

**WEDNESDAY 8:30 AM - 5:00 PM**  
**Pre-Symposium Events (room: TBA in Convention Center)**

**WEDNESDAY 7:00 PM - 10:00 PM**  
**Workshops**

Workshop #1: Teaching Computing Foundations to Non-Majors (room: 2503A)

*Catherine Bareiss, Olivet Nazarene University*

*Larry Vail, Olivet Nazarene University*

Workshop #2: Teaching Parallel & Distributed Computing with MPI (room: 2502A)

*Joel Adams, Calvin College*

*Richard Brown, St Olaf College*

*Elizabeth Shoop, Macalester College*

Workshop #3: Teaching Computer Science Soft Skills (room: 2502B)

*Orit Hazzan, Technion- Israel Institute of Technology*

*Gadi Har-Shai, Technion- Israel Institute of Technology*

Workshop #4: SEED Labs: Using Hands-on Lab Exercises for Computer SEcurity EDucation (room: 2504A)

*Wenliang Du, Syracuse University*

Workshop #5: Teaching Introductory Computer Science For A Diverse Student Body: Girls Who Code Style (room: 2505A)

*Jeff Stern, University of Michigan*

*Ashley Gavin, Girls Who Code*

*Kari Bancroft, Girls Who Code*

Workshop #6: Making Music with Computers: Creative Programming in Python (room: 2503B)

*Bill Manaris, College of Charleston*

Workshop #7: Intellectual Property Law Basics for Computer Science Instructors (room: 2505B)

*David G. Kay, University of California, Irvine*

**THURSDAY 8:30 AM - 10:00 AM**  
**Plenary Session - speaker to be announced**

**THURSDAY 10:00 AM - 10:45 AM**  
**Break & Exhibits**

**THURSDAY 10:45 AM - 12:00 PM**

Papers: CS Education Research (room: 2502A)

Thu 10:45 AM - 12:00 PM

- 10:45 AM      Student Response to Teaching of Memory Cues and Resumption Strategies in Computer Science Classes  
*Noah John, Colorado State University*  
*Jaime Ruiz, Colorado State University*
- 11:10 AM      Closing The Cyberlearning Loop: Enabling Teachers To Formatively Assess Student Programming Projects  
*Ashok Basawapatna, AgentSheets Inc.*  
*Alexander Repenning, AgentSheets Inc.*  
*Kyu Han Koh, University of Colorado Boulder*
- 11:35 AM      Analyzing Student Work Patterns Using Programming Exercise Data  
*Jaime Spacco, Knox College*  
*Paul Denny, University of Auckland*  
*Brad Richards, University of Puget Sound*  
*David Babcock, York College*  
*David Hovemeyer, York College*  
*James Moscola, York College*  
*Robert Duvall, Duke University*

Papers: Curriculum (room: 2503A)

Thu 10:45 AM - 12:00 PM

- 10:45 AM      Teaching Computing as Science in a Research Experience  
*Jerod Weinman, Grinnell College*  
*David Jensen, University of Massachusetts Amherst*  
*David Lopatto, Grinnell College*
- 11:10 AM      Backward Design: An Integrated Approach to a Systems Curriculum  
*Michael Kirkpatrick, James Madison University*  
*Mohamed Aboutabl, James Madison University*  
*David Bernstein, James Madison University*  
*Sharon Simmons, James Madison University*

- 11:35 AM      A Module-based Approach to Adopting the 2013 ACM Curricular Recommendations on Parallel Computing  
*Martin Burtscher, Texas State University*  
*Wuxu Peng, Texas State University*  
*Apan Qasem, Texas State University*  
*Hongchi Shi, Texas State University*  
*Dan Tamir, Texas State University*  
*Heather Thiry, University of Colorado at Boulder*

Papers: CS1/CS2: Focus on CS1 (room: 3501C)	Thu 10:45 AM - 12:00 PM
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- 10:45 AM      Creating a Computer Simulator as a CS1 Student Project  
*Kian Pokorny, McKendree University*

- 11:10 AM      Program Decomposition and Complexity in CS1  
*Aaron Keen, California Polytechnic State University*  
*Kurt Mammen, California Polytechnic State University*

- 11:35 AM      Supporting Creativity and User Interaction in CS 1 Homework Assignments  
*Tammy VanDeGrift, University of Portland*

Papers: Beyond CS2: Miscellaneous Topics (room: 3501D)	Thu 10:45 AM - 12:00 PM
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- 10:45 AM      Embedding Secure Coding Instruction into the IDE: A Field Study in an Advanced CS Course  
*Michael Whitney, UNC Charlotte*  
*Heather Lipford-Richter, UNC Charlotte*  
*Bill Chu, UNC Charlotte*

- 11:10 AM      Augmenting Undergraduate Computer Science Education with Programmable Smartwatches  
*Andrey Esakia, Virginia Tech*  
*Shuo Niu, Virginia Tech*  
*Scott McCrickard, Virginia Tech*

- 11:35 AM      Simulating IBM Watson in the Classroom  
*Wlodek Zadrozny, UNC Charlotte*  
*Sean Gallagher, UNC Charlotte*  
*Walid Shalaby, UNC Charlotte*  
*Adarsh Manjunath, UNC Charlotte*

**Special Session (room: 3501H)****Thu 10:45 AM - 12:00 PM**

Tutorial: Concurrency with Alice 3 and Java

*Wanda Dann, Carnegie Mellon University**Cosgrove Dennis, Carnegie Mellon University**Slater Donald, Carnegie Mellon University***Panel (room: 3501G)****Thu 10:45 AM - 12:00 PM**

Booming Enrollments - Good Times?

*Tracy Camp, Colorado School of Mines**Jim Kurose, University of Massachusetts**Ellen Walker, Hiram College**Lecia Barker, University of Texas at Austin***Special Session (room: 2505A)****Thu 10:45 AM - 12:00 PM**

Integrating Live Projects Into Computing Curriculum

*Joseph Chase, Radford University**Prem Uppuluri, Radford University**Tracy Lewis, Radford University**Ian Barland, Radford University**Jeff Pittges, Radford University***Supporter Session (room: TBA)****Thu 10:45 AM - 12:00 PM**

TBA

**Supporter Session (room: TBA)****Thu 10:45 AM - 12:00 PM**

TBA

**THURSDAY 12:00 PM - 1:45 PM**  
**LUNCH: FirstTimer's or on your own**

**THURSDAY 1:45 PM - 3:00 PM****Papers: Automated Assessment (room: 2503A)****Thu 1:45 PM - 3:00 PM**

- 1:45 PM      A Simple Framework for Automated Assessment of Webpage Assignments in an Introductory Web Programming Class  
*Antonio Siochi, Christopher Newport University*  
*William Hardy, Christopher Newport University*
- 2:10 PM      The Role of Automation in Undergraduate Computer Science Education  
*Chris Wilcox, Colorado State University*
- 2:35 PM      Mechanical TA: Partially Automated High-Stakes Peer Grading  
*James Wright, University of British Columbia*  
*Chris Thornton, Google*  
*Kevin Leyton-Brown, University of British Columbia*

**Papers: Gender & Diversity (room: 2502A)****Thu 1:45 PM - 3:00 PM**

- 1:45 PM      Are Females Disinclined to Tinker in Computer Science?  
*Samantha Krieger, Department of Computer Science, University of British Columbia*  
*Meghan Allen, Department of Computer Science, University of British Columbia*  
*Catherine Rawn, Department of Psychology, University of British Columbia*
- 2:10 PM      The Emerging Role of Self-Perception in Student Intentions  
*Jennifer Dempsey, Dept. of Computer Science, University of Arizona*  
*Richard Snodgrass, Dept. of Computer Science, University of Arizona*  
*Isabel Kishi, Dept. of Computer Science, University of Arizona*  
*Allison Titcomb, Biosphere II, University of Arizona*
- 2:35 PM      Diversifying Perceptions, Participation, and Projects in a College Hackathon to Increase Female Participation in Computing  
*Gabriela Richard, University of Pennsylvania*  
*Yasmin Kafai, University of Pennsylvania*  
*Barrie Adleberg, University of Pennsylvania*  
*Orkan Telhan, University of Pennsylvania*

**Papers: Non-majors/Interdisciplinary (room: 3501E)****Thu 1:45 PM - 3:00 PM**

- 1:45 PM      Computer Scientists at the Biology Lab Bench  
*Andrea Tartaro, Furman University*  
*Renee J. Chosed, Furman University*
- 2:10 PM      Data Journalism: Lessons Learned While Designing an Interdisciplinary Service Course  
*Christopher Plaue, University of Georgia*  
*Lindsey Cook, U.S. News & World Report*
- 2:35 PM      Introducing Computing Concepts to Non-Majors: A Case Study in Gothic Novels  
*Heather Bort, Marquette University*  
*Mimi Czarnik, Alverno College*  
*Dennis Brylow, Marquette University*

**Papers: CS1/CS2: Themed Approaches (room: 3501C)****Thu 1:45 PM - 3:00 PM**

- 1:45 PM      Statistics-infused Introduction to Computer Science  
*Olaf Hall-Holt, St. Olaf College*  
*Kevin Sanft, St. Olaf College*
- 2:10 PM      Building Worlds: Bridging Imperative-First and Object-Oriented Programming in CS1-CS2  
*Zoë Wood, California Polytechnic State University*  
*Aaron Keen, California Polytechnic State University*
- 2:35 PM      A Data Programming CS1 Course  
*Ruth Anderson, University of Washington*  
*Michael Ernst, University of Washington*  
*Robert Ordonez, Southern Adventist University*  
*Paul Pham, The Evergreen State College*  
*Ben Tribelhorn, Seattle University*

**Papers: Beyond CS: Programming Languages/Compilers (room: 3501D) Thu 1:45 PM - 3:00 PM**

- 1:45 PM      A descent into the maelstrom: Teaching legacy programming and re-engineering  
*Michael Wirth, School of Computer Science, University of Guelph*
- 2:10 PM      A Framework for Teaching Programming Languages  
*Kent Lee, Luther College*
- 2:35 PM      The Interpreter In An Undergraduate Compilers Course  
*John Lasseter, Hobart & William Smith Colleges*

## Panel (room: 3501G)

Thu 1:45 PM - 3:00 PM

## Panel on Flipped Classrooms

*Jesse Heines, University of Massachusetts Lowell**Jeffrey Popyack, Drexel University**Briana Morrison, Southern Polytechnic State University**Kate Lockwood, University of St. Thomas**Doug Baldwin, SUNY Geneseo*

## Special Session (room: 3501H)

Thu 1:45 PM - 3:00 PM

## Computer Science Principles Curricula: On-the-ground, adoptable, adaptable, approaches to teaching

*Owen Astrachan, Duke University**Daniel Garcia, University of California Berkeley**Bennett Brown, Project Lead The Way**Jeff Gray, University of Alabama**Ralph Morelli, Trinity College**Marie desJardins, University of Maryland, Baltimore County**Calvin Lin, University of Texas at Austin**Nigamanth Sridhar, Cleveland State University**Bradley Beth, University of Texas at Austin*

## Supporter Session (room: TBA)

Thu 1:45 PM - 3:00 PM

Google

## Supporter Session (room: TBA)

Thu 1:45 PM - 3:00 PM

TBA

**THURSDAY 3:00 PM - 3:45 PM**  
**Break & Exhibits**

**THURSDAY 3:45 PM - 5:00 PM****Papers: Block Languages (room: 3501E)****Thu 3:45 PM - 5:00 PM**

- 3:45 PM DBSnap: Learning Database Queries by Snapping Blocks  
*Yasin Silva, Arizona State University*  
*Jaime Chon, Arizona State University*
- 4:10 PM Language Migration in non-CS Introductory Programming through Mutual Language Translation Environment  
*Yoshiaki Matsuzawa, Shizuoka University*  
*Takashi Ohata, Shizuoka University*  
*Manabu Sugiura, Keio University*  
*Sanshiro Sakai, Shizuoka University*
- 4:35 PM Scratch: A Way to Logo and Python  
*Mark Dorling, Computing at School, BCS Chartered Institute for IT*  
*David White, Computing at School, BCS Chartered Institute for IT*

**Papers: Gender & Diversity (room: 2502A)****Thu 3:45 PM - 5:00 PM**

- 3:45 PM The Grace Hopper Regional Consortium  
*Gloria Townsend, DePauw University*  
*Kay Sloan, Rockman et al*
- 4:10 PM Improving Undergraduate Student Performance in Computer Science at Historically Black Colleges and Universities (HBCUs) through Industry Partnerships  
*Alicia Washington, Howard University*
- 4:35 PM A Comparative Study of the Acceptability of Signs for the Brazilian Sign Language Created in Person and Remotely  
*Francisco Oliveira, State University of Ceará*  
*Neiva Cardins, State University of Ceará*  
*Adriano Freitas, Federal Institute of Ceará*  
*Anibal Oliveira, State University of Ceará*



Papers: Student Engagement: Flipped Classroom (room: 3501C)	Thu 3:45 PM - 5:00 PM
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3:45 PM	Beyond the Flipped Classroom: Learning by Doing Through Challenges and Hack-a-thons
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*Michael Skirpan, University of Colorado - Boulder*

*Tom Yeh, University of Colorado - Boulder*

4:10 PM	Flipped Classroom Strategies for CS Education
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*Mary Lou Maher, UNC Charlotte*

*Heather Lipford, UNC Charlotte*

*Celine Latulipe, UNC Charlotte*

*Audrey Rorrer, UNC Charlotte*

4:35 PM	The Effectiveness of Video Quizzes in a Flipped Class
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*Lisa Lacher, University of Houston - Clear Lake*

*Mark Lewis, Trinity University*

Papers: CS1/CS2: Persistence and Attitudes (room: 3501D)	Thu 3:45 PM - 5:00 PM
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3:45 PM	Reconsidering the Impact of CS1 on Novice Attitudes
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*Amber Settle, DePaul University*

*John Lalor, DePaul University*

*Theresa Steinbach, DePaul University*

4:10 PM	Drop, Fail, Pass, Continue: Persistence in CS1 and Beyond in Traditional and Inverted Delivery
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*Diane Horton, University of Toronto*

*Michelle Craig, University of Toronto*

4:35 PM	Incremental Separation of Surmountable and Insurmountable Programming Difficulties
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*Jason Carter, Cisco System Inc*

*Prasun Dewan, The University of North Carolina at Chapel Hill*

Papers: Beyond CS2: Algorithms (room: 2503A)	Thu 3:45 PM - 5:00 PM
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3:45 PM	Illustrating the Interaction of Algorithms and Data Structures Using the Matching Problem
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*Joan Lucas, The College at Brockport, State Univ. of New York*

4:10 PM	Fibonacci in The Curriculum: Not Just a Bad Recurrence
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*Saad Mneimneh, Hunter College CUNY*

4:35 PM	Randomized Reduction
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*Brian Dean, Clemson University*

*Raghuveer Mohan, Clemson University*

*Chad Waters, Clemson University*

**Special Session (room: 3501G)****Thu 3:45 PM - 5:00 PM****Curricular Assessment: Tips and Techniques***Henry Walker, Grinnell College**Sue Fitzgerald, Metropolitan State University, MN**John Dooley, Knox College***Panel (room: 3501H)****Thu 3:45 PM - 5:00 PM****Best Practices for IRB Approval: Four Perspectives***Michael Kirkpatrick, James Madison University**Janice Cuny, National Science Foundation**Mark Guzdial, Georgia Institute of Technology**Amanda Holland-Minkley, Washington & Jefferson College**Cliff Shaffer, Virginia Polytechnic Institute and State University***Panel (room: 2505A)****Thu 3:45 PM - 5:00 PM****Supporting the Computer Science Learning Process***Amy Briggs, Middlebury College**David Bau, Google**Caroline Meeks, Prospect Hill Academy**Pat Yongpradit, Code.org***Supporter Session (room: TBA)****Thu 3:45 PM - 5:00 PM**

ABET

**BOFS (room: TBA in Marriott Hotel)****Thu 5:30 PM - 6:20 PM****BOFS (room: TBA in Marriott Hotel)****Thu 6:30 PM - 7:30 PM****THURSDAY 7:30 PM - 8:30 PM****Reception (room: TBA in Marriott Hotel)**

**FRIDAY 8:30 AM - 10:00 AM**  
**Plenary Session - speaker to be announced**

**FRIDAY 10:00 AM - 10:45 AM**  
**Break & Exhibits**

**FRIDAY 10:45 AM - 12:00 PM**

Papers: Student Engagement: Self Explanation (room: 2502A) Fri 10:45 AM - 12:00 PM

- 10:45 AM Expressions of Abstraction: Self-Explanation in Code Production  
*Leigh Ann DeLyser, CSNYC*
- 11:10 AM Generating Practice Questions as a Preparation Strategy for Introductory Programming Exams  
*Paul Denny, The University of Auckland*
- 11:35 AM Benefits of Self-explanation in Introductory Programming  
*Arto Vihavainen, University of Helsinki*  
*Craig S. Miller, DePaul University*  
*Amber Settle, DePaul University*

Papers: Focus on K-12: Professional Development (room: 3501C) Fri 10:45 AM - 12:00 PM

- 10:45 AM Growing a K-12 Community of Practice  
*Susan H. Rodger, Duke University*  
*Stephen Cooper, Stanford University*  
*Wanda Dann, Carnegie Mellon University*  
*Madeleine Schep, Columbia College*  
*RoxAnn Stalvey, College of Charleston*
- 11:10 AM Computing on the Silicon Prairie: The State of CS in Nebraska Public Schools  
*Brian Dorn, University of Nebraska at Omaha*  
*Derek Babb, Omaha North High School*  
*Dawn Nizzi, Westside High School Career Center*  
*Cory Epler, Nebraska Department of Education*
- 11:35 AM Supporting CS10K: A New Computer Science Methods Course for Mathematics Education Students  
*Robin Flatland, Siena College Computer Science*  
*Darren Lim, Siena College Computer Science*  
*James Matthews, Siena College Computer Science*  
*Scott Vandenberg, Siena College Computer Science*

**Papers: Soft Skills: Teamwork & Communication (room: 2503A)****Fri 10:45 AM - 12:00 PM**

10:45 AM Using a Message Board as a Teaching Tool in an Introductory Cyber-Security Course

*Christopher Brown, United States Naval Academy*

*Zachary Dannelly, United States Naval Academy*

*Raymond Greenlaw, United States Naval Academy*

*Andrew Phillips, United States Naval Academy*

*Sarah Standard, United States Naval Academy*

11:10 AM Further Evaluations of Industry-Inspired Pair Programming Communication Guidelines with Undergraduate Students

*Mark Zarb, University of Dundee*

*Janet Hughes, University of Dundee*

*John Richards, IBM T.J. Watson Research Center*

11:35 AM Supporting Programming Assignments with Activity Streams: An Empirical Study

*Christopher Hundhausen, Washington State University*

*Adam Carter, Washington State University*

*Olusola Adesope, Washington State University*

**Papers: Beyond CS2: Cloud Computing (room: 3501D)****Fri 10:45 AM - 12:00 PM**

10:45 AM Hands-On Network Programming Projects in the Cloud

*Weiyang Zhu, Metropolitan State University of Denver*

11:10 AM Teaching Cybersecurity Analysis Skills in the Cloud

*Richard Weiss, The Evergreen State College*

*Stefan Boesen, Dartmouth College*

*James Sullivan, University of Calgary*

*Michael Locasto, University of Calgary*

*Jens Mache, Lewis & Clark College*

*Erik Nilsen, Lewis & Clark College*

11:35 AM A Cloud Computing Course: From Systems To Services

*M. Suhail Rehman, Carnegie Mellon University*

*Jason Boles, Carnegie Mellon University in Qatar*

*Mohammad Hammoud, Carnegie Mellon University in Qatar*

*Majd F. Sakr, Carnegie Mellon University*

**Special Session (room: 3501H)****Fri 10:45 AM - 12:00 PM****Budget Beowulfs: A Showcase of Inexpensive Clusters for Teaching PDC***Joel Adams, Calvin College**Suzanne Matthews, U.S. Military Academy**Charles Peck, Earlham College**Elizabeth Shoop, Macalester College**David Toth, Centre College***Panel (room: 3501G)****Fri 10:45 AM - 12:00 PM****Using App Inventor in Introductory CS Courses***Meimei Gao, Mercer County Community College**Julie Johnson, Vanderbilt University**Dale Reed, University of Illinois at Chicago**Cate Sheller, Kirkwood Community College**Franklyn Turbak, Wellesley College***Panel (room: 2505A)****Fri 10:45 AM - 12:00 PM****Research, Resources and Communities: Informal Ed as a Partner in Computer Science Education***Cameron L. Fadjo, Google, Inc.**Betsy DiSalvo, Georgia Institute of Technology**Irene Lee, Santa Fe Institute**Karen Peterson, National Girls Collaborative Project***Supporter Session (room: TBA)****Fri 10:45 AM - 12:00 PM**

Oracle

**Supporter Session (room: TBA)****Fri 10:45 AM - 12:00 PM**

Teradata

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

**FRIDAY 1:45 PM - 3:00 PM****Papers: CS Education Research (room: 2502A)****Fri 1:45 PM - 3:00 PM**

- 1:45 PM      Recursion vs. Iteration: An Empirical Study of Comprehension Revisited  
*Renée McCauley, College of Charleston*  
*Brian Hanks, BFH Educational Consulting*  
*Sue Fitzgerald, Metropolitan State University*  
*Laurie Murphy, Pacific Lutheran University*
- 2:10 PM      Tracking Student Learning from Class to Exam using Isomorphic Questions  
*Daniel Zingaro, University of Toronto Mississauga*  
*Leo Porter, University of California, San Diego*
- 2:35 PM      The Effectiveness of Visualization for Learning Expression Evaluation  
*Amruth Kumar, Ramapo College of New Jersey*

**Papers: Focus on K-12: Professional Development (room: 3501C)****Fri 1:45 PM - 3:00 PM**

- 1:45 PM      Analyzing Year One of a CS Principles PD Project  
*Ralph Morelli, Trinity College*  
*Chinma Uche, Connecticut Chapter, Computer Science Teachers Association*  
*Pauline Lake, Trinity College*  
*Lawrence Baldwin, Baldwin Research Consultancy*
- 2:10 PM      Field Experiences in Teaching Computer Science: Course Organization and Reflections  
*Lori Pollock, University of Delaware*  
*Chrystalla Mouza, University of Delaware*  
*James Atlas, University of Delaware*  
*Terry Harvey, University of Delaware*
- 2:35 PM      A Mid-Project Report on a Statewide Professional Development Model for CS Principles  
*Jeff Gray, University of Alabama*  
*Kathy Haynie, Haynie Research and Evaluation*  
*Sheryl Packman, Gator Analytics*  
*Mary Boehm, A+ College Ready*  
*Carol Crawford, A+ College Ready*  
*Deepa Muralidhar, Atlanta Girls School*

**Papers: Student Engagement: Active Learning (room: 3501D)****Fri 1:45 PM - 3:00 PM**

- 1:45 PM Integrating Role-Playing Games into Computer Science Courses as a Pedagogical Tool  
*David Toth, Centre College*  
*Mary Kayler, University of Mary Washington*
- 2:10 PM Structuring Flipped Classes with Lightweight Teams and Gamification  
*Celine Latulipe, University of North Carolina at Charlotte*  
*Bruce Long, University of North Carolina at Charlotte*  
*Carlos Seminario, University of North Carolina at Charlotte*
- 2:35 PM Teaching Internet of Things by Blending Problem- and Project-Based Learning to assist Greenhouse Maintenance  
*Hanna Mäenpää, University of Helsinki*  
*Samu Varjonen, University of Helsinki*  
*Arto Vihavainen, University of Helsinki*

**Papers: Testing: Improving Quality of Student Testing (room: 2503A) Fri 1:45 PM - 3:00 PM**

- 1:45 PM Can the Security Mindset Make Students Better Testers?  
*Sara Hooshangi, The George Washington University*  
*Richard Weiss, The Evergreen State College*  
*Justin Cappos, NYU*
- 2:10 PM An Empirical Study of Iterative Improvement in Programming Assignments  
*Raymond Pettit, Abilene Christian University*  
*John Homer, Abilene Christian University*  
*Susan Mengel, Texas Tech University*  
*Roger Gee, Abilene Christian University*  
*Adam Starbuck, Abilene Christian University*
- 2:35 PM Reconsidering Automated Feedback: A Test-Driven Approach  
*Kevin Buffardi, California State University, Chico*  
*Stephen H. Edwards, Virginia Tech*

**Papers: Beyond CS2: OS/Virtualization (room: 3501E)****Fri 1:45 PM - 3:00 PM**

- 1:45 PM      MC-Live: A Portable Computing Environment for Computer Science Students  
*Lee Wittenberg, Maryville College*
- 2:10 PM      Teaching Virtualization by Building a Hypervisor  
*Abhinand Palicherla, Tintri, Inc.*  
*Tao Zhang, Stony Brook University*  
*Donald Porter, Stony Brook University*
- 2:35 PM      MiniOS: an instructional platform for teaching operating systems projects  
*Rafael Roman Otero, University of Northern British Columbia*  
*Alex Aravind, University of Northern British Columbia*

**Special Session (room: 3501G)****Fri 1:45 PM - 3:00 PM**

- Achieving a shared goal with AP Computer Science A and AP Computer Science Principles  
*Lien Diaz, College Board*  
*Paul Tymann, Rochester Institute of Technology*  
*Fran Trees, Rutgers University*  
*Lester Wainwright, Charlottesville High School*  
*Sandy Czajka, Riverside Brookfield High School*  
*Richard Kick, Newbury Park High School*  
*Andrew Kuemmel, Madison West High School*

**Special Session (room: 3501H)****Fri 1:45 PM - 3:00 PM**

- Towards Grand Challenges in Computing Education Across Disciplines: Setting an Agenda for Research and Pedagogy  
*Lecia Barker, University of Texas at Austin*  
*Stephen Cooper, Stanford University*  
*Andrew McGettrick, University of Strathclyde*  
*Jason Thatcher, Clemson University*  
*Heikki Topi, Bentley University*

**Supporter Session (room: TBA)****Fri 1:45 PM - 3:00 PM**

Google

**Supporter Session (room: TBA)****Fri 1:45 PM - 3:00 PM**

TBA

**FRIDAY 3:00 PM - 3:45 PM**  
**Break & Exhibits**



**FRIDAY 3:45 PM - 5:00 PM****Papers: CS Education Research (room: 2502A)****Fri 3:45 PM - 5:00 PM**

3:45 PM Correlation of Topic Model and Student Grades Using Comment Data Mining  
*Shaymaa Sorour, Kyushu university*  
*Tsunenori Mine, Kyushu university*  
*Kazumasa Goda, Kyushu Institute of Information Science*

4:10 PM Bats, Balls, and Lures: Cognitive Style in CS Education  
*Barry Wittman, Elizabethtown College*  
*Jean Pretz, Elizabethtown College*

4:35 PM SOLO Taxonomy for Assessing Novices' Algorithmic Design  
*David Ginat, Tel-Aviv University*  
*Etty Menashe, Tel-Aviv University*

**Papers: Focus on K-12: Engaging Students (room: 3501C)****Fri 3:45 PM - 5:00 PM**

3:45 PM What Does It Take to Do Computer Programming? Surveying the K-12 Students' Conceptions  
*Antti-Jussi Lakanen, Mathematical Information Technology, University of Jyväskylä*  
*Ville Isomöttönen, Mathematical Information Technology, University of Jyväskylä*

4:10 PM Engaging High School Students in Modeling and Simulation through Educational Media  
*David Musicant, Carleton College*  
*S. Selcen Guzey, Purdue University*

4:35 PM An Analysis of User Engagement in Relation to Computing Workshop Activities  
*Rachel Menzies, University of Dundee*  
*Michael Crabb, University of Dundee*  
*Daniel Herron, University of Dundee*  
*Karen Petrie, University of Dundee*  
*Craig Stewart, University of Dundee*  
*Mark Zarb, University of Dundee*

**Papers: Testing: Tools & Techniques (room: 3501E)****Fri 3:45 PM - 5:00 PM**

3:45 PM

Unci: a C++-based Unit-testing Framework for Intro Students  
*Don Blaheta, Longwood University*

4:10 PM

Bug Infestation! A Goal-Plan Analysis of CS2 Students' Recursive Binary Search Tree Solutions  
*Laurie Murphy, Pacific Lutheran University*  
*Sue Fitzgerald, Metropolitan State University*  
*Scott Grissom, Grand Valley State University*  
*Renée McCauley, College of Charleston*

4:35 PM

Ante Up: A Framework to Strengthen Student-Based Testing of Assignments  
*Michael Bradshaw, Centre College*

**Papers: Soft Skills: Teamwork (room: 2503A)****Fri 3:45 PM - 5:00 PM**

3:45 PM

On the Evaluation of Student Team Software Development Projects  
*Anya Tafliovich, University of Toronto Scarborough*  
*Andrew Petersen, University of Toronto Mississauga*  
*Jennifer Campbell, University of Toronto*

4:10 PM

An Experience Report at Teaching Group Based Agile Software Engineering Teams  
*Craig Anslow, University of Calgary*  
*Frank Maurer, University of Calgary*

4:35 PM

An Experience Report: Using Mobile Development To Teach Software Design  
*Jennifer Campbell, University of Toronto*  
*Anya Tafliovich, University of Toronto Scarborough*

**Lightning Talks (room: 3501D)****Fri 3:45 PM - 5:00 PM**

Lightning Talks

**Special Session (room: 3501G)****Fri 3:45 PM - 5:00 PM**

Perspectives on Adopting and Facilitating Guided Inquiry Learning

*Helen Hu, Westminster College*  
*Clifton Kussmaul, Muhlenberg College*  
*Deepa Muralidhar, Atlanta Girls School*  
*Kristine Nagel, Georgia Gwinnett College*

**Special Session (room: 2505A)**

Fri 3:45 PM - 5:00 PM

Introduction to AccessCS10K and Accessible Tools for Teaching Programming

*Andreas Stefik, University of Nevada, Las Vegas**Richard Ladner, University of Washington***Panel (room: 3501H)**

Fri 3:45 PM - 5:00 PM

One-Day Activities for K-12 Face-to-Face Outreach

*Daniel D. Garcia, UC Berkeley**Wei Ding, University of Massachusetts, Boston**Joseph Cohen, University of Massachusetts, Boston**Barbara Ericson, Georgia Institute of Technology**Jeff Gray, University of Alabama**Dale Reed, University of Illinois at Chicago***Supporter Session (room: TBA)**

Fri 3:45 PM - 5:00 PM

GitHub

**FRIDAY 7:00 PM - 10:00 PM****Workshops**

Workshop #8: A Swift Introduction to Swift App Development (room: 2502A)

*Michael Rogers, Northwest Missouri State University**Bill Siever, Western Illinois University*

Workshop #9: Conducting educational research in the computer science classroom: Choosing the appropriate research design to address your research questions. (room: 3501H)

*Aman Yadav, Michigan State University*

Workshop #10: Pencil Code: Bridging the Gap between Visual and Text-based CS Education (room: 2502B)

*David Bau, Google**Matthew Dawson, Google**Anthony Bau, Phillips Exeter Academy*

Workshop #11: Teaching Cryptography and Access Control Hands-on (room: 3501E)

*Steve Carr, Western Michigan University**Melissa Keranen, Michigan Technological University**Jean Mayo, Michigan Technological University*

Workshop #12: Bridging the Divide: Developing Culturally-Responsive Curriculum for K-12 Computer Science Education (room: 2503B)

*Alicia Washington, Howard University*

Workshop #13: On Beyond Sudoku: Pencil Puzzles for Introductory Computer Science (room: 2504A)

*Zack Butler, Rochester Institute of Technology*

*Ivona Bezakova, Rochester Institute of Technology*

Workshop #14: How to Plan and Run Summer Computing Camps - Logistics (room: 2505B)

*Marguerite Doman, Winthrop University*

*Barbara Ericson, Georgia Institute of Technology*

*Kristine Nagel, Georgia Gwinnett College*

*Nannette Napier, Georgia Gwinnett College*

*Krishnendu Roy, Valdosta State University*

Workshop #15: Small or Liberal Arts Colleges Adapting to CS2013: Making It Work (room: 3501C)

*Andrea Danyluk, Williams College*

*Michael Jipping, Hope College*

*Rhys Price Jones, Wellesley College*

*David Reed, Creighton University*

*Brad Richards, University of Puget Sound*

*Richard Wicentowski, Swarthmore College*

Workshop #16: Steal This Courseware: FOSS, Github, Flask, and OpenShift (room: 2503A)

*Stephen Jacobs, RIT Center for Media, Arts, Games, Interaction and Creativity (MAGIC)*

*Remy DeCausemaker, RIT Center for Media, Arts, Games, Interaction and Creativity (MAGIC)*

Workshop #17: The Internet, Creativity and Global Impact: Curriculum Modules for the new AP Computer Science Principles course (room: 3501D)

*Lien Diaz, College Board, Advanced Placement Program*

*Richard Kick, Newbury Park High School*

*Andrew Kuemmel, Madison West High School*

Workshop #18: Games, Phones, and Programming in the Classroom (room: 3501G)

*Veronica Catete, NC State University*

*Barry Peddycord III, NC State University*

*Tiffany Barnes, NC State University*

Workshop #19: Infusing Cooperative Learning into Early Computer Science Courses to Support Improved Engagement (room: 3501F)

*Jeff Gray, University of Alabama*

*Fran Trees, Rutgers University*

*Owen Astrachan, Duke University*

**SATURDAY 8:30 AM - 10:00 AM**  
**Plenary Session - speaker to be announced**

**SATURDAY 10:00 AM - 10:45 AM**  
**Break & Exhibits**

**SATURDAY 9:00 AM - 10:15 AM**

Papers: Testing: Student Programming Errors (room: 2502A) Sat 9:00 AM - 10:15 AM

9:00 AM 37 Million Compilations: Investigating Novice Programming Mistakes in Large-Scale Student Data  
*Amjad Altadmri, University of Kent*  
*Neil C.C. Brown, University of Kent*

9:25 AM Looking Glass: A C++ Library for Testing Student Programs through Reflection  
*Scott Turner, UNC Pembroke*

9:50 AM Checked Coverage and Object Branch Coverage: New Alternatives for Assessing Student-Written Tests  
*Zalia Shams, Virginia Tech*  
*Stephen Edwards, Virginia Tech*

Papers: Focus on K-12: Elementary (room: 3501C) Sat 9:00 AM - 10:15 AM

9:00 AM Using SOLO to classify the programming responses of primary grade students  
*Linda Seiter, John Carroll University*

9:25 AM Floors and Flexibility: Designing a programming environment for 4th-6th grade classrooms  
*Charlotte Hill, UC Santa Barbara*  
*Hilary Dwyer, UC Santa Barbara*  
*Tim Martinez, UC Santa Barbara*  
*Danielle Harlow, UC Santa Barbara*  
*Diana Franklin, UC Santa Barbara*

9:50 AM Getting Started Teaching and Researching Computer Science in the Elementary Classroom  
*Diana Franklin, UC Santa Barbara*  
*Charlotte Hill, UC Santa Barbara*  
*Hilary Dwyer, UC Santa Barbara*  
*Ashley Iveland, UC Santa Barbara*  
*Alexandria Killian, UC Santa Barbara*  
*Danielle Harlow, UC Santa Barbara*

Papers: Non-majors/Interdisciplinary (room: 2503A)		Sat 9:00 AM - 10:15 AM
9:00 AM	Improving Non-CS Major Performance in CS1 <i>Victor Norman, Calvin College</i> <i>Joel Adams, Calvin College</i>	
9:25 AM	Can We "Flip" Non-Major Programming Courses Yet? <i>Douglas Baldwin, SUNY Geneseo</i>	
9:50 AM	Evaluating Pair-Programming for Non-Computer Science Major Students <i>Clem O'Donnell, University of Limerick</i> <i>Michael English, University of Limerick</i> <i>Abdulhussain Mahdi, University of Limerick</i> <i>John Nelson, University of Limerick</i> <i>Jim Buckley, University of Limerick</i>	
Papers: Focus on K-12: Outreach/Summer Camps (room: 3501D)		Sat 9:00 AM - 10:15 AM
9:00 AM	From 9 to 90: Engaging Learners of All Ages <i>Allison Sauppé, University of Wisconsin-Madison</i> <i>Daniel Szafir, University of Wisconsin-Madison</i> <i>Chien-Ming Huang, University of Wisconsin-Madison</i> <i>Bilge Mutlu, University of Wisconsin-Madison</i>	
9:25 AM	A Socio-Cognitive Analysis of Summer Camp Outcomes and Experiences <i>Chulakorn Aritajati, The Pennsylvania State University, College of IST</i> <i>Mary Beth Rosson, The Pennsylvania State University, College of IST</i> <i>Joslenne Pena, The Pennsylvania State University, College of IST</i> <i>Dana Cinque, The Pennsylvania State University, College of IST</i> <i>Ana Segura, University of Houston</i>	
9:50 AM	Computational Bead Design: A Pilot Summer Camp in Computer Aided Design and 3D Printing for Middle School Girls <i>Courtney Starrett, Winthrop University</i> <i>Marguerite Doman, Winthrop University</i> <i>Chlotia Garrison, Winthrop University</i> <i>Merry Sleigh, Winthrop University</i>	
Special Session (room: 3501G)		Sat 9:00 AM - 10:15 AM
Big Data in Computer Science Education Research <i>Orit Hazzan, Technion- Israel Institute of Technology</i> <i>Clifford Shaffer, Virginia Tech</i>		

**Special Session (room: 2505A)****Sat 9:00 AM - 10:15 AM****Scaling High School Computer Science: Exploring Computer Science and Computer Science****Principles***Owen Astrachan, Duke University**Ralph Morelli, Trinity College**Jeff Gray, University of Alabama**Gail Chapman, UCLA***Panel (room: 2505B)****Sat 9:00 AM - 10:15 AM****SPOCs: What, Why, and How***Janet Burge, Wesleyan University**Armando Fox, UC Berkeley**Dan Grossman, University of Washington**Gerald Roth, Vanderbilt University**Joe Warren, Rice University***Panel (room: 3501H)****Sat 9:00 AM - 10:15 AM****Technology We Can't Live Without!***Daniel D. Garcia, UC Berkeley**Eric Allatta, Academy for Software Engineering**Manuel Pérez-Quinones, Virginia Tech**Jeff Solin, Lane Tech College Prep High School***Supporter Session (room: TBA)****Sat 9:00 AM - 10:15 AM****TBA****SATURDAY 10:00 AM - 10:45 AM****Break & Exhibits**

**SATURDAY 10:45 AM - 12:00 PM****Papers: Teaching Practices (room: 2502A)****Sat 10:45 AM - 12:00 PM**

10:45 AM      Insights into Teaching and Learning: Reflections on MOOC Experiences  
*Janet Burge, Wesleyan University*

11:10 AM      What Influences CS Faculty to Adopt Teaching Practices?  
*Lecia Barker, University of Texas at Austin*  
*Gruning Jane, University of Texas at Austin*  
*Christopher Lynnly Hovey, Northeastern University*

11:35 AM      Personalized Attention @ Scale - Talk isn't Cheap, but it's effective  
*Dirk Grunwald, University of Colorado*  
*Elizabeth Boese, University of Colorado*  
*Rhonda Hoenigman, University of Colorado*  
*Andy Saylor, University of Colorado*  
*Judy Stafford, University of Colorado*

**Papers: Focus on K-12: Miscellaneous topics (room: 3501C)****Sat 10:45 AM - 12:00 PM**

10:45 AM      Transferring Skills at Solving Word Problems from Computing to Algebra  
*Emmanuel Schanzer, Harvard Graduate School of Education*  
*Kathi Fisler, WPI Computer Science*  
*Shriram Krishnamurthi, Brown University Computer Science*  
*Matthias Felleisen, Northeastern University College of Computer and Information Science*

11:10 AM      A Practical Guide to Developing and Validating Computer Science Knowledge Assessments with Application to Middle School  
*Philip Buffum, North Carolina State University*  
*Eleni Lobene, North Carolina State University*  
*Megan Frankosky, North Carolina State University*  
*Kristy Boyer, North Carolina State University*  
*Eric Wiebe, North Carolina State University*  
*James Lester, North Carolina State University*

11:35 AM      Reactive Game Engine Programming for STEM Outreach  
*Alan Cleary, Montana State University*  
*Lucas Vandenbergh, Western State Colorado University*  
*John Peterson, Western State Colorado University*



**Papers: Computers & Society (room: 2503A)****Sat 10:45 AM - 12:00 PM**

- 10:45 AM      Building CS Research Capacity in sub-Saharan Africa by Implementing a Doctoral Training Program  
*Mikko Apiola, University of Eastern Finland*  
*Jarkko Suhonen, University of Eastern Finland*  
*Abbi Nangawe, College of Business Education*  
*Erkki Sutinen, University of Eastern Finland*
- 11:10 AM      Engaging Non-Traditional Students in Computer Science through Socially-Inspired Learning and Sustained Mentoring  
*Jennifer Burg, Wake Forest University*  
*Paul Pauca, Wake Forest University*  
*William Turkett, Wake Forest University*  
*Fulp Errin, Wake Forest University*  
*Samuel Cho, Wake Forest University*  
*Santiago Peter, Wake Forest University*  
*Daniel Canas, Wake Forest University*  
*H. Donald Gage, Wake Forest University*
- 11:35 AM      How much impact can be made in a week? Designing Effective International Service Learning Projects for Computing  
*Grace Ngai, Hong Kong Polytechnic University*  
*Stephen C.F. Chan, Hong Kong Polytechnic University*

**Papers: Beyond CS2: Networking/Security (room: 3501D)****Sat 10:45 AM - 12:00 PM**

- 10:45 AM      Lowering the Barrier to Systems-level Networking Projects  
*Joel Sommers, Colgate University*
- 11:10 AM      A Simple Laboratory Environment for Real-World Offensive Security Education  
*Maxim Timchenko, Boston University*  
*David Starobinski, Boston University*
- 11:35 AM      An Educational Networking Framework for Full Layer Implementation and Testing  
*Keunhong Lee, KAIST*  
*Joongi Kim, KAIST*  
*Sue Moon, KAIST*

**Special Session (room: 3501G)****Sat 10:45 AM - 12:00 PM**

- The CS Concept Inventory Quiz Show  
*Nafeesa Dewji, University of British Columbia*  
*Steven Wolfman, University of British Columbia*

**Panel (room: 2505A)****Sat 10:45 AM - 12:00 PM**

Bringing Grades K-5 to the Mainstream of Computer Science Education

*Katie Apone, Code.org**Marina Bers, Tufts University**Karen Brennan, Harvard University**Diana Franklin, UC Santa Barbara**Maya Isreal, University of Illinois at Urbana Champaign**Pat Yongpradit, Code.org***Special Session (room: 3501H)****Sat 10:45 AM - 12:00 PM**

Nifty Assignments

*Nick Parlante, Stanford University**Julie Zelenski, Stanford University***Supporter Session (room: TBA)****Sat 10:45 AM - 12:00 PM**

TBA

**SATURDAY 12:00 PM - 2:00 PM**  
**Luncheon - speaker to be announced****SATURDAY 3:00 PM - 6:00 PM**  
**Workshops**

Workshop #20: Computer Science Principles with EarSketch (room: 3501E)

*Jason Freeman, Georgia Institute of Technology**Brian Magerko, Georgia Institute of Technology*

Workshop #21: Teaching Computing with Processing, the Bridge between High School and College (room: 3501F)

*Aaron Cadle, Arlington ISD**Ira Greenberg, Southern Methodist University**Deepak Kumar, Bryn Mawr College**Darby Thompson, Sidwell Friends School**Ursula Wolz, RiverSound Solutions**Dianna Xu, Bryn Mawr College*

Workshop #22: Supporting new Adopters to Peer Instruction in Computing (room: 2502A)

*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*

Workshop #23: Reviewing NSF Proposals: Learn about Effective Proposal Writing via the Review Process (room: 2502B)

*Paul Tymann, National Science Foundation*

*Michael Erlinger, National Science Foundation*

Workshop #24: Creating Stimulating, Relevant, and Manageable Introductory Computer Science Projects that Utilize Real-Time, Large, Web-Based Datasets (room: 2503A)

*Eli Tilevich, Dept. of Computer Science, Virginia Tech*

*Clifford Shaffer, Dept. of Computer Science, Virginia Tech*

*Austin Cory Bart, Dept. of Computer Science, Virginia Tech*

Workshop #25: Building Code Magnet Labs for Tablets and Other Devices (room: 2503B)

*Barry Kurtz, Appalachian State University*

*Rahman Tashakkori, Appalachian State University*

*Ahmad Esmaili, Stony Brook University*

Workshop #26: Introducing Secure Coding in CS0, CS1, and CS2 (room: 2504A)

*Siddharth Kaza, Towson University*

*Blair Taylor, Towson University*

*Elizabeth Hawthorne, Towson University*

Workshop #27: Puzzle-Based Learning: Introducing Creative Thinking and Problem Solving for Computer Science and Engineering (room: 2505B)

*Raja Sooriamurthi, Carnegie Mellon University*

*Nickolas Falkner, University of Adelaide*

*Ed Meyer, Baldwin Wallace University*

Workshop #28: KELP CS and LaPlaya: A computational thinking curriculum and development environment for 4th - 6th grade (room: 3501C)

*Diana Franklin, UC Santa Barbara*

*Charlotte Hill, UC Santa Barbara*

*Hilary Dwyer, UC Santa Barbara*

Workshop #29: Teaching Privacy: What Every Student Needs to Know (room: 3501D)

*Gerald Friedland, International Computer Science Institute*

*Serge Egelman, International Computer Science Institute*

*Daniel Garcia, UC Berkeley*

Workshop #30: Decoding CS Principles - A Curriculum from Code.org (room: 3501G)

*Baker Franke, Code.org*

*Brook Osborne, Code.org*