jovan Saldaña, Soulideth Sounalath, Tyler Williams, Kathryn Yetter, Elizabeth Zak, Narren Brown and Samuel Rebelsky
	Diversity	Novice Programmers	Paper	Just the Numbers: An Investigation of Contextualization of Problems for Novice Programmers	Ellie Lovellette, John Matta, Dennis Bouvier and Roger Frye
			Paper	An Empirical Study of Debugging Patterns Among Novices Programmers	Basma Alqadi and Jonathan Maletic
			Paper	iSnap: Towards Intelligent Tutoring in Novice Programming Environments	Thomas Price, Yihuan Dong, Dragan Lipovac and Tiffany Barnes
	CS1	Collaborative Learning	Paper	POGIL Activities in Data Structures: What do Students Value?	Tammy Vandegrift
			Paper	Student Perspectives of Team-Based Learning in a CS Course: Summary of Qualitative Findings	Michael Kirkpatrick
			Paper	Exploring the Pair Programming Process: Characteristics of Effective Collaboration	Fernando J. Rodríguez, Kimberly Michelle Price and Kristy Elizabeth Boyer
	Advanced Topics	Software Engineering	Paper	Innovative Pedagogical Approaches to a Capstone Laboratory Course in Cyber Operations	Mike O'Leary
			Paper	A Study of the Use of a Reflective Activity in Learning Software Design	John Coffey
			Paper	Incorporating Human Error Education into Software Engineering Courses via Error-based Inspections	Vaibhav Anu, Gursimran Walia and Gary Bradshaw
	Learning / Instructional styles	Mobile	Paper	SAFE: Smart Authenticated Fast Exams for Student Evaluation in Classrooms	Kameswari Chebrolu, Bhaskaran Raman, Vinay Chandra Dommeti, Akshay Veer Boddu, Kurien Zacharia, Arun Babu and Prateek Chandan
			Paper	Choosing face-to-face or video-based instruction in a mobile app development course	Matthew Boutell
			Paper	Creating Engaging Exercises with Mobile Response System (MRS)	Debzani Deb, Mohammad Fuad and Mallek Kanan
		POGIL	Special Session	Converting Your Teaching (or Even Your Whole Department!) to Active Learning via POGIL	Helen H. Hu, Chris Mayfield and Janice L. Pearce
		K-12 VOLUNTEERS	Panel	Volunteer Best Practices for K12 CS	Leigh Ann Delyser, Tom O'Connell, Maurya Couvares, Nathaniel Granorand Diane Levitt
		SEMINAR COURSES	Panel	Computer Science Topics in First- and Second- Year Seminar Courses	Andrea Tartaro, Valerie Barr, Bryan Catron, Christopher Healy, Kate Lockwood, Anil Shende and Kevin Treu
		LIBERAL ARTS	Special Session	Computing Education in Liberal Arts Colleges: A Status Report of the SIGCSE Committee	Doug Baldwin, Grant Braught and Amanda Holland-Minkley

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Fri March 10th 1:45pm - 3pm	K-12 / Novice Learners	AP CSP	Paper	From Professional Development to the Classroom: Findings from CS K-12 Teachers	Lori Pollock, Chrystalla Mouza, Amanda Czik, Alexis Little, Debra Coffey and Joan Buttram
			Paper	Preparing and Supporting Industry Professionals as Volunteer Computer Science Co-Instructors for HS	Anthony Papini, Leigh Ann Delyser, Nathaniel Granor and Kevin Wang
			Paper	Getting Principled: Reflections on Teaching CS Principles at Two College Board University Pilots	Jeff Gray, Michele Roberts and Jonathan Corley
	Diversity	Computers and Music	Paper	Making Noise: Using Sound-Art to Explore Technological Fluency	Erik Brunvand and Nina McCurdy
			Paper	Creativity in Authentic STEAM Education with EarSketch	Shelly Engelman, Brian Magerko, Tom McKlin, Morgan Miller Doug Edwards and Jason Freeman
			Paper	Integrating Computer Science into Music Education	John Peterson and Greg Haynes
	CS1	CS1	Paper	Exam Wrappers: Not a Silver Bullet	Ben Stephenson, Michelle Craig, Daniel Zingaro, Diane Horton, Danny Heap and Elaine Huynh
			Paper	The Code Mangler: Evaluating Coding Ability Without Writing any Code	Brian Harrington and Nick Cheng
			Paper	Comparing Outcomes Across Different Contexts in CS1	Bruce Maxwell and Stephanie Taylor
	Advanced Topics	Algorithms	Paper	Evaluating the Effectiveness of Algorithm Analysis Visualizations	Mohammed F. Farghally, Kyuhan Koh, Hossameldin Shahin and Clifford A. Shaffer
			Paper	Towards a Concept Inventory for Algorithm Analysis Topics	Mohammed F. Farghally, Kyuhan Koh, Jeremy V. Ernst and Clifford A. Shaffer
			Paper	Assessment of Introducing Algorithms with Video Lectures and Pseudocode Rhymed to a Melody	Ben Schreiber and John Dougherty
	Learning / Instructional styles	Peers & Large Classes	Paper	Micro-Classes: A Structure for Improving Student Experience in Large Classes	Christine Alvarado, Mia Minnes and Leo Porter
			Paper	Impact of Class Size on Student Evaluations for Traditional and Peer Instruction Classrooms	Soohyun Nam Liao, William Griswold and Leo Porter
			Paper	My Digital Hand: A Tool for Scaling Up One-to-One Peer Teaching in Support of Computer Science Learning	Aaron Smith, Kristy Elizabeth Boyer, Jeffrey Forbes, Sarah Heckman and Ketan Mayer-Patel
		CS FOR ALL, K12 PD	Panel	CSPdWeek: A Scalable Model for Preparing Teachers for CS for All	Tracy Camp, Emmanuel Schanzer, Joanna Goode, Owen Astrachan and Ed Campos
		UNDERGRAD RESEARCH	Panel	Bringing Undergraduate Research Experience in Non-R1 Institutions	Farzana Rahman, Helen Hu, Dennis Brylow and Clif Kussmaul
		CC2020	Panel	CC2020: A Vision on Computing Curricula	Alison Clear, John Impagliazzo, Allen Parrish, Gerrit Van Der Veer and Ming Zhang
		ETHICS	Special Session	The Code of Ethics Quiz Show	Bo Brinkman and Keith Miller

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Fri March 10th 3:45pm - 5pm	K-12 / Novice Learners	K-12 Professional Development	Paper	Professional recognition matters: accreditation for in-service computer science teachers	Sue Sentance and Andrew Csizmadia
			Paper	Building a Statewide Computer Science Teacher Pipeline	Helen Hu, Cecily Heiner, Thomas Gagne and Carl Lyman
			Paper	Teaching CS to CS Teachers: Addressing the Need for Advanced Content in K-12 Professional Development	Dan Leyzberg and Christopher Moretti
	Diversity	Diversity	Paper	Diversity Barriers in K-12 Computer Science Education: Structural and Social	Jennifer Wang and Sepehr Hejazi Moghadam
			Paper	Folk Pedagogy and the Geek Gene (or perhaps the Geekiness Quotient)	Kate Sanders, Jonas Boustedt, Anna Eckerdal, Robert McCartney and Carol Zander
			Paper	Examining the Relationship Between Introductory Computing Course Experiences, Self-Efficacy, and Belonging Among Women First-Generation College Students	Jennifer Blaney and Jane Stout
	CS1	Non-CS Students	Paper	Increasing The Capacity Of STEM Workforce: Minor in Bioinformatics	Sami Khuri, Miri Vanhoven and Natalia Khuri
			Paper	Evaluation and Impact of a Required Computational Thinking Course for Architecture Students	Nick Senske
			Paper	Examining the Enrollment Growth: Non-CS Majors in CS1 Courses	Linda J. Sax, Kathleen J. Lehman and Christina Zavala
	Advanced Topics	Capstone	Paper	CORP: Co-operative Remote Practicum Work Experience Model for Software Engineering Education	Dannie Stanley
			Paper	Understanding Student Interactions in Capstone Courses to Improve Learning Experiences	Andres Neyem, Juan Diaz-Mosquera, Jorge Munoz-Gama and Jaime Navon
			Paper	A Two-Course Sequence of Real Projects for Real Customers	Christian Murphy, Swapneel Sheth and Sydney Morton
	Learning / Instructional styles	Online Learning	Paper	A Pedagogical Analysis of Online Coding Tutorials	Ada S. Kim and Andrew J. Ko
			Paper	Lessons Learned in the Design and Delivery of an Introductory Programming MOOC	John Michael Fitzpatrick, Akos Ledeczi, Gayathri Narasimham, Lee Lafferty, Réal Labrie, Paul Mielke, Aatish Kumar and Katherine Brady
			Paper	Employing Retention of Flow to Improve Online Tutorials	Ashok Basawapatna and Alexander Repenning
		CSP	Panel	Social Justice and Equity in CS Education - Inaugural Launch of AP Computer Science Principles	Lien Diaz, Frances Trees, Dale Reed, Richard Kick and Andrew Kuemmel
		CYBER	Panel	The Passion, Beauty, and Joy of Teaching and Learning Cybersecurity	Richard Weiss, Xenia Mountroudou, Jens Mache and Casey O'Brien
		UNDERGRAD TAS	Panel	Scaling Introductory Courses Using Undergraduate Teaching Assistants	Jeffrey Forbes, David Malan, Heather Pon-Barry, Stuart Reges and Mehran Sahami
		ICER	Special Session	ICER UP CS Ed Research Workshop Summary— Essence of Illustrative Projects	Eileen Kraemer, Aubrey Lawson and Murali Sitaraman

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Day / Time	Theme	Topic	Track	Title	Authors
Sat March 11th 8:45am - 10am		NIFTY	Special Session	Nifty Assignments	Nick Parlante, Julie Zelenski and others
Sat March 11th 10:45am - noon	K-12 / Novice Learners	K-12, CSforAll	Paper	Interested in Class, but Not in the Hallway: A Latent Class Analysis (LCA) of 2015-16 CS Student Surveys	Kenny Graves and Leigh Ann Delyser
			Paper	Teaching Computer Science in the Victorian Certificate of Education: Results of a Pilot Study	Richard Cox, Steven Bird and Bernd Meyer
			Paper	Concepts and Practices: Designing and Developing A Modern K12 CS Framework	Miranda Parker and Leigh Ann Delyser
	Diversity	Gender	Paper	Gender Differences in Students' Behaviors in CS Classes throughout the CS Major	Christine Alvarado, Yingjun Cao and Mia Minnes
			Paper	Understanding and Improving Diversity in CS at a Large Public R1 Research University	Monica Babes-Vroman, Andrew Tjang, Isabel Juniewicz, Thu Nguyen, Bruno Lucarelli, Nicole Fox, Georgiana Haldeman, Ashni Mehta and Risham Chokshi
			Paper	Eliminating Gender Bias in Computer Science Education Materials	Vahab Pournaghshband and Paola Medel
	CS1	CS1	Paper	Successful First Year Experience for At-Risk Students	Alice Armstrong
			Paper	Evaluating an Alternative CS1 for Students with Prior Programming Experience	Michael Kirkpatrick and Chris Mayfield
			Paper	Pencil Puzzles for Introductory Computer Science: an Experience- and Gender-Neutral Context	Zack Butler, Ivona Bezakova and Kimberly Fluet
	Advanced Topics	Advanced Concepts	Paper	On the (Mis) Understanding of the "this" Reference	Noa Ragonis and Ronit Shmallo
			Paper	Assessing and Teaching Scope, Mutation, and Aliasing in Upper-Level Undergraduates	Kathi Fisler, Shriram Krishnamurthi and Preston Tunnell Wilson
			Paper	Multiple Levels of abstraction in Algorithmic Problem Solving	David Ginat and Yoav Blau
	Learning / Instructional styles	Instructional Practice	Paper	Exposed! CS Faculty Caught Lecturing in Public - A Survey of Instructional Practices	Scott Grissom, Sue Fitzgerald, Renée McCauley and Laurie Murphy
			Paper	Using Undergraduate Teaching Assistants in Small Classes	Paul Dickson, Toby Dragon and Adam Lee
			Paper	A Curriculum Model Featuring Oral Communication Instruction and Practice	Jennifer Polack and Karen Anewalt
		TOOLS	Panel	Technology We Can't Live Without!, revisited	Ria Galanos, Whitaker Brand, Sumukh Sridhara, Mike Zamansky and Evelyn Zayas
		DIVERSITY	Panel	Teaching To Increase Diversity and Equity in STEM	Helen Hu, Douglas Blank, Albert Chan and Travis Doom
		CYBER	Special Session	ACM Joint Task Force on Cybersecurity Education	Diana Burley, Matt Bishop, Scott Buck, David Gibson, Elizabeth Hawthorne and Siddharth Kaza
			Lightning Talks		To be announced

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Day / Time	Workshop Title	Workshop Authors
Wed March 8th 7-10pm	An Introduction to the WEKA Data Mining System	Ingrid Russell, Zdravko Markov
	How to Plan, Run Effective Teacher Professional Development	Barbara Ericson, Rebecca Dovi, Ria Galanos
	Hyperblocks: A General Purpose Blocks-Based Language	John Maloney, Michael Nagle, Jens Mönig, Mark Guzdial
	Using AppVis to build data-rich apps with MIT App Inventor	Fred Martin, Samantha Michalka, Harry Zhu, Jere Boudell
	Increasing Student Interest in Data Structures Courses with Real-World Data, Visualizations Using BRIDGES	Kalpathi Subramanian, Jamie Payton
	Embedded Systems Lab Modules: A Complementary Approach to Learning System Concepts	Frank Barry
	Designing Empirical Education Research Studies (DEERS): Creating an Answerable Research Question	Sarah Heckman, Jeffrey Carver, Mark Sherriff
	Peer Instruction in Practice	Jaime Spacco, Cynthia Taylor, Joe Hummel, David Bunde, John Dooley, David Hovemeyer
	Teaching Distributed Computing with WorkQueue	Aaron Dingler, Peter Bui
	A Web-Based IDE for Teaching with Any Language	David Malan, Nikolai Onken
Fri March 10th 7-10pm	Using, Customizing Open-Source Runestone Ebooks for Computer Science Classes	Brad Miller, Paul Resnick, Barbara Ericson
	Two Birds - Teaching Coding, Math in Primary Schools, Beyond	Victor Winter, Betty Love
	Testing Across the Curriculum	Zachary Kurmas
	How to Collect, Analyze, Act on Learning Data in Computer Science Courses	Ananda Gunawardena
	An Iota of IoT	Bill Siever, Michael Rogers
	How to Plan, Run Computing Summer Camps - Logistics	Krishnendu Roy, Kristine Nagel, Sarah Dunton
	Workshop: Guiding Students to Discover CS Concepts, Develop Process Skills Using POGIL	Clifton Kussmaul, Chris Mayfield, Helen Hu
	Engaging Students with Algorithms	Crystal Furman, Sandy Czajka, Adrienne Decker, Dianna Xu
	Modules for Integrating Cryptography in Introductory CS, Computer Security Courses	Yesem Kurt Peker
	Hands-on Cybersecurity Exercises that are easy to access, assess	Richard Weiss, Jens Mache, Michael Locasto, Franklyn Turbak
Sat March 11th 3-6pm	Parallel Computing with OpenMP on the Raspberry Pi	Suzanne Matthews, Joel Adams, Richard Brown, Elizabeth Shoop
	What's new in BlueJ 4: Git, Stride, more	Neil Brown, Amjad Altadmri
	UTeach CS Principles: Broadening Participation Through K-12 Computer Science Education, Teacher Professional Learning, Support	Bradley Beth, Amy Moreland
	Evidence Based Teaching Practices in CS	Briana Morrison, Mark Guzdial, Cynthia Lee, Leo Porter, Beth Simon
	CS Discoveries: An introductory CS course for late middle, early high school	Josh Caldwell, Dani McAvoy, Gt Wrobel
	From Lightbulbs to Logic: Teaching Hardware in Intro to CS	Sean Hickey
	Designing Blended Learning Models to Support Computational Learning: Minecraft Edition	Dominic Amato, Ugochi Acholonu, Joshua R. Engel
	How to Integrate (Inter)Active Learning into Large Classes	Stephan Krusche,reas Seitz, Nadine von Frankenberg, Bernd Bruegge
	C-STEM: Engaging Students in Computing with Robotics	Tasha Frankie, Duane Wesley, James Gappy, Harry Cheng
	Creating Peer Grading Videos	Shawn Lupoli, Karan Budhreja