Consortium for Computing Sciences in Colleges

Eastern Region

25th Annual
CCSC Eastern Conference

held at

VILLANOVA UNIVERSITY

Villanova, Pennsylvania

Friday, October 30, 2009
and
Saturday, October 31, 2009

"Treats and Some Tricks in Computer Science Education!!!!!"

A Message from the Chairs

Welcome to CCSCE 2009!

As you can see from this document, our program is blessed with quality papers, important panels, fascinating tutorials, nifty, lightning and vendor sessions, and innovative workshops. The two keynote presenters (Eric Raymond, who promises to live up to his curmudgeonly reputation in our opening session, and Tom Way, whose content at the conference banquet we're not at liberty to divulge, other than a hint that it's consistent with this year's conference theme) will provide educational and provocative presentations. Furthermore, an invited talk by Tiffany Barnes in session 2B will explore the creation and evaluation of educational games for computing. We're also proud to be continuing and expanding CCSC's outreach to the K-12 community.

The location of our conference this year cannot be beat. Villanova University is in the beautiful suburbs of Philadelphia – easy to get to, and lots to see. We hope you get a chance this weekend to enjoy the lovely campus and explore the surrounding area.

We are deeply indebted to the wonderful people who have helped us plan this conference. The previous conference chairs, S. Jane Fritz, Elizabeth Chang and Gary Gillard, were unstintingly supportive. We also appreciate the guidance of the CCSC Board and Regional Steering Committee, notably Liz Adams. And the volunteers on this year's Conference Committee have been most generous with their time and expertise. Thank you.

We're also grateful for our partners, sponsors and vendors. If you get the chance, please thank them for their support of the teaching of computing.

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CCSC – Consortium for Computing Sciences in Colleges
SIGCSE – ACM Special Interest Group on Computer Science Education
UPE - Upsilon Pi Epsilon Honor Society
VU – Villanova University
VU CSC – Villanova University Department of Computing Sciences
VU CLAS – Villanova University College of liberal Arts and Sciences

CCSCE 2009 Vendors

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25th Annual CCSC Eastern Conference

All Events Listed in this Program take place in the Connelly Center on the Villanova Campus
(except the Programming Contest)

Friday Morning, 9:00 AM – 12:00 Noon, Workshops

There are three workshops scheduled at this time. Note that workshops require an additional registration fee. For more information see Workshops below.

Friday Afternoon, 12:00 Noon – 12:45 PM, Lunch

Lunch is "on your own". The Connelly Center, where most of the Conference takes place, includes a coffee shop, an ice cream shop, and a multi-tiered dining facility that serves sandwiches, pizza, salad, and more.

Friday Afternoon, 12:45 PM – 2:00 PM, Welcome / Keynote

Welcome	Conference Chairs: Don Goelman, Villanova University; John Lewis, Virginia Tech
Keynote	Eric Raymond, Author and Troublemaker After the Open-Source Revolution
Location	Cinema, Lower Level

Friday Afternoon, 2:00 PM – 2:45 PM, Break

Break / Vendors	in the Villanova Room, Lower Level
Posters	Poster presentations will be held continuously from 2:15 PM to 4:30 PM in the Villanova Room See below for more information about the posters.

Friday Afternoon, 2:45 PM – 4:00 PM, Concurrent Session 1

Session 1A	The Radnor Room, Lower Level
Panel:	Certification and Standards for Computing Education in Pennsylvania
Panel Chair:	Jean Griffin, University of Pennsylvania
Panel Members:	John P. Dougherty, Haverford College; Tammy R. Pirmann, School District of Springfield Township; Rita Powell, University of Pennsylvania
Session 1B	The St. Davids Room, Lower Level
Tutorial:	Community Empowerment and Service Learning Practices through Computer Science Curricula of a Major Metropolitan University
Presenters:	James Lawler, Jean Coppola, Susan Feather-Gannon, Jonathan Hill, and Pauline Mosley, Pace University
Session 1C	The Bryn Mawr Room, Upper Level
Papers:	Tools
Session Chair:	S. Jane Fritz, St. Joseph's College
Paper 1:	Selecting and Using Virtualization Solutions – Our Experiences With VMWare and VirtualBox Peng Li, East Carolina University
Paper 2:	Using Subversion as an Aid in Evaluating Individuals Working on a Group Coding Project Curt Jones, Bloomsburg University
Paper 3:	Real-Time Collaboration Tools for Digital Ink Steven Lindell, Haverford College

Friday Afternoon, 4:00 PM – 4:30 PM, Break

Break / Vendors in the Villanova Room, Lower Level

Friday Afternoon, 4:30 PM – 5:45 PM, Concurrent Session 2

Session 2A	The Radnor Room, Lower Level
Special Session:	Nifty Ideas
Session Chair:	Mary-Angela Papalaskari, Villanova Univerisity
Nifty 1:	Lazy Exams (Creating Multiple Choice Exams) - Dan Zingaro, University of Toronto
Nifty 2:	Creating an iPhone Game in a Project Course - Monica McGill, Bradley University
Nifty 3:	Hangman, Hanging Together - Daniel Joyce, Villanova University,

Session 2B	The St. Davids Room, Lower Level
Invited:	SIGCSE Invited Presentation: Game2Learn: Creating and Evaluating Educational Games for Computing
Session Chair:	John Lewis, Virginia Tech
Presenter:	Tiffany Barnes, UNCC

Session 2C	The Bryn Mawr Room, Upper Level
Papers:	Contextualization
Session Chair:	John Wright, Juniata College
Paper 1:	Improving Believability of Simulated Characters Jere Miles, Wilkes Community College; Rahman Tashakkori, Appalachian State University
Paper 2:	Beyond “Not-Invented-Here”: Development Environments for a MultiMedia Computation Course Stephen Carl, Sewanee: The University of the South
Paper 3:	eBay, iTunes, and Propositional Logic: Comparing Expressiveness of Different Query Languages Ian Barland, Radford University

Session 2D	The Haverford Room, Upper Level
Vendor Session:	Cloud Computing and Windows Azure
Presenter:	Microsoft Corporation

Friday Afternoon, 5:45 PM – 6:30 PM, Reception

Reception in the President's Lounge, Upper Level

Friday Evening, 6:30 PM – 8:00 PM, Banquet

Banquet in the Villanova Room, Lower Level

Friday Evening, 8:00 PM, Banquet Speaker

Keynote	Thomas Way, Villanova University The magic of Computer Science
Location	Villanova room, Lower Level

Saturday Morning, 8:00 AM – 9:15 AM Breakfast

A light breakfast will be available in the Villanova Room, Lower Level

Saturday 8:00 AM – 1:00 PM Programming Contest

8:00 AM	Orientation in Mendel Science Center G87
9:30 AM	Contest in Various Locations

Saturday Morning, 8:30 AM – 9:45 AM, Concurrent Session 3

Session 3A	The Radnor Room, Lower Level
Panel:	Incorporating Ethics into the Computer Science Curriculum: Multiple Perspectives
Panel Chair:	Frances Bailie, Iona College
Panel Members:	Keitha Murray, Smiljana Petrovic, Iona College; Deborah Whitfield, Slippery Rock University

Session 3B	The St. Davids Room, Lower Level
Papers:	Object Orientation
Session Chair:	April Kontostathis, Ursinus College
Paper 1:	Method Assumptions in Object-Oriented Programming Robert Noonan, College of William and Mary
Paper 2:	Revitalizing CS Hardware Curricula: Object Oriented Hardware Design Ganesh Baliga, John Robinson, Leigh Weiss, Rowan University
Paper 3:	The Essence of Object Orientation for CS0: Concepts without Code Raja Sooriamurthi, Carnegie Mellon University

Session 3C	The Bryn Mawr Room, Upper Level
Papers:	Community
Session Chair:	Daniel Joyce, Villanova University
Paper 1:	Motivating Programmers via an Online Community Michael Kölling, Poul Henriksen, University of Kent; Davin McCall, Deakin University
Paper 2:	Cyber-Politics: Developing an Interdisciplinary Learning Community in an Election Year Michael Ruth, Adrian Ionescu, Wagner College

Saturday Morning, 9:45 AM – 10:15 AM, Break

Break / Vendors in the Villanova Room, Lower Level

Saturday Morning, 10:15 AM – 11:30 AM, Concurrent Session 4

Session 4A The Radnor Room, Lower Level

Papers: Curriculum

Session Chair: Michael Olan, Richard Stockton College

Paper 1: Implementing a Baccalaureate Program in Computer Forensics
Jigang Liu, Metropolitan State University

Paper 2: Making Service Oriented Architecture Relevant using a Multidisciplinary Approach
Thomas Way, Vijay Gehlot, Villanova University

Session 4B The St. Davids Room, Lower Level

Tutorial: Greenfoot - Teaching Java with Games and Simulations

Presenter: Michael Kölling

Session 4C The Bryn Mawr Room, Upper Level

Tutorial: Introducing Multi-core Programming into the Lower-level Curriculum: An Incremental Approach

Presenter: Timothy J. McGuire, Sam Houston State University

Session 4D The Haverford Room, Upper Level

Papers: Robots

Session Chair: Adrian Ionescu, Wagner College

Paper 1: A State Diagram Creation and Code Generation Tool for Robot Programming
Sambit Bhattacharya, Denny Czejdo, Fayetteville State University

Paper 2: Robots in the Classroom … And the Dorm Room
Jennifer Kay, Rowan University

Paper 3: Industrial Robotic Game Playing: An AI Course
Sebastian van Delden, University of South Carolina Upstate

Saturday Morning, 11:30 AM – 12:00 Noon, Break

Break / Vendors in the Villanova Room, Lower Level

Saturday Afternoon, 12:00 Noon – 1:15 PM, Concurrent Session 5

Session 5A The Radnor Room, Lower Level

Papers: Perceptions

Session Chair: Christopher League, Long Island University

Paper 1: International Computing Issues as a Freshman Seminar
Christopher Healy, Furman University

Paper 2: Using Video to Explore Programming Thinking among Undergraduate Students
Carol Wellington, Shippensburg University

Paper 3: Factors Impacting Student Perceptions of Computing and CIS Majors
Jeffrey Stone, David Kitlan, Pennsylvania State University

Session 5B The St. Davids Room, Lower Level

Special Session: Lightning Talks

Session Chair: Deepak Kumar, Bryn Mawr College

Lightning 1: Visualization of Computation - Dave Wonnacott, Haverford College

Lightning 2: Discrete Math Assignments - Tim Highley, LaSalle University

Lightning 3: Polynomiography - Bahman Kalantari, Rutgers, The State University of New Jersey

Lightning 4: Using Magic to Teach Computer Science - Tom Way, Villanova University

Session 5C The Bryn Mawr Room, Upper Level

Papers: Teams

Session Chair: Gerald Kruse, Juniata College

Paper 1: Using Peer Led Team Learning to Assist in Retention in Computer Science Classes
Carolee Stewart-Gardiner, Kean University

Paper 2: Student Evaluation in Monitored Team Projects
Joo Tan, Kutztown University of Pennsylvania

Session 5D The Haverford Room, Upper Level

Tutorial: Introduction to Cryptography

Presenter: Seth D. Bergmann, Rowan University

Saturday Afternoon, 1:30 PM – 2:30 PM, Luncheon

Luncheon and Awards and Conference Conclusion in the Villanova Room, Lower Level

Saturday Afternoon, 2:45 PM – 5:45 PM, Workshops

There are three workshops scheduled at this time. Note that workshops require an additional registration fee. For more information see Workshops below.

CCSCE 2009 Posters

Faculty Posters

Toward a Source Code Comment Mentoring System

Author: Peter DePasquale, the College of New Jersey

Using Virtualization in the Computer Lab to Solve Sticky Problems

Author: William Thomas, Juniata College

Revised Content and Format of CS Associate-Level Curricular Guidelines

Authors: Elizabeth K. Hawthorne, Union County College; Robert D. Campbell, CUNY Graduate Center; Karl J. Klee, Alfred State College; Anita M. Wright, Camden County College

Blogging: A Teaching Technique for the Twenty-First Century

Authors: Barbara Zimmerman, Najib Nadi, Villanova University

PALMS for CS1: Building Problem-Solving through Animated Learning Modules

Authors: Jeffrey A. Stone, Tricia Clark, Pennsylvania State University

Automating the Production of Algorithm Teaching Materials in PowerPoint Format

Authors: Sen Zhang, James Ryder, SUNY College at Oneonta

Informed by Dewey: Integrating Experience into Curriculum

Authors: Donna M. Schaeffer, Marymount University; Patrick C. Olson, National University

Leveraging IT Curriculum to Develop a Specialized Undergraduate Program on Health Information Management

Authors: Alyson Eisenhardt, Michelle (Xiang) Liu, Marymount University

Graduate Student Posters

CPATH: Distributed Expertise – Collaborating with Other Disciplines

Authors: Lillian (Boots) Cassel, Thomas Way, Sridhara Potluri, Villanova University; Kim Pearson, The College of New Jersey; Deborah Tatar, Steve Harrison, Virginia Tech

Computing Ontology

Authors: Lillian (Boots) Cassel, Siva Kumar Inguva, Vishwa Kishore Mannem, Villanova University

Ensemble: Federated Search

Authors: Lillian (Boots) Cassel, Bharath Nadella, Villanova University

Undergraduate Student Posters

A Multithreaded Satisfiability Solver with Load Balancing

Author: Bethany R. Branco, Rowan University

READY: Routing Based on Early Aggregation and Dynamic Paths for Wireless Sensor Networks

Authors: Tabatha Simpson and Jaime Mickelson, Arcadia University

OPNET Implementation of the GeoAODV Routing Protocol

Authors: Hristo Asenov, Andrew Fabian, Rowan University

Understanding LADAR Images for Autonomous Navigation

Authors: Copeland Myrie, Sarah Gilliland, Montclair State University

Reverse Engineering the Music Genome: Automatically Annotating Music with Tags

Author: Derek Tingle, Swarthmore College

Seismology Software Meeting the Needs of Educators

Authors: Jim Drago, Jason Ginther, Phil Viglione, Erik Wicklund, Moravian College

Nswap as an Adaptable and Fast Replacement Swap System

Author: Doug Woos, Swarthmore College

Tessellation of Arbitrary Polygons by Maximizing Area of Component Polygons

Author: Eric Squires, SUNY Geneseo

Speeding Up Computation with a Filesystem of Network RAM

Author: Colin Schimmelfing, Swarthmore College

Humanoid Walking Algorithm Abstraction

Author: Ashley Gavin, Bryn Mawr College

Performance Testing for Web Applications

Author: Daniel Jackowitz, University of Scranton

CCSCE 2009 Workshops

Workshops are intended to provide an in-depth review of a topic of interest, designed to be immediately useful in the classroom. We are offering three workshops on Friday morning, immediately before the conference, and three workshops on Saturday afternoon, immediately after the conference. Workshop attendance requires payment of a nominal fee: $6 for early registration (by 9/30), $8 for regular registration, and $10 for on-site registration.

Friday Morning Workshops: 9:00 AM to 12:00 Noon

Workshop 1: Computer Science Unplugged

Dr. Thomas Cortina, Carnegie Mellon University

The Radnor Room, Lower Level

Computer Science Unplugged is a book containing a set of fun activities that teachers from K-12 (and beyond) can use to illustrate computer science principles without using a computer. This workshop will allow participants to learn how to run a number of the activities with additional discussion on variations that can be used and issues to be aware of when these are presented to students. Audience participation will be a major focus of this workshop. After a number of activities are demonstrated and discussed, participants will work together to create a new activity suitable for the Unplugged theme.

Workshop 6: Teaching a Female Friendly RPRCC (Real Projects for Real Clients Course) Introduction to Software Development at the Middle School, High School or Freshman College Level

David Klappholz, Stevens Institute of Technology

The St. Davids Room, Lower Level

Middle/high-school teacher attendees will learn, hands-on, how to teach a Real Projects for Real Clients Course (RPRCC) in which students work in teams to perform the interpersonal-interaction-intensive activities involved in doing the pre-programming work of designing/prototyping software to provide services to or solve problems for socially relevant clients. They will also learn how to recruit project clients, how to manage clients' expectations, and how to have the software implemented in later courses at their institutions, or by college-level teams involved in the RPRCC Initiative. For more information about the attractiveness of RPRCCs to girls and young women, see http://sites.google.com

Workshop 2: Puzzle-Based Learning

Raja Sooriamurthi, Carnegie Mellon University; Nickolas Falkner, Zbigniew Michalewicz, University of Adelaide

The Bryn Mawr Room, Upper Level

Puzzle-based learning (PBL) is a new and emerging model of teaching critical thinking and problem solving. In this interactive workshop we will examine a range of puzzles, brainteasers, and games. What general problem solving strategies can we learn from the way we solve these examples? A learning goal of PBL is to distill domain independent transferable heuristics for tackling problems. In the past year we have created and taught new courses on PBL in three

countries under different academic settings. In this hands-on workshop we will introduce PBL and discuss our goals and experience.

Saturday Afternoon Workshops : 2:45 PM to 5:45 PM

Workshop 5: Turning a 14 Week Non-Major Class into a 7 Week Fast Forward Class

Barbara Zimmerman, Villanova University

The Radnor Room, Lower Level

Challenges are faced when a full semester undergraduate non-CS major course is taught as a 7 week fast forward course. The format was downsized to one weekly 2½ hour night session. Changing from traditional undergraduate students to adult students meant an additional goal of keeping the students interested in the materials after they have worked a full day. What worked or did not and what lessons were drawn are to be discussed. Instructors who teach or will teach adults will gain from attending this workshop. Together we will explore the challenges and solutions of condensing a course and teaching the adult learner.

Workshop 4: The Animated Database Courseware (ADbC)

Mario Guimaraes and Meg Murray, Kennesaw State University

The St. Davids Room, Lower Level

This workshop demonstrates a set of software animations, called Animated Database Courseware (ADbC), which are designed to support the teaching of database concepts. Areas covered include database design, SQL, transactions and database security. ADbC is freely available from http://adbc.kennesaw.edu. The animations are not tailored to any specific product or textbook nor are they intended to substitute for them. Instead, they provide a means to facilitate student learning resulting in an opportunity to include more depth or breadth to the concepts covered in a database course. The workshop will explore different ways the software may be incorporated into the classroom environment.

Workshop 3: Cooperative Learning for CS1 and Beyond: Making It Work for You

Leland Beck, Alexander Chizhik, San Diego State University

The Bryn Mawr Room, Upper Level

Cooperative learning is a well-known instructional strategy with many significant benefits for students. This workshop will help you make the most effective use of cooperative learning in your courses. We will focus on course planning, classroom management, and other concerns brought up by participants, combining a theoretical framework with actual experiences from the classroom. The cooperative learning principles and workshop activities will be applicable throughout the curriculum. Workshop participants will also receive a complete set of class-tested cooperative learning activities that have raised test scores in CS1 by 25% at our institution. No prior experience with cooperative learning is necessary.

CCSC Eastern Conference Committee

Co-Chairs
Don Goelman, Villanova University
John Lewis, Virginia Tech

Registration
Vijay Gehlot, Villanova University

Local Arrangements
Tom Way, Villanova University
Paula Matuszek, Matuszek Consulting

Papers
Pete DePasquale, The College of NJ
Amruth Kumar, Ramapo College

Panels, Workshops, and Tutorials
Joe Chase, Radford University
Ian Barland, Radford University

Nifty Ideas and Lightning Talks
Leigh Ann Sudol, CMU

Student and Faculty Posters
Dave Hovemeyer, York College of PA

Undergraduate Programming Contest
Thomas Cortina, CMU
Najib Nadi, Villanova University
Sara Miner More, McDaniel College

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JD Dougherty, Haverford College

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CCSC Eastern 2010 Conference

October 2010
Juniata College, Huntingdon, PA
Co-Chairs
Jerry Kruse, Juniata College
John Wright, Juniata College