Central Plains Regional Conference

St. Charles Community College

April 5\textsuperscript{th} – April 6\textsuperscript{th}, 2019

In Cooperation

Conference Program
2019 CCSC Conference Welcome

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

2019 ushers in the 25th 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 | 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. |
| BoardPaq and OPO Startups | |

**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:**

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

**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. | **Keynote: Building Your Professional Brand**  
Jo Otey – Microsoft, LinkedIn, Online Professionalism  
Location: SSB Auditorium |
| 9:30-10:00 a.m. | **Poster Set-up**  
Location: SSB 1102 |

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<tr>
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| **Papers**  
Moderator: Rick Barker  
**Introducing Fundamental Computer Science Concepts Through Games Design**  
Fei Cao, Dabin Ding, & Michelle Zhu/University of Central Missouri  
**Capstone as Consulting, Professional Practice with RFPs, JIRA, and Contract Management**  
Denise Case, Charles Hoot/Northwest Missouri State University  
**The Visible File System - An Application for Teaching File System Internals**  
Bruce Mechtle, Fritz Helbert, Dylan Cox, & Zachary Hastings/Washburn University | **Tutorial/Panel/Workshop**  
Moderator: TBD  
**CyberReady Stl Curriculum: Tutorial, Best Practices, and Results From Initial Deployment**  
Rebecca Doorman, Paul Gross, Steve Coxon, Dustin Nadler, Chris Sellers, Christi DeMuri, & Robyn Ray/Maryville University | **Nifty Assignments**  
Moderator: TBD  
**An IoT Assignment Sequence**  
Bill Siever/Washington University in St. Louis  
**Applying Asymmetric Encryption Algorithm Using Kryptos**  
Imad Al Saed/Saint Xavier University  
**Geospatial Data Handling**  
Saty Raghavachary / University of Southern California  
**Student Poster Judging**  
Moderator: Joseph Kendall-Morwick |

| 10:00-11:00 a.m. | **Break - Poster Viewing and Refreshments**  
Location: SSB Auditorium/SSB 1102 |

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| **Papers**  
Moderator: Rick Barker  
**Getting Ahead With a Hat: Reengineering a Computer Organization Course**  
Michael P. Rogers, Charles Hoot/Northwest Missouri State University  
**The Visible File System - An Application for Teaching File System Internals**  
Bruce Mechtle, Fritz Helbert, Dylan Cox, & Zachary Hastings/Washburn University | **Tutorial/Panel/Workshop**  
Moderator: Karen Kannenberg  
**Blended Courses in Computer Science and Information Systems Education: Adapting to Changing Educational Methods and Needs**  
Charles Badami, Denise Case, Nathan Eloe, Aziz Fellah, Doug Hawley, Charles Hoot, & Diana Linville/Northwest Missouri State University | **Student Papers**  
Moderator: TBD  
**Student Poster Viewing**  
Moderator: Joseph Kendall-Morwick |

| 11:45-12:45 a.m. | **Common Track** |

| Location: SSB 1102 | **Student Poster/Paper Award Ceremony**  
Location: SSB Auditorium |

| 12:45-1:00 p.m. | **CCSC Business Meeting and Luncheon**  
Location: SSB Auditorium | **Programming Contest Meeting and Lunch**  
Location: SSB 1102 |

| 1:00-2:00 p.m. | **CSTA Meeting**  
Location: SSB 1204 |

| 2:00-3:00 p.m. | **Student Programming Contest**  
Tech: 112, 114, 201, 203, 206, 214, 216 |

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**SSB – Social Science Building**  
**Tech – Technology Building**  
**CC – College Center**
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.
## 2019 CCSC-CP Conference Acknowledgements

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<tr>
<th>Name</th>
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<tr>
<td>Rex McKanry</td>
<td>Chair, 2019 Conference Chair</td>
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<tr>
<td>St. Charles Community College</td>
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<tr>
<td>Michael Rogers</td>
<td>Regional CCSC Webmaster, Publicity</td>
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<td>Missouri State University</td>
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<td>Chetan Jaiswal</td>
<td>Co-Chair, 2020 Conference Chair</td>
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<td>Truman State University</td>
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<td>Scott Bell</td>
<td>Conference Papers Co-Chair</td>
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<td>Judy Mullins</td>
<td>Regional CCSC Representative</td>
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<td>University of Missouri-Kansas City</td>
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<tr>
<td>Ajay Bandi</td>
<td>Conference Papers Co-Chair, Student Papers</td>
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<td>Diana Linville</td>
<td>Regional CCSC Secretary, K-12 Outreach</td>
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<td>David Heise</td>
<td>Submission System Admin Emeritus</td>
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<td>Lincoln University</td>
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<td>Denise Case</td>
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<td>Bin (Crystal) Peng</td>
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<td>Ron McCleary</td>
<td>Registrar, Membership Chair</td>
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<td>Panels, Tutorials and Workshops</td>
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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: