



Consortium for Computing Sciences in Colleges

# *Central Plains Regional Conference*

St. Charles Community College

April 5<sup>th</sup> - April 6<sup>th</sup>, 2019



In Cooperation



## Conference Program



## 2019 CCSC Conference Welcome



Rex McKanry, Associate Professor  
and 2019 CCSC – Central Plains  
Conference Chair

2019 ushers in the 25<sup>th</sup> year of the CCSC Central Plains Region conference and I am proud that St. Charles Community College (SCC) has been selected to host. Every year that I have attended the conference I have taken back to my classroom something new and exciting to help teach and energize my students. Whether it is finding a new tool or technology or partnering with one of my peers, the conference has something for everyone.

This year's conference at SCC we will have some exciting events on the schedule, tours of some of our business partners' facilities, specialty tracks for vendors, students and K-12 teachers to focus in on what interests you most. We will also have a Meet and Greet at the OPO Startup in downtown St. Charles, a technology hub for startup companies in the St. Charles area.

All professional papers, panels, tutorials, and nifty assignments go through a double-blind review process. This year we were able to accept 53%. We would like to extend our appreciation to the authors who submitted their work for our consideration and to the highly talented group of reviewers that exerted a tremendous amount of time and effort to review all the submissions. Our conference would not be as remarkable without our National Partners, Sponsors, and Vendors for their continued support of our organizations. Thank you all!

Finally, this conference would be nowhere near as successful without the dedication and support from the volunteers and committee members that help support the CCSC efforts throughout the year to bring you this wonderful event. Without their tireless work and dedication, I would not have been able to plan and build a conference this great. This includes the support from past conference chairs. Thank you all for letting me be a pest throughout the year of planning.

I hope you have a wonderful time at the CCSC-2019 conference, gain some enlightenment and take back something new to enrich your classroom and research.

Best Regards,  
Rex McKanry  
St. Charles Community College

### Friday Opening Keynote Speaker Bio:



Randy Schilling, Founder  
BoardPaq and OPO Startups

President and Chief Executive Officer of BoardPaq, an affordable, easy-to-use, secure Board of Directors iPad and web (PC/Mac) application for planning, running and managing paperless Board meetings.

Randy is the former Chief Executive Officer and Founder of Quilogy, a Microsoft nationally managed system integrator. Schilling founded Quilogy in 1992 under the name Solutech, Inc. Under Schilling's leadership, the company grew to over 500 employees and 16 offices.

Randy is a long-time resident of St. Charles, Missouri. He is active in a wide range of business and civic organizations, including: CASS Information Systems, Chairperson of Education Committee of St. Charles County Partners for Progress, Advisory Council Member, Arch Grants, and founder of OPO Statups.

### Dinner Keynote Speaker Bio:



Sherea Dunlap, Executive Director  
at Create a Loop

Sherea Dunlap began teaching in Baltimore City after earning a Master's Degree from University of Maryland, College Park. On moving to St. Louis, Sherea began a six-year career teaching upper elementary and middle school at St. Louis independent schools: Community School and City Academy.

At Create a Loop, Sherea's focus is on bringing AP Computer Science and Washington University of St. Louis college-level course material to Create a LOOP's elementary, middle and high school curriculum.

### Saturday Opening Keynote Speaker Bio:



Jo Otey, Healthcare Success  
Manager / Innovator /  
Entrepreneur / Tech Junkie / Food  
Sommelier / Roller Coaster  
Fanatic

A technology guy who puts people before machines, specializing in solving problems of digital transformation within healthcare, nutrition, startups, and non-profits. Working at Microsoft, I have access to numerous resources and professional experts to solve complex problems. I believe when you have a growth mindset anything is possible.

# Friday, April 5<sup>th</sup>, 2019

9 a.m. - Noon	<b>Pre-Conference Workshop 1:</b> <b>Mobile Web App Development for All!</b> David Hayes, University of Illinois - Chicago Location: TECH 214	<b>Pre-Conference Workshop 2:</b> <b>Location: Danforth Center</b> 975 North Warson Road St. Louis, Missouri 63132 <span style="color: red;">Tour Starts at 9:00 AM (30 MAX)</span>		
1:00 - 2:00 p.m.	<b>Keynote: "STEM and Future Workforce"</b> Randy Schilling, Founder BoardPaq and OPO Startups Location: SSB Auditorium			
2:00 – 5:00 p.m.	<b>Vendor Fair</b> Location: SSB: First Floor Student Lounge		<b>Technology Job Fair</b> Location: CC: Rotunda\Atrium	
	Location: SSB 1201	Location: SSB 1202	Location: SSB 1203	Location: SSB 1204
2:15 - 3:15 p.m.	<b>Papers</b> Moderator: Rick Barker <b>Embedding Security Concepts in Introductory Programming Courses</b> <i>Ajay Bandi, Aziz Fellah, &amp; Harish Bondalapati/Northwest Missouri State University</i> <b>When the Play is "The Thing" and Not the Software: Student Experiences Engineering Software for a Theatre Production</b> <i>Brian Kokensparger/Creighton University</i> <b>Initial Evaluation of Accessibility and Design Awareness with 3-D Immersive Environments</b> <i>Nicholas Rosasco, Alex Kaariainen, Jeffrey Will/Valparaiso University</i>	<b>Tutorial/Panel/Workshop</b> Moderator: Jennifer McKanry <b>SASS Syntactically Awesome Style Sheets</b> <i>Jane O'Donnell/St. Charles Community College</i>	<b>Nifty Assignments</b> Moderator: TBD <b>Building a Memory Reading Circuit</b> <i>Bin Peng/Park University</i> <b>Streaming TV Service</b> <i>Kendall Bingham/University of Missouri - KC</i> <b>Easy Handwriting Recognition</b> <i>Eric D. Manley, Timothy Urness/Drake University</i>	<b>Vendor Presentation</b> Moderator: TBD <b>Encouraging Student Confidence Through Engagement: The Power of Interactive Learning in STEM</b> <i>Stephanie Swanson/zyBooks</i>
3:15 – 3:30 p.m.	<b>Common Track – Break (SSB Auditorium)</b>			
3:30 – 4:30 p.m.	<b>Papers</b> Moderator: Mahmoud Yousef <b>Teaching AP-CSP in a College Setting Using an AP-CSP Endorsed Curriculum: An Experience Report</b> <i>Tim DeClue/Southwest Baptist University</i> <b>Revising an Accredited Computer Science Program at a Public Regional University to Meet New ABET Guidelines</b> <i>Xiaodong Yue, Belinda Copus, Hyungbae Park, Mahmoud Yousef &amp; Songlin Tian/University of Central Missouri</i>	<b>Tutorial/Panel/Workshop</b> Moderator: TBD <b>Challenges of Mentoring Graduate Directed Projects: Profession-Based Learning Through Collaboration</b> <i>Ajay Bandi, Nathan Eloe, Aziz Fellah/Northwest Missouri State University</i>	<b>Vendor Presentation</b> Moderator: TBD <b>Introduction to Serverless Computing, with an Emphasis on Cloud functions</b> <i>Laurie White/Google</i>	<b>Lightning Talks</b> Moderator: Kendall Bingham
4:30 – 5:30 p.m.	<b>Tutorial/Panel/Workshop</b> Moderator: Karen Kannenberg <b>How Learning Works: Applying Cognitive Psychology Theory to Computer Science Course Structure</b> <i>Jennifer McKanry, Gretchen Haskell, and Dasha Kochuk/University of Missouri-St. Louis</i>	<b>Tutorial/Panel/Workshop</b> Moderator: TBD <b>Introduction to Cloud-Based Machine Learning</b> <i>Saty Raghavachary, Jeffrey Miller/University of Southern California</i>	<b>Vendor Presentation</b> Moderator: TBD <b>NSF - Funding Your Research</b> Michael Erlinger/Harvey Mudd College	<b>Vendor Presentation</b> Moderator: TBD
6:00 - 7:00 p.m.	<b>Meet and Greet</b> – OPO Startups - 119 S Main St, St Charles, MO 63301			
7:15 – 9:30 p.m.	<b>Banquet</b> – Quintessential Dining, 149 N Main St, St Charles, MO 63301, (636) 443-2211 Keynote: <b>"Debugging Diversity: Creating Opportunities through Computer Science Education"</b> Sherea Dunlap, Executive Director at Create a Loop			

SSB – Social Science Building

Tech – Technology Building

CC – College Center

# Saturday, April 6th, 2019

Spouse's Track				
Adventure in Historic Main St., St. Charles, MO ( <a href="https://www.discoverstcharles.com/">https://www.discoverstcharles.com/</a> )				
9:00 – Noon (14 MAX)				
9:30 – 12:45 a.m.	Vendor Fair Location: SSB: First Floor Student Lounge		Technology Job Fair Location: CC: Gymnasium	
8:30-9:30 a.m.	<b>Keynote: Building Your Professional Brand</b> Jo Otey – Microsoft, LinkedIn, Online Professionalism Location: SSB Auditorium			
9:30-10:00 a.m.	<b>Poster Set-up</b> Location: SSB 1102			
	Location: SSB 1201	Location: SSB 1202	Location: SSB 1203	Location: SSB 1102
10:00-11:00 a.m.	<b>Papers</b> Moderator: Rick Barker <b>Introducing Fundamental Computer Science Concepts Through Games Design</b> <i>Fei Cao, Dabin Ding, &amp; Michelle Zhu/University of Central Missouri</i> <b>Capstone as Consulting, Professional Practice with RFPs, JIRA, and Contract Management</b> <i>Denise Case, Charles Hoot/Northwest Missouri State University</i>	<b>Tutorial/Panel/Workshop</b> Moderator: TBD <b>CyberReady StL Curriculum: Tutorial, Best Practices, and Results From Initial Deployment</b> <i>Rebecca Dohrman, Paul Gross, Steve Coxon, Dustin Nadler, Chris Sellers, Christi DeMuri, &amp; Robyn Ray/Maryville University</i>	<b>Nifty Assignments</b> Moderator: TBD <b>An IoT Assignment Sequence</b> <i>Bill Siever/Washington University in St. Louis</i> <b>Applying Asymmetric Encryption Algorithm Using Kryptos</b> <i>Imad Al Saeed/Saint Xavier University</i> <b>Geospatial Data Handling</b> <i>Saty Raghavachary / University of Southern California</i>	<b>Student Poster Judging</b> Moderator: Joseph Kendall-Morwick
11:00-11:45 a.m.	<b>Break - Poster Viewing and Refreshments</b> Location: SSB Auditorium\ SSB 1102			
11:45-12:45 p.m.	<b>Papers</b> Moderator: Rick Barker <b>Getting Ahead With a Hat: Reengineering a Computer Organization Course</b> <i>Michael P. Rogers, Charles Hoot/Northwest Missouri State University</i> <b>The Visible File System - An Application for Teaching File System Internals</b> <i>Bruce Mechtly, Fritz Helbert, Dylan Cox, &amp; Zachary Hastings/Washburn University</i>	<b>Tutorial/Panel/Workshop</b> Moderator: Karen Kannenberg <b>Blended Courses in Computer Science and Information Systems Education: Adapting to Changing Educational Methods and Needs</b> <i>Charles Badami, Denise Case, Nathan Eloie, Aziz Fellah, Doug Hawley, Charles Hoot, &amp; Diana Linville/Northwest Missouri State University</i>	<b>Student Papers</b> Moderator: TBD	<b>Student Poster Viewing</b> Moderator: Joseph Kendall-Morwick
Common Track				
12:45-1:00 p.m.	<b>Student Poster/Paper Award Ceremony</b> Location: SSB Auditorium			
1:00-2:00 p.m.	<b>CCSC Business Meeting and Luncheon</b> Location: SSB Auditorium		<b>Programming Contest Meeting and Lunch</b> Location: SSB 1102	
2:00-3:00 p.m.	<b>CSTA Meeting</b> Location: SSB 1204			
2:00-6:00 p.m.	<b>Student Programming Contest</b> Tech: 112, 114, 201, 203, 206, 214, 216			

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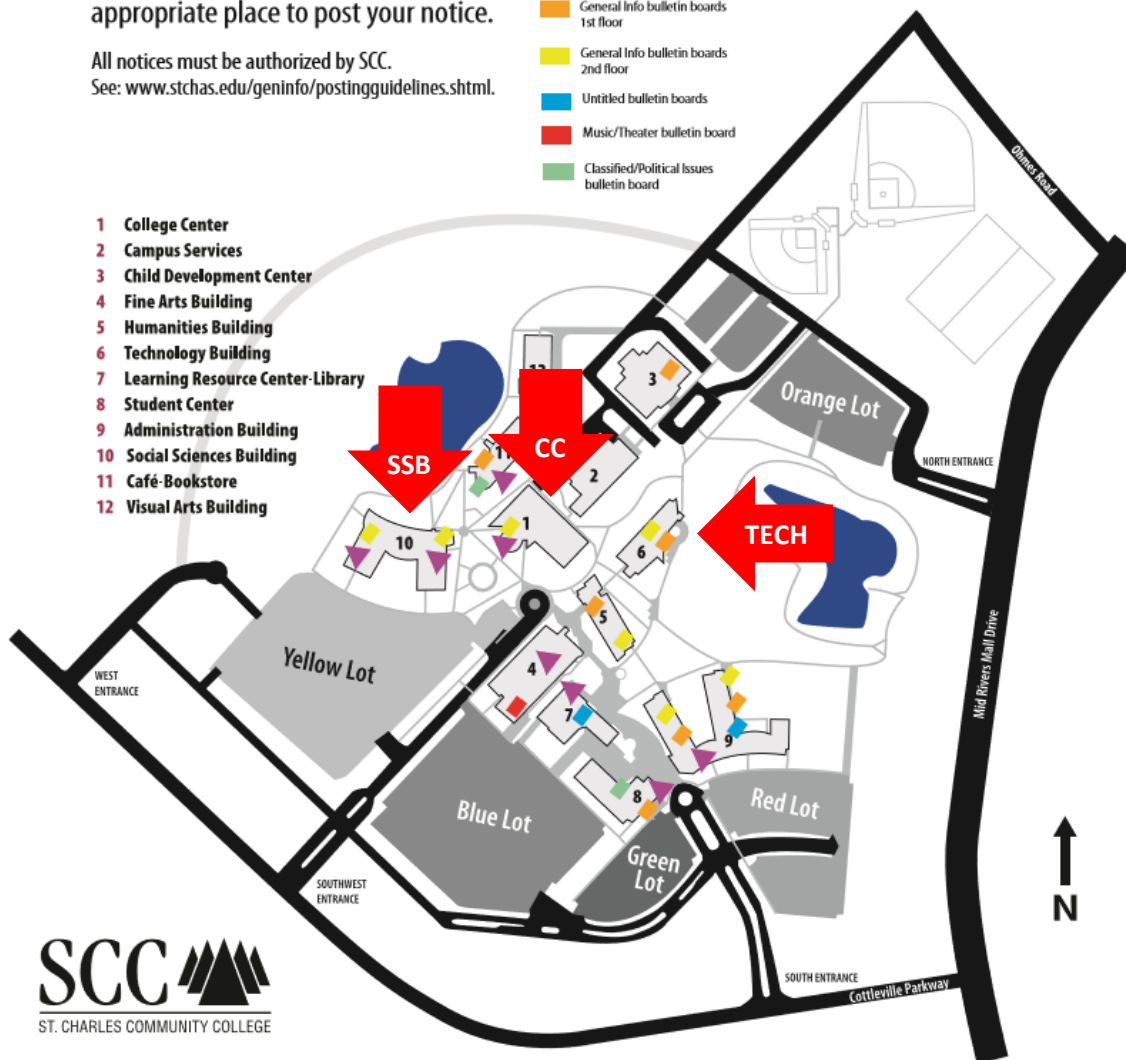
# SCC CAMPUS POSTING AREAS

★ Use the key at right to determine appropriate place to post your notice.

All notices must be authorized by SCC.  
See: [www.stchas.edu/geninfo/postingguidelines.shtml](http://www.stchas.edu/geninfo/postingguidelines.shtml).

- ▲ News & Notes Kiosks
- General Info bulletin boards 1st floor
- General Info bulletin boards 2nd floor
- Untitled bulletin boards
- Music/Theater bulletin board
- Classified/Political Issues bulletin board

- 1 College Center
- 2 Campus Services
- 3 Child Development Center
- 4 Fine Arts Building
- 5 Humanities Building
- 6 Technology Building
- 7 Learning Resource Center-Library
- 8 Student Center
- 9 Administration Building
- 10 Social Sciences Building
- 11 Café-Bookstore
- 12 Visual Arts Building



## 1 (CC) COLLEGE CENTER

1st Floor - 1 kiosk by main entrance, news and notes side  
2nd Floor - 1 General Information board by Room 201

## 3 (CDC) CHILD DEVELOPMENT CENTER

1st Floor - 1 General Information board by main entrance

## 4 (FAB) FINE ARTS BUILDING

1st Floor - 2 kiosks by front entrance, news and notes sides  
1st Floor - 1 Music/Theater Dept. bulletin board by back music hallway

## 5 (HUM) HUMANITIES BUILDING

1st Floor - 1 General Information/Con. Ed. board by entrance  
2nd Floor - 1 General Information board by Room 203  
2nd Floor - 1 General Information board by Room 216

## 6 (TECH) TECHNOLOGY BUILDING

1st Floor - 1 General Information board by Room 102  
2nd Floor - 1 General Information board by Room 202

## 7 (LRC) LEARNING RESOURCE CENTER (LIBRARY)

1st Floor - 1 set of wall strips by Help Desk area  
2nd Floor - none

## 8 (SC) STUDENT CENTER

1st Floor - 1 kiosk by main entrance, news and notes side  
1st Floor - 1 General Info/Classified/Political Issues board by Assessment  
1st Floor - 1 Student Organizations board by Assessment  
1st Floor - 1 Classified Ads board by Assessment  
2nd Floor - none

## 9 (ADM) ADMINISTRATION BUILDING

1st Floor - 1 kiosk by Help Desk, news and notes side  
1st Floor - 4 General Info bulletin boards in the Student Development hallway  
1st Floor - 1 General Info bulletin board by Room 1242  
1st Floor - 3 General Info bulletin boards in the Allied Health hallway  
2nd Floor - 1 General Info bulletin board by Room 2242  
2nd Floor - 1 Gen. Info bulletin board by Bus./Soc. Science./Comm. hallway  
2nd Floor - 1 General Info bulletin board by Room 2442

## 10 (SSB) SOCIAL SCIENCES BUILDING

1st Floor - 1 General Information board by Room 1102  
1st Floor - 1 kiosk by Room 1102, news and notes side  
1st Floor - 1 General Information board by Room 1104  
1st Floor - 1 kiosk by Room 1104, news and notes side

## 11 (CB) CAFE

1st Floor - 1 classified bulletin board by front entrance  
1st Floor - 1 kiosk by main entrance, news and notes

## (CB) BOOKSTORE

1st Floor - 1 General Information bulletin board by front entrance

## 12 (VAB) VISUAL ARTS BUILDING

1st Floor - 1 kiosk by main entrance, news and notes side  
1st Floor - 1 General Information bulletin board by front entrance

# 2019 CCSC-CP Conference Acknowledgements

Rex McKanry, Chair, 2019 Conference Chair St. Charles Community College	Michael Rogers, Regional CCSC Webmaster, Publicity Northwest Missouri State University
Chetan Jaiswal, Co- Chair, 2020 Conference Chair Truman State University	Scott Bell, Conference Papers Co-Chair Northwest Missouri State University
Judy Mullins, Regional CCSC Representative University of Missouri-Kansas City	Ajay Bandi, Conference Papers Co-Chair, Student Papers Northwest Missouri State University
Diana Linville, Regional CCSC Secretary, K-12 Outreach Northwest Missouri State University	David Heise, Submission System Admin Emeritus Lincoln University
Denise Case, Regional CCSC Treasurer Northwest Missouri State University	Mahmoud Yousef, Nifty Assignments University of Central Missouri
Bin (Crystal) Peng, Regional CCSC Editor Park University	Charles Hoot, Student Programming Contest Northwest Missouri State University
Tim DeClue, K-12 Outreach Southwest Baptist University	Kendall Bingham, Lightning Talks University of Missouri-Kansas City
Ron McCleary, Registrar, Membership Chair Panels, Tutorials and Workshops	Joseph Kendall-Morwick, Student Poster Contest Missouri Western University
Scott Bell, 2018 Conference Chair Northwest Missouri State University	

The CCSC-Central Plains 2019 Conference Committee would like to thank the Cerner Corporation for its generous donation to support our student programming contest.



We would also like to thank our national partners:

