CCSC Eastern Conference 2015

Stockton University
October 23 & 24, 2015

Program

National Partners:

Host:

Computer Science and Information Systems
School of Business
Stockton University
Galloway, NJ 08205

Friday, October 23, 2015

Time	Event	Location
12:00 pm – 1:00 pm	**Registration** • Outside Campus Center Theatre during this hour. • Late arrivals: throughout conference outside session rooms.	Campus Center: Theatre
1:00 pm – 1:10 pm	**Welcome** • Co-Chairs: Vincent Cicirello & Aakash Taneja (Stockton University) • Stockton University Dean of Business: Janet Wagner • Keynote Introduction: Helen Wei (Stockton University)	Campus Center: Theatre
1:10 pm – 2:00 pm	**Keynote 1:** *Enhancing the Quality of Medical Terminologies* Dr. James Geller, NJIT, Professor of Computer Science & Associate Dean for Research of College of Computing Sciences	Campus Center: Theatre
2:00 pm – 2:30 pm	**Coffee Break** • Coffee / snacks provided.	Theatre Gallery
2:30 pm – 3:20 pm	**Keynote 2:** *Seeking Toolsmiths: The Role of Computing Sciences in Engineering Innovation and Scientific Discovery* Dr. William Regli, Deputy Director, DARPA Defense Sciences Office • Speaker Bio and Abstract follow the schedule.	Campus Center: Theatre

Concurrent Session 1

Time	Event	Location
3:30 pm – 4:45 pm	**Paper Session (Special Topics)** • Lights, Camera, Action! Video Deliverables For Programming Projects (Christa Chewar, Suzanne J. Matthews) • Teaching with Parallella: A first look in an undergraduate parallel computing course (Suzanne J. Matthews) • Student Visualizations (John Beidler)	F207
3:30 pm – 4:45 pm	**Workshop:** Guiding Students to Understand Key Concepts and Develop Process Skills with POGIL • Clif Kussmaul (Muhlenberg College) • Part 1: Continues after break in Session 2	F205
3:30 pm – 4:45 pm	**Workshop:** Whether to Include Java 8 Features in Introductory CS Courses • James Heliotis (Rochester Institute of Technology) • Part 1: Continues after break in Session 2	F204

Concurrent Session 2

4:55 pm – 6:00 pm	**Tutorial:** Web Applications and HTML5 Jumpstart 　　Michael Olan (Stockton University)	F207
4:55 pm – 6:00 pm	**Workshop:** Guiding Students to Understand Key Concepts and Develop Process Skills with POGIL • Clif Kussmaul (Muhlenberg College) • Part 2: Continued from Session 1	F205
4:55 pm – 6:00 pm	**Workshop:** Whether to Include Java 8 Features in Introductory CS Courses • James Heliotis (Rochester Institute of Technology) • Part 2: Continued from Session 1	F204

Poster Session / Reception / Banquet

6:00 pm – 6:40 pm	**Poster Session & Reception** • List of poster presentations follows the schedule.	Campus Center: Board of Trustees Room
6:40 pm – 8:00 pm	**Banquet** **Speaker:** Tom Calloway (Red Hat) 　　*An Introduction to Open Source Software and Communities* Abstract in proceedings and also follows schedule in program. • Banquet ticket is included in regular registration and vendor registration. • Tickets available for extra charge for student registration, as well as extra tickets for guests via the registration form.	Campus Center: Board of Trustees Room

Saturday, October 24, 2015

Time	Event	Location
7:30 am – 8:30 am	**Registration**	F-Wing Corridor
7:30 am – 8:30 am	**Continental Breakfast**	F-Wing Corridor
8:20 am – 12:50 pm	**Programming Competition**	D-wing Labs: D004, D018, D019, D027

Concurrent Session 3

8:30 am – 9:45 am	**Paper Session (CS1)** • Enhancing CS1 Curriculum with Testing Concepts (Juan Jenny Li, Patricia Morreale) • Sharing the Preliminary Outcomes of Designing a Semi-standardized, Accessible Concept-Based Introduction to Computing Course Curriculum (Arthur Hoskey, Sen Zhang, Howard Reed, Cynthia Marcello) • Analyzing Novice Programmers' Response to Compiler Error Messages (Jonathan P Munson, Elizabeth A Schilling)	F207
8:30 am – 9:45 am	**NSF DUE Information Session** Michael Erlinger, Program Officer, NSF DUE (Div. of Undergraduate Education)	F205
8:30 am – 9:45 am	**Nifty Ideas / Lightning Talks Session** Come share your own nifty ideas with the presenters and other attendees, such as your stimulating assignments or classroom activities.	F204

Break

9:45 am – 10:05 am	**Coffee Break** • Coffee / snacks provided.	F-Wing Corridor

Concurrent Session 4

10:05 am – 11:20 am	**Paper Session (Beyond the Classroom)** • A Small Paper on Smalltalks: Experiences in Running a Student-Faculty Colloquium Series (Brian Heinold, Frederick Portier, Scott Weiss) • iPractice: A Self-Assessment Tool for Students Learning Computer Programming in an Urban Campus (Benito Mendoza, Jose Reyes-Alamo, Huixin Wu, Aparicio Carranza, Laura Zavala) • More Insights on a Peer Tutoring Model for Small Schools with Limited Funding and Resources (Dee A. B. Weikle)	F207
10:05 am – 11:20 am	**Tutorial:** Databases, Everyone! Customizable Animations with Self-Assessment • Don Goelman (Villanova University)	F205
10:05 am – 11:20 am	**Paper Session (Algorithms)** • Assessment of a Project-Based Curriculum for Algorithm Design and NP-Completeness Centered on the Traveling Salesperson Problem (Andrea Lobo, Ganesh Baliga) • The simplex method in an advanced algorithms course (Gerald Shultz) • Algorithm Design Strategies in CS Curricula 2013: Hits and Misses (Anany Levitin)	F204

Concurrent Session 5

11:30 am – 12:45 pm	**Paper Session (Big Data)** • Foundations of a Cross-Disciplinary Pedagogy for Big Data (Joshua Eckroth) • Big Data: Motivating the Development of an Advanced Database Systems Course (Adam Villa) • Using node.js to manage distributed computation of Python programs using inexpensive computing clusters (Robin Snyder)	F207
11:30 am – 12:45 pm	**Tutorial:** Web Applications and HTML5 Jumpstart • Michael Olan (Stockton University)	F205

Lunch and Awards

1:00 pm – 2:30 pm	**Luncheon and Awards** • Luncheon: included in both regular and student registration, as well as for programming teams. • Awards for paper and poster sessions. • Awards for programing competition.	Campus Center Event Room

Steering Committee Meeting

2:30 pm – 3:30 pm	**Steering Committee Meeting** • Planning meeting for 2016. • All who are interested in helping organize next year's conference are invited.	Campus Center: Meeting Room MR1

Poster Presentations (poster viewing and judging during the Friday evening reception)

Student Posters:

Extracting Tweets into Relational Database using Java, Jesus Ruvalcaba (Shepherd University)

Using Bayesian Networks to Predict Election Results, Jalal Khan (Muhlenberg College)

Designing and Creating the Pyramid Model Software Development Methodology, Muath Alangari (Chestnut Hill College)

Accessible Computing with the Myo Armband, Dorvil Gabriel (Haverford College)

Faculty Posters:

Defining the new Database Course in the Age of Big Data, Dr. Bay Arinze (Drexel University), Dr. Gordian Ndubizu (Drexel University), Dr. Cheickna Sylla (New Jersey Institute of Technology)

A Multi-Institutional Study of Self-Perceived Learning via Student Involvement in HFOSS Projects, S. Monisha Pulimood (The College of New Jersey), Gregory W. Hislop (Drexel University), Heidi J. C. Ellis (Western New England University)

An Experiment in Interdisciplinary Teaching to improve Retention – Using Common Problem Sets, Aparna Mahadev, Elena Braynova (Worcester State University)

Pedal: A Pedagogical Model for Teaching Undergraduate Software Engineering and Software Project Courses, Carol Browning, Scott Sigman (Drury University)

Real-Time Student Learning Assessment with Poll Everywhere, Ying Liu (St. John's University)

On the Integration of Big Data Analytics in Computing Curriculum, Weidong Liao (Shepherd University)

Thrust Yourself into Parallel Processing on GPUs, Erik L. Wynters (Bloomsburg University of Pennsylvania)

Experiments in Map Generation Using the Hidden Markov Model, Omar Ali, Steven Rood-Ojalvo, Dr. Santiago Ontañón, Sam Snodgrass (Drexel University)

Keynote 2:

Seeking Toolsmiths: The Role of Computing Sciences in Engineering Innovation and Scientific Discovery

William Regli, Ph.D.

Deputy Director, Defense Sciences Office, DARPA

Abstract

Computing sciences and information technologies are essential to all aspects of modern life. Perhaps nowhere is this more evident than in the central role computing plays in scientific discovery. Thanks to computing's ability to amplify our capabilities to share and process information we have entered a new era of exploration, yet in many ways we have not yet begun the voyage (while yet we might think we have). There are several reasons for this, some technical and many cultural. This talk will present some of the current issues and opportunities for computer science to contribute to an innovation in a variety of disciplines yet underserved. In doing so, we will speculate on some possible futures for discipline of computing itself and the evolving nature of computer science training in higher education.

Speaker Bio

Dr. William Regli joined DARPA as the Deputy Director of the Defense Sciences Office in September 2014. Dr. Regli is a computer scientist with a passion for addressing interdisciplinary and use-inspired problems using knowledge representation, physics-based modeling and other computational techniques. Though his most recent activities have focused on deploying cyber-infrastructure systems to capture and curate engineering and science data, and ensure the long-term sustainability of data. Dr. Regli's current interests include computational tools to exploit the properties of advanced materials, additive manufacturing systems and enabling new paradigms for design and production.

Dr. Regli has published more than 250 technical articles, including those in leading venues for research in computer graphics, artificial intelligence, robotics, wireless networking, tissue engineering, and engineering design and manufacturing. His research has spawned two start-up technology companies (one focused on mobile communications for public safety, the other on information management in edge networks) and resulted in five U.S. Patents.

Dr. Regli holds a Doctor of Philosophy degree in Computer Science from the University of Maryland at College Park and Bachelor of Science degree in Mathematics from Saint Joseph's University. He has been on the faculty of Drexel University since 1997, most recently as Professor of Computer and Information Science and Senior Associate Dean for Research and Scholarly Activities for the Drexel College of Computing and Informatics. Dr. Regli's federal service includes a National Research Council Postdoctoral Fellowship at the National Institute of Standards and Technology (NIST) and an ongoing role as Scientific Adviser to the Defense Programs Office of the U.S. Department of Energy's (DoE) National Nuclear Security Administration (NNSA) in the areas of information technology and advanced manufacturing. He is an elected senior member of the Association of Computing Machinery (ACM), the Institute of Electrical and Electronics Engineers (IEEE) and the Association for the Advancement of Artificial Intelligence (AAAI).

Banquet Speaker:

An Introduction to Open Source Software and Communities

Tom Calloway (Red Hat)

Abstract

This presentation is intended to provide instructors with working knowledge of open source software concepts and communities. In this brief introduction, we will:

- talk about what open source is and why it is gaining traction in the business world;
- explore how instructors (and their students) can benefit by incorporating open source into the curriculum;
- review what differentiates open source from proprietary software; and
- discuss how teaching open source in an open way aligns with many current pedagogical practices, such as continuous assessment and cooperative learning.

We'll start with a quick definition and history of open source as a prelude to talking about the state of open source in business today. Then we'll cover the business drivers that are creating a need for students to learn open source, and what benefits you and your students can expect to see when you incorporate more open source into your classes.
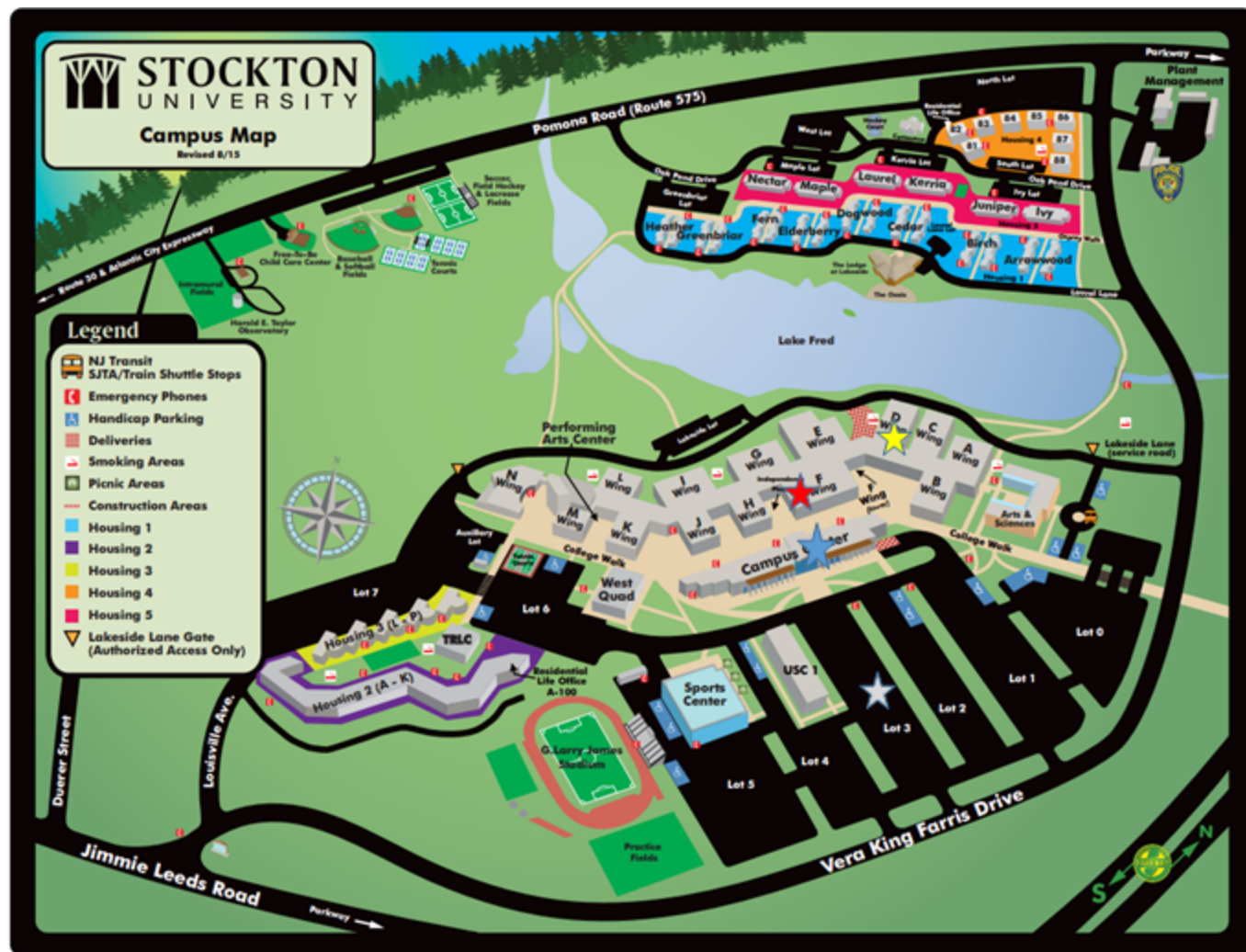
Next, we will look at the key differences between open source and proprietary software, from a legal point of view as well as a philosophical one. We'll talk about how the legal aspects of open source, combined with open source principles, create a fundamentally different, community-centric software development environment.

We'll talk about the benefits -- and potential "gotchas" -- of embedding students in open source projects and how you as an instructor can think about those.

Finally, we'll talk about additional resources for instructors who want to learn more about open source: mailing lists, courses, and online resources will be provided for additional exploration of the topic.

Speaker Bio

Tom Callaway has been working for Red Hat since 2001, and is currently leading an effort to promote open source in higher education. Tom also maintains or co-maintains a large number of software packages in Fedora (350+), and is responsible for managing Fedora's legal issues. Tom frequently represents Fedora and Free Software at conferences around the world, including OSCON, SxSW, SIGCSE, LinuxCon, and others. When not working, Tom enjoys geocaching, ice hockey, gaming, science fiction, traveling, and pinball.

Parking: You may park in any of lots 0 to 7. Preferred lot order relative to conference location: 3, 2, 1, 4, 5, 6, 7, 0.

Campus Center Theatre: Welcome & Keynote

Campus Center Board of Trustees Room: Poster Session, Reception, Banquet

Campus Center Event Room: Luncheon & Awards Ceremony

F-Wing Classrooms (F204, F205, F207): Concurrent Sessions

F-Wing Corridor: Coffee Breaks

D-Wing Computer Labs (D004, D018, D019, D027): Programming Competition