SIGCSE 2016 HIGHLIGHTS FOR K-12 Educators

WEDNESDAY

7:00 PM - 10:00 PM Workshops *These are optional workshops that you can pay to attend.*

Workshop #2: Making Music with Computers: Creative Programming in Python (room: L2-L3)	
Bill Manaris, College of Charleston	
Tobias Kohn, ETH Zürich	
Workshop #3: A Web-Based IDE for Teaching with Any Language (room: L5-L6)	
Dan Armendariz, Harvard University	
David Malan, Harvard University	
Nikolai Onken, Cloud9	
Workshop #4: High Yield in the Short Term: Planning Strategically to Get Women into your Major(room: L8)	,
Lecia Barker, University of Texas at Austin	
Leisa Thompson, University of Virginia	
Workshop #5: Guiding Students to Discover CS Concepts and Develop Process Skills using POGIL(room: L9)
Clifton Kussmaul, Muhlenberg College	,
Helen Hu, Westminster College	
Chris Mayfield, James Madison University	
Workshop #6: Engage, Energize and Empower Your Students with Team-Based Learning (room: L10)	
Lenore Horowitz, University at Albany	
George Berg, University at Albany	
Kimberly Van Orman, University at Albany	
Workshop #9: Reading and Writing like Computer Scientists: How to Promote Critical Thinking and Student	
Engagement (room: River Bluff)	
Mark Hoffman, Quinnipiac University	
Jerod Weinman, Grinnell College	
Workshop #10: Lego-based Case Studies for Teaching Software Engineering Concepts throughout the	
Curriculum (room: Sultana)	
Stan Kurkovsky, Central Connecticut State University	
Workshop #11: Peer Instruction in Computing: a Focus on Student Learning (room: Mississippi)	
Daniel Zingaro, University of Toronto Mississauga	
Leo Porter, University of California, San Diego	
Quintin Cutts, University of Glasgow	
John Glick, University of San Diego	
Joe Hummel, University of Illinois at Chicago	
Cynthia Lee, Stanford University	
Jaime Spacco, Knox College	

THURSDAY

8:30 AM - 10:00 AM

Plenary Session - John Sweller - UNSW Australia

10:00 AM - 10:45 AM - Break, Exhibits & Demos

Be sure to visit the Exhibit Hall to visit vendor booths, see Demos, and get a snack!

10:45 AM - 12:00 PM - Recommended Sessions

Papers: Computational Thinking (room: L13-L14)

 10:45 AM Investigating Differences in Wiki-based Collaborative Activities between Student Engagement Profiles in CS1 Adam Eck, University of Nebraska-Lincoln Leen-Kiat Soh, University of Nebraska-Lincoln Duane Shell, University of Nebraska-Lincoln

 11:10 AM A Study on the Impact of Multidisciplinary Collaboration on Computational Thinking S. Monisha Pulimood, The College of New Jersey Kim Pearson, The College of New Jersey Diane C. Bates, The College of New Jersey

11:35 AM Computational Thinking as Liberal Studies Dave Mason, Ryerson University Irfan Khan, Ryerson University Vadim Farafontov, Ryerson University

Papers: Research on Learning (room: L5-L6)

 10:45 AM An Examination of Layers of Quizzing in Two Computer Systems Courses *Cindy Norris, Appalachian State University*
 11:10 AM Subgoals Halp Students Solve Persons Problems

11:10 AM Subgoals Help Students Solve Parsons Problems Briana Morrison, Georgia Institute of Technology Lauren Margulieux, Georgia Institute of Technology Barbara Ericson, Georgia Institute of Technology Mark Guzdial, Georgia Institute of Technology

11:35 AM As CS Enrollments Grow, Are We Attracting Weaker Students?: A Statistical Analysis of Student Performance in Introductory Programming Courses Over Time Mehran Sahami, Stanford University Chris Piech, Stanford University

Papers: Professional Development (room: L2-L3)

10:45 AM Implementation and Outcomes of a Three-Pronged Approach to Professional Development for CS Principles

Chrystalla Mouza, University of Delaware Lori Pollock, University of Delaware Kathleen Pusecker, University of Delaware Kevin Guidry, University of Delaware Ching-Yi Yeh, University of Delaware James Atlas, University of Delaware Terry Harvey, University of Delaware

11:10 AM Deploying Exploring Computer Science Statewide Helen Hu, Westminster College Cecily Heiner, Southern Utah University Jay McCarthy, University of Massachusetts Lowell

11:35 AM TEALS: Teacher Professional Development Using Industry Volunteers Nathaniel Granor, Microsoft/TEALS Leigh Ann DeLyser, CSNYC Kevin Wang, Microsoft/TEALS

Panel (room: Steamboat)

Rediscovering the Passion, Beauty, Joy, and Awe: Making Computing Fun Again, part 8

Daniel Garcia, UC Berkeley Josh Caldwell, code.org Pamela Fox, Khan Academy Jeremy Keeshin, CodeHS

12:00 PM - 1:45 PM - LUNCH:

If this is your first SIGCSE, be sure to go to the FirstTimer's Lunch!

1:45 PM - 3:00 PM - Recommended Sessions

Papers: CS0 (room: L2-L3)

1:45 PM CS0 for Computer Science Majors at Ohio University Cindy Marling, Ohio University David Juedes, Ohio University
2:10 PM Security Injections 2.0: Increasing Ability to Apply Secure Coding Knowledge using Segmented and Interactive Modules in CS0

Sagar Raina, Towson University Siddharth Kaza, Towson University Blair Taylor, Towson University

2:35 PM Combining "Big Data" and "Thick Data" Analyses for Understanding Youth Learning Trajectories in a Summer Coding Camp Deborah Fields, Utah State University Lisa Quirke, University of Toronto Janell Amely, Utah State University Jason Maughan, Utah State University

Special Session (room: Cotton Row)

Training Teachers to Integrate Computational Thinking into K-12 Teaching Rania Hodhod, Columbus State University Shamim Khan, Columbus State University Yesem Kurt-Peker, Columbus State University Lydia Ray, Columbus State University

Special Session (room: Steamboat)

Demystifying Computing with Magic, part III Daniel Garcia, UC Berkeley David Ginat, Tel-Aviv University

Supporter Session (room: Sultana)

Google Supporter Session - Up Close and Personal with Google CS Programs

3:00 PM - 3:45 PM - Break, Exhibits & Demos

3:45 PM - 5:00 PM - Recommended Sessions

Papers: Scratch (room: L2-L3)

3:45 PM ITCH: Individual Testing Of Computer Homework For Scratch Assignments David Johnson, University of Utah
4:10 PM Multi-Track Programming Competitions with Scratch

Jason Arnold, Marquette University

Heather Bort, Marquette University Ryan Naugle, Marquette University Casey O'Hare, Marquette University Dennis Brylow, Marquette University

4:35 PM Initialization in Scratch: Seeking Knowledge Transfer Diana Franklin, University of Chicago Charlotte Hill, University of California, Santa Barbara Hilary Dwyer, University of California, Santa Barbara Alexandria Hansen, University of California, Santa Barbara Ashley Iveland, University of California, Santa Barbara Danielle Harlow, University of California, Santa Barbara

Special Session (room: Cotton Row)

Special Session: ACM Joint Task Force on Cybersecurity Education Diana Burley, George Washington University Matt Bishop, University of California, Davis Elizabeth Hawthorne, Union County College Siddharth Kaza, Towson University Lynn Futcher, Nelson Mandela Metropolitan University Scott Buck, Intel

Panel (room: Steamboat)

Technology We Can't Live Without!, revisited Daniel Garcia, UC Berkeley Leslie Aaronson, Forshay Learning Center Shawn Kenner, Sharon High School Colleen Lewis, Harvey Mudd College

5:30 PM – 6:20 PM – Birds of a Feather Flock 1

This is a chance for you to have a discussion about a topic that interests you.

Universal Access to Computing Education (room: Heritage 1, Sheraton)

Richard Ladner, University of Washington Brianna Blaser, University of Washington Andreas Stefik, University of Nevada Las Vegas Daniela Marghitu, Auburn University

Fostering Computational Creativity through Computing in the Arts: A Community of Educators (room: Heritage 3, Sheraton)

Susan Reiser, UNC Asheville Rebecca Bruce, UNC Asheville Jennifer Burg, Wake Forest University Bill Manaris, College of Charleston

Birds of Feather: Teaching with Alice (room: Heritage 4, Sheraton)

Donald Slater, Carnegie Mellon University Wanda Dann, Carnegie Mellon University Stephen Cooper, Stanford University

Defining Concepts, Practices, and Standards for K-12 CS (room: L11-12, Convention Center) Pat Yongpradit, Code.org

6:30 PM - 7:30 PM - Birds of a Feather Flock 2

Current Initiatives and Future Directions of the Computer Science Teachers Association (CSTA) (room: Heritage 3, Sheraton)

David Reed, Creighton University/CSTA Mark Nelson, Computer Science Teachers Association (CSTA)

Computer Science Summer Camps: Making Summer Programs Fun and Sustainable (room: Knoxville, Sheraton)

David Johnson, University of Utah, School of Computing

Leveraging CS Teachable Moments in the Maker Movement (room: Chattanooga, Sheraton) Jennifer (Ginger) Alford, Trinity Valley School/Fort Worth Museum of Science and History Erik Brunvand, University of Utah

7:30 PM - 9:30 PM - Reception (room: Ballroom A)

FRIDAY

8:30 AM - 10:00 AM

Plenary Session - SIGCSE Award for Outstanding Contribution to Computer Science Education - Jan Cuny - National Science Foundation

10:00 AM - 10:45 AM - Break, Exhibits & Demos

Demos (room: Exhibit Hall)

CodeSnaps: Block-Based Robotic Programming for the Low-Budget Classroom Jennifer Sabourin, SAS Institute, Inc Lucy Kosturko, SAS Institute, Inc Scott McQuiggan, SAS Institute, Inc

10:45 AM - 12:00 PM - Recommended Sessions

Papers: Artistic Approaches (room: L13-L14)

 10:45 AM The MoveLab: Developing Congruence Between Students' Self-Concepts and Computing Kayla DesPortes, Georgia Institute of Technology Monet Spells, Georgia Institute of Technology Betsy DiSalvo, Georgia Institute of Technology
 11:10 AM Creative Computation in High School

Dianna Xu, Bryn Mawr College Aaron Cadle, Fort Worth Country Day School Darby Thompson, Sidwell Friends School Ursula Wolz, RiverSound Solutions Ira Greenberg, Southern Methodist University Deepak Kumar, Bryn Mawr College

11:35 AM Computational Art - Introducing High School Students to Computing via Art Zoe Wood, California Polytechnic State University Paul Muhl, Santa Barbara High School Katelyn Hicks, California Polytechnic State University

Papers: High School Diversity (room: L2-L3)

10:45 AM Towards More Gender Diversity in CS through an Artificial Intelligence Summer Program for High School Girls

Marie Vachovsky, Stanford University Grace Wu, Stanford University Sorathan Chaturapruek, Stanford University Olga Russakovsky, Stanford University Richard Sommer, Stanford University Li Fei-Fei, Stanford University

- 11:10 AM Investigating the Role of Being a Mentor as a Way of Increasing Interest in Computer Science Jody Clarke-Midura, Utah State University Vicki Allan, Utah State University Kevin Close, Utah State University
- 11:35 AM Sisters Rise Up 4 CS: Helping Female Students Pass the Advanced Placement Computer Science A Exam

Barbara Ericson, Georgia Institute of Technology Miranda Parker, Georgia Institute of Technology Shelly Engelman, SageFox Consulting Group

Panel (room: Steamboat)

Why Don't Some CS0 Students Succeed? How Important Are Background, Experience, Culture, Aptitude, Habits and Attitude?

Daniel Garcia, University of California, Berkeley Stuart Reges, University of Washington Colleen Lewis, Harvey Mudd College Nathan Ensmenger, Indiana University

12:00 PM - 1:45 PM - LUNCH: on your own

1:45 PM - 3:00 PM - Recommended Sessions

Papers: Problem Solving (room: L11-L12)

1:45 PM Online CS1: Who Enrols, Why, and How Do They Do? Diane Horton, University of Toronto Jennifer Campbell, University of Toronto Michelle Craig, University of Toronto

2:10 PM The Influence of Problem Solving Abilities on Students' Performance on Different Assessment Tasks in CS1.

Alex Lishinski, Michigan State University Aman Yadav, Michigan State University Richard Enbody, Michigan State University Jonathon Good, Michigan State University

2:35 PM A Course on Programming and Problem Solving Swapneel Sheth, University of Pennsylvania Christian Murphy, University of Pennsylvania Kenneth Ross, Columbia University Dennis Shasha, New York University

Papers: CS Ed Research 2 (room: L5-L6)

1:45 PM A Multi-institutional Study of Peer Instruction in Introductory Computing

Leo Porter, University of California, San Diego Dennis Bouvier, Southern Illinois Univ.~Edwardsville Quentin Cutts, University of Glasgow Scott Grissom, Grand Valley State University Cynthia Lee, Stanford University Robert McCartney, University of Connecticut Daniel Zingaro, University of Toronto, Mississauga Beth Simon, University of California, San Diego 2:10 PM Development of a Concept Inventory for Computer Science Introductory Programming Ricardo Caceffo, UNICAMP Steven Wolfman, University of British Columbia Kellogg Booth, University of British Columbia Rodolfo Azevedo, UNICAMP 2:35 PM A data-driven analysis of informatively hard concepts in introductory programming Rudolf Wiegand, University of Central Florida Anthony Bucci, Independent Contractor Amruth Kumar, Ramapo College of New Jersey Jennifer Albert, The Citidel Alessio Gaspar, University of South Florida

Papers: K-8 Diversity (room: L2-L3)

1:45 PM How Early Does the CS Gender Gap Emerge? A Study of Collaborative Problem Solving in 5th Grade Computer Science

Jennifer Tsan, North Carolina State University Kristy Boyer, University of Florida Collin Lynch, North Carolina State University

2:10 PM Differentiating for Diversity: Using Universal Design for Learning in Computer Science Education Alexandria Hansen, University of California, Santa Barbara Eric Hansen, Hope Elementary School, Santa Barbara Hilary Dwyer, University of California, Santa Barbara Danielle Harlow, University of California, Santa Barbara Diana Franklin, University of Chicago

2:35 PM Empowering All Students: Closing the CS Confidence Gap with an In-School Intervention for Middle School Students

Philip Buffum, North Carolina State University Megan Frankosky, North Carolina State University Kristy Boyer, University of Florida Eric Wiebe, North Carolina State University Bradford Mott, North Carolina State University James Lester, North Carolina State University

Special Session (room: Cotton Row)

AP Computer Science and Service LearningLearning with We.org Lien Diaz, College Board Sandy Czajka, Riverside Brookfield High School Crystal Furman, College Board

Panel (room: Steamboat)

CS10K Teachers by 2017? Try CS1K+ students NOW! Coping with the Largest CS1 Courses in History Daniel Garcia, UC Berkeley Jennifer Campbell, University of Toronto John DeNero, UC Berkeley Mary Lou Dorf, University of Michigan Stuart Reges, University of Washington

3:00 PM - 3:45 PM - Break, Exhibits & Demos

3:45 PM - 5:00 PM - Recommended Sessions

Papers: International Perspectives (room: L13-L14)

3:45 PM The Performance of Female Computer Science Students across Three Caribbean Islands Daniel Fokum, The University of the West Indies, Mona Daniel Coore, The University of the West Indies, Mona Yewande Lewis-Fokum, The University of the West Indies, Mona
4:10 PM Piloting Computer Science Education Week in Mexico Nora Escherle, Ph FHNW

Silvia I. Ramirez-Ramirez, Department of Computer Science, Tecnológico de Monterrey Ashok Basawapatna, Dept. Mathematics, Computer & Information Science, SUNY, Old Westbury Dorit Assaf, School of Education, FHNW Alexander Repenning, School of Education, FHNW Carmine Maiello, School of Education, FHNW Yasko Endo, University of Colorado, Boulder Juan Nolazco-Flores, Department of Computer Science, Tecnológico de Monterrey

4:35 PM Alice in the Middle East: An experience report from the formative phase Saquib Razak, Carnegie Mellon University Huda Gedawy, Carnegie Mellon University Wanda Dann, Carnegie Mellon University Donald Slater, Carnegie Mellon University

Papers: CS Principles (room: L2-L3)

3:45 PM An Experience Report Assessing A Professional Development MOOC For CS Principles Jeff Gray, The University of Alabama Jonathan Corley, The University of Alabama Brian Eddy, University of West Florida
4:10 PM Two Teachers, Two Perspectives on CS Principles Jean Griffin, Temple University Tammy Pirmann, Gwynedd Mercy University

Brent Gray, Carver Engineering and Science High School

4:35 PM Lessons Learned from "BJC" CS Principles Professional Development Thomas W. Price, NC State University Veronica Catete, NC State University Jennifer Albert, The Citadel Tiffany Barnes, NC State University Daniel D. Garcia, UC Berkeley

6:00 PM - 7:00 PM - NCWIT Reception (room: Heritage Ballroom, Sheraton) *Visit with the folks who run the Asipirations Award for High School (and now College) girls.*

7:00 PM - 10:00 PM – Workshops *These are optional workshops that you can pay to attend.*

Workshop #302: Introducing Secure Coding in CS0, CS1, and CS2 (room: L2-L3)
Blair Taylor, Towson University
Siddharth Kaza, Towson University
Workshop #303: Building on Blocks: Getting Started With Frames in Greenfoot 3 (room: L5-L6)
Amjad Altadmri, University of Kent
Neil Brown, University of Kent
Workshop #304: Rubricking Like a Boss: Writing and Using Rubrics for Faster, Fairer Grading of Student
Programs (room: L8)
Don Blaheta, Longwood University
Adrienne Decker, Rochester Institute of Technology
Workshop #306: Learn CS1/2 by Playing and Building Commercial Grade Casual Games: No Background
Required (room: L10)
Kelvin Sung, University of Washington Bothell
Rob Nash, University of Washington Bothell
Jason Pace, University of Washington Bothell
Workshop #308: MUzECS: Block-based Arduino Programming for Exploring Computer Science (room: L13-
L14)
Dennis Brylow, Marquette University
Workshop #309: How to Plan and Run Summer Computing Camps - Logistics (room: River Bluff)
Barbara Ericson, Georgia Institute of Technology
Kristine Nagel, Georgia Gwinnett College
Nannette Napier, Georgia Gwinnett College
Krishnendu Roy, Valdosta State University
Workshop #310: K-12 Teacher Support for Computer Science Principles: An Introduction to the UTeach
Course, Thriving in Our Digital World: AP (room: Sultana)
Jeff Mickel, The UTeach Institute, The University of Texas at Austin
Alicia Beth, The UTeach Institute, The University of Texas at Austin
Workshop #312: AP CS Principles and The Beauty and Joy of Computing Curriculum (room: Cotton Row)
Daniel Garcia, UC Berkeley
Tiffany Barnes, NC State
Michael Ball, UC Berkeley
Emil Biga, Millard North High School
Josh Paley, Gunn High School
Marnie Hill, J. H. Rose High School
Nathan Mattix, Piedmont High School
Parisa Safa, Urban School of San Francisco
Sean Morris, Albany High School
Shawn Kenner, Sharon High School

SATURDAY

8:45 AM - 10:00 AM - Recommended Sessions

Papers: Computing in Middle School (room: L2-L3)

8:45 AM MyCS at 5: Assessing a Middle-years CS Curriculum Brenda Castro, Harvey Mudd College Terrence Diaz, Harvey Mudd College Marissa Gee, Harvey Mudd College Rebekah Justice, Harvey Mudd College David Kwan, Harvey Mudd College Preethi Seshadri, Harvey Mudd College Zachary Dodds, Harvey Mudd College 9:10 AM Factors Influencing Computer Science Learning in Middle School Shuchi Grover, Stanford University/SRI International Roy Pea, Stanford University Stephen Cooper, Stanford University

9:35 AM "What Is A Computer?" What do Secondary School Students Think? Shuchi Grover, SRI International Daisy Rutstein, SRI International Eric Snow, SRI International

Special Session (room: Steamboat)

Nifty Assignments

Nick Parlante, Stanford University Julie Zelenski, Stanford University Kevin Wayne, Princeton University John DeNero, University of California, Berkeley Baker Franke, Code.org Arvind Bhusnurmath, University of Pennsylvania Karen Her, University of Pennsylvania Kristen Gee, University of Pennsylvania Eric Manley, Drake University Timothy Urness, Drake University Marvin Zhang, University of California, Berkeley

10:00 AM - 10:45 AM - Break, Exhibits & Demos

10:45 AM - 12:00 PM - Recommended Sessions

Papers: Alternative Learning Experiences (room: L13-L14)

10:45 AM A Programming Contest Strategy Guide Aaron Bloomfield, University of Virginia Borja Sotomayor, University of Chicago

11:10 AM Teaching "Lawfulness" With Kodu David Touretzky, Carnegie Mellon University Christina Gardner-McCune, University of Florida Ashish Aggarwal, University of Florida

Papers: CS Ed Research 3 (room: L5-L6)

10:45 AM Retention of Flow: Evaluating a Computer Science Education Week Activity Alexander Repenning, School of Education FHNW Ashok Basawapatna, SUNY Old Westbury Dorit Assaf, School of Education FHNW Carmine Maiello, School of Education FHNW Nora Escherle, School of Education FHNW

Papers: K-12 Teaching (room: L2-L3)

10:45 AM CS Teacher Experiences with Educational Technology, Problem-Based Learning, and a CS Principles Curriculum George Veletsianos, Royal Roads University Bradley Beth, The University of Texas at Austin Calvin Lin, The University of Texas at Austin 11:10 AM Contextualized Teaching in the Lower Secondary Education * Long-term Evaluation of a CS Course from Grade 6 to 10 Arno Pasternak, TU Dortmund

11:35 AM Landscape of K-12 Computer Science Education in the U.S.: Perceptions, Access, and Barriers Jennifer Wang, Google, Inc. Hai Hong, Google, Inc. Jason Ravitz, Google, Inc. Sepehr Moghadam, Google, Inc.

Special Session (room: Steamboat)

Advanced Placement Computer Science Principles (APCSP): A Report from Teachers Owen Astrachan, Duke University R. Brook Osborne, Code.org

12:00 PM - 2:00 PM - Luncheon

This is the official closing session of SIGCSE. There are optional Workshops in the afternoon you can pay to attend.

3:00 PM - 6:00 PM - Workshops

These are optional workshops that you can pay to attend.

Workshop #401: JavaScript Applications for CS0/CS1: Getting Hands-on with Code.org's App Lab (room: L1)
Baker Franke, Code.org
Sarah Filman, Code.org
Brook Osborne, Code.org
Workshop #403: Teaching Robotics Using ROS (room: L5-L6)
Nathan Sprague, James Madison University
Ralph Grove, James Madison University
Workshop #405: Advanced Placement Computer Science Principles Performance Task: Create – Applications
from Ideas, Approaches to Programming Collaboratively. It's a Hackathon Workshop! (room: L9)
Lien Diaz, College Board
Richard Kick, Newbury Park High School
Andrew Kuemmel, Madison West High School
Workshop #406: Scaling up for CS10K: Teaching and Supporting New Computer Science High School
Teachers (room: L10)
Tiffany Barnes, North Carolina State University
Jamie Payton, University of North Carolina at Charlotte
Daniel Garcia, University of California and Berkeley
Workshop #407: App Development for All! (room: L11-L12)
David Hayes, Lane Tech College Prep High School (Chicago Public Schools)
Dale Reed, University of Illinois at Chicago
Workshop #408: Mixing Code and 3D Printers with Madeup (room: L13-L14)
Chris Johnson, University of Wisconsin, Eau Claire
Heather Amthauer, University of Wisconsin, Eau Claire
Ryan Hardt, University of Wisconsin, Eau Claire
Peter Bui, University of Notre Dame
Workshop #412: Transition to Java Using Alice 3 (room: Cotton Row)
Donald Slater, Alice Project, Carnegie Mellon University
Wanda Dann, Alice Project, Carnegie Mellon University