28th Annual CCSC Rocky Mountain Conference Program

Friday, October 11, 2019
Registration
11:00 am - 5:00 pm

Salsbury Science Center atrium/lobby
11:00 am - 5:00 pm

Friday, October 11, 2019
Sessions

1:00 pm - 2:00 pm
Salsbury Science Center room SCI120
Keynote Address - Ryan Swanstrom
What Will You Build?

2:00 pm - 2:15 pm Break
Salsbury Science Center atrium/lobby

2:15 pm - 3:15 pm Tutorial I - Part 1
Salsbury Science Center room SCI207

Serverless Architecture by Example
Laurie White, Google

2:15 pm - 3:15 pm Session I
Salsbury Science Center room SCI202 Papers I:
Moderator: Ed Lindoo

Engaging CS2 Students via a Semester-Long In-Class Game Project
Mike Wallinga, Northwestern College

Evaluating Student Learning Through Problem-Based Learning Using an ERP Simulation Game
Ed Lindoo & Denise Duncan, Regis University

Salsbury Science Center room SCI203 Papers II:
Moderator: Mohammad Amin

Taking Active Learning to an Online Environment
Linda DuHadway, Weber State University
Teaching Relational Database Normalization in an Innovative Way  
Mohammad N. Amin, Gordon W. Romney, Pradip Peter Dey, & Bhaskar Raj Sinha, University of San Diego

3:15 pm - 4:15 pm Session II:

Salsbury Science Center atrium/lobby Break & Student Posters

4:15 pm - 5:15 pm Tutorial I - Part 2  
Salsbury Science Center room SCI207

Serverless Architecture by Example  
Laurie White, Google

4:15 pm - 5:15 pm Session III:

Salsbury Science Center room SCI202 Papers I:  
Moderator: Kimberly Bartholomew

Teaching C# Using Xamarin and Android Tablets  
Daniel McDonald, Kody Crandall, & Kimberly Bartholomew, Utah Valley University

Improving Abstraction through Python Programming in Undergraduate Computer Science and Math Classes  
Jayson Jackson, Cynthia Stenger, James A. Jerkins, & Mark Terwilliger, University of North Alabama

Salsbury Science Center room SCI203 Papers II:  
Moderator: Mohamed Lotfy

Design and Development of an Open Private Educational Cloud Storage Solution for Application Development  
Kevin Pyatt & Mohamed Lotfy, Regis University

Integrating Cloud Computing into the Curriculum  
Rob Sjodin & Mohamed Lotfy, Regis University

5:30 pm - 6:15 pm CCSCRM Board Meeting (open to all)  
Salsbury Science Center room SCI203

6:30 pm - 9:00 pm Dinner at Grille26
**28th Annual CCSC Rocky Mountain Conference Program**

**Saturday, October 12, 2019**

**Sessions**

<table>
<thead>
<tr>
<th>Time</th>
<th>Event Description</th>
</tr>
</thead>
</table>
| 9:00 am - 12:00 pm | Tutorial II  
Salsbury Science Center room SCI203  
*Developing Cloud-based Mobile Apps Using Google Firebase*  
Rob Sjodin & Mohamed Lotfy, Regis University |
| 9:00 am - 12:00 pm | Tutorial III  
Salsbury Science Center room SCI207  
*Introduction to Jetstream - A Research and Education Cloud*  
Sanjana Sudarshan & Jeremy Fischer, Indiana University |
| 9:00 am - 10:00 am | Session IV  
Salsbury Science Center atrium/lobby Student Posters  
Moderator: Michael Leverington |
| 10:00 am - 10:15 am | Break  
Salsbury Science Center atrium/lobby |
| 10:15 am - 11:15 am | Session V  
Salsbury Science Center room SCI202 Papers I  
Moderator: Aziz Fellah |
| 11:15 am - 12:00 pm | Session VI  
Salsbury Science Center atrium/lobby Student Posters and Awards  
Moderator: Michael Leverington |
| 12:00 pm - 1:00 pm | Lunch & Close  
Salsbury Science Center atrium/lobby |
Tutorial I: *Serverless Architecture by Example*
Lauri White, Google Cloud DevRel

A chance to learn about serverless computing hands-on. In this workshop you'll create a serverless distributed programming competition system using a variety of technologies: functions-as-a-service, message queues, platform-as-a-service, storage-as-a-service, NoSQL database, event-driven software, and authentication-as-a-service. The completed system is available on Github for attendees to examine and modify after seeing the talk, if they desire. The system is written in Python using Google Cloud Platform services, but the concepts can be adapted to other languages and cloud providers.

Tutorial II: *How to Develop Mobile Apps Integrating Google Firebase*
Rob Sjodin & Mohamed Lotfy, Regis University

In this hands-on tutorial we will provide a mobile app working example that illustrates the use of cloud computing in the context of Database as a Service (DaaS). In particular, the tutorial example involves the following architectural components:

1. An Android mobile app that provides the front-end user interface
2. A Cloud NoSQL real-time database, hosted in Google Firebase

The mobile app allows the user to manage a list of items (i.e., domain objects) that illustrates the use of Google Firebase in an instructional setting.

Tutorial III: *Introduction to Jetstream - A Research and Education Cloud*
Sanjana Sudarshan & Jeremy Fischer, Indiana University

This tutorial will first give an overview of Jetstream and various aspects of the system. Then we will take attendees through the basics of using Jetstream via the Atmosphere web interface. This will include a guided walk-through of the interface itself, the features provided, the image catalog, launching and using virtual machines on Jetstream, using volume-based storage, and best practices.