CCSCNE 2017 Chair’s Welcome

Welcome to Albany, New York, and the College of Saint Rose, for the Twenty Second Annual Consortium for Computing Sciences in Colleges Northeast Region Conference.

Our program features two distinguished invited speakers, Pat Yongpradit of code.org, and Anthony Sabatelli of Dilworth IP. In addition, we have a broad range of topics covered by paper presentations, lightning talks, workshops, panels, tutorials, and faculty and student research posters. On Friday morning, we are hosting the traditional programming contest. On Friday afternoon, we have expanded our student-focused sessions. In addition to the career fair, there is also a student “unconference” and a session where programming contest participants and organizers can discuss the problems. Also on Friday, we have a series of sessions with a K-12 focus.

We are fortunate to have worked with an outstanding conference committee and dedicated board. The success of this conference is the result of the hard work of those groups, plus the reviewers, session chairs, and countless other volunteers. The conference continues to be selective; we accepted 15 of 33 papers for an acceptance rate just over 45%. This ensures the high-quality program that everyone expects.

We are pleased to be hosting this year’s conference at The College of Saint Rose, on this beautiful urban campus in Albany’s vibrant Pine Hills neighborhood. Saint Rose, which is quickly approaching its centennial celebration in 2020, enrolls 2,600 undergraduates and 1,600 graduate students.

We hope you find the conference informative and engaging. We also look forward to seeing you next year at the The University of New Hampshire at Manchester in Manchester, New Hampshire.

John Avitabile                James D. Teresco
Conference Co-chair           Conference Co-chair
The College of Saint Rose     Siena College
CCSCNE 2017 Committee

Conference Chair, Jim Teresco, Siena College
Conference Chair, John Avitabile, The College of Saint Rose
Program Chair, Ed Harcourt, St. Lawrence University
Papers Chair, Aaron Cass, Union College
Papers Chair, Ali Erkan, Ithaca College
Panels Chair, Yana Kortsarts, Widener University
Panels Chair, Susan Imberman, The City University of New York
Lightning Talks Chair, Yana Kortsarts, Widener University
Lightning Talks Chair, Susan Imberman, The City University of New York
Tutorials Chair, Bonnie MacKellar, St. John's University
Tutorials Chair, Ting Liu, Siena College
Workshops Chair, Bonnie MacKellar, St. John's University
Workshops Chair, Ting Liu, Siena College
Faculty Posters Chair, Daniel Rogers, The College at Brockport
Speakers Chair, Ingrid Russell, University of Hartford
Speakers Chair, Mike Gousie, Wheaton College
Student Unconference Chair, Ryan Murphy, Worcester State University
Student Unconference Chair, Karl Wurst, Worcester State University
Encore Chair, Darren Lim, Siena College
Undergraduate Posters Chair, Sandeep Mitra, The College at Brockport
Undergraduate Posters Chair, Alice Fischer, University of New Haven
Undergraduate Posters Chair, Judy O'Rourke, The College of Saint Rose
Undergraduate Posters Chair, Aparna Madhav, Worcester State University
Registration Chair, Mark Hoffman, Quinnipiac University
Registration Chair, Stefan Christov, Quinnipiac University
Programming Contest Chair, Frank Ford, Providence College
Programming Contest Chair, Mark Gilder, The College of Saint Rose
Programming Contest Chair, Del Hart, SUNY Plattsburgh
Career Fair Coordinator, Ian MacDonald, The College of Saint Rose
Career Fair Coordinator, Kimberly Gero, The College of Saint Rose
Career Fair Coordinator, Paul Olsen, The College of Saint Rose
Vendors Chair, Kevin McCullen, SUNY Plattsburgh
K-12 Coordinator, Pauline White, Siena College
Program - CCSCNE 2017
College of Saint Rose, Albany, NY

Friday, April 7

Registration (7:45 AM - 4:00 PM)  
Events and Athletic Center Atrium

Programming Contest (7:45 AM - 12:30 PM)

7:45AM  Continental Breakfast  
     Touhey Forum, Lally Hall
8:40AM  Pre-contest Instructions  
     Touhey Forum, Lally Hall
9:00AM  Contest  
     Lally 048, Lally 051, Albertus 111, Albertus 112
12:00PM  Lunch  
     Touhey Forum, Lally Hall

Pre-conference Workshops  (9:00AM - 12:00 PM)

Workshop 1  
Albertus 401
Teaching a Computer to Sing: A Workshop on Combining Computing and Music
Jesse Heines, UMass Lowell
Daniel Walzer, UMass Lowell
Rachel Crawford, Bartlett Community Partnership School

Workshop 2  
Albertus 402
Bringing Computational Thinking to the Digital Humanities: Introducing Students to Explorations of Digitized Texts
Mark LeBlanc, Wheaton College (Massachusetts)
Michael Drout, Wheaton College (Massachusetts)

Workshop 3  
Albertus 406
Counting With Code
Saad Mneimneh, Hunter College, City University of New York

K-12 Special Sessions  (9:00AM - 12:00 PM)  
Albertus 301

Welcome Address  (1:00PM - 1:15PM)  
Events and Athletic Center Gymnasium
Richard J. Thompson, Jr., Ph.D., Dean of Mathematics and Sciences
Preliminary Program

Plenary (1:15 PM - 2:15 PM)  
Events and Athletic Center Gymnasium

The New Wave of Computer Science Students  
Pat Yongpradit, Chief Academic Officer for Code.org

Break (2:15 - 2:30)  
Events and Athletic Center Atrium

Career Fair (2:30-5:00)  
Carondelet Symposium, Lally Third Floor

Concurrent Session 1 (2:30 - 3:45)

Session 1A (Papers/Lightning Talks) Curricular Issues  
Albertus 216

An Extended Series of Assignments in CS2 Involving a Text Adventure Game  
Clif Kussmaul, Muhlenberg College

How Do Faculty Partner While Teaching Interdisciplinary CS+X Courses: Models And Experiences  
Darakshan Mir, Bucknell University  
Sumita Mishra, Rochester Institute of Technology  
Lori Pollock, University of Delaware  
Paul Ruvolo, Olin College of Engineering  
Sam Engen, Bucknell University

Lightning Talk: On Designing of a Modern Intro to Web Development Course for Non-Majors  
Karen Jin, University of New Hampshire

Lightning Talk: A Web Browser Application For Modeling Dynamic Data Structures  
Robert Ravenscroft, Rhode Island College

Lightning Talk: Growing Programs: An Agile Alternative To Stepwise Refinement  
John Lasseter, Hobart and William Smith Colleges

Session 1B (Papers) Security  
Albertus 210

Open source security assessment as a class project  
Steven Crain, SUNY Plattsburgh

Injecting and assessing cybersecurity topics within a computer science program
Preliminary Program

Aparna Das, Le Moyne College
Davis Voorhees, Le Moyne College
Cynthia Choi, Le Moyne College

Session 1C (Tutorial)
Science Center 369
PollEverywhere: a Web 2.0 tool to Promote Student Student Engagement in Classrooms
Ying Liu, St. John's University

Break (3:45 - 4:15)
Events and Athletic Center Atrium

Concurrent Session 2 (4:15 - 5:30)

Session 2A (Papers) Introductory programming and underrepresented groups
Science Center 369
Program2Play: Enticing Underrepresented Groups to Program through Game play
Evelyn Stiller, Plymouth State University
Summer Learning Experience For Girls In Grades 7-9 Boosts Confidence And Interest In Computing Careers
Mihaela Sabin, University of New Hampshire
Rosabel Deloge, University of New Hampshire
Adrienne Smith, Cynosure Consulting
Wendy DuBow, University of Colorado

Empowering Middle School Students To Create Data-Enabled Social Apps
Lijun Ni, University of Massachusetts Lowell
Farzeen Harunani, University of Massachusetts Lowell
Fred Martin, University of Massachusetts Lowell
Session 2B (Papers) Math

*Counting With Code*
Saad Mneimneh, Hunter College, City University of New York

*Frogs + Puzzles = Algorithmic Thinking*
Ed Lamagna, University of Rhode Island

Session 2C

TBD

**Poster Session (5:30 PM - 7:00 PM)**

Faculty Posters
Events and Athletic Center Atrium

Student Posters
Events and Athletic Center Gymnasium

Dinner and Banquet (7:00 PM - 9:00 PM)
Events and Athletic Center Gymnasium

Awards Presentation

**Saturday, April 8**

Registration (7:30 AM - 10:00 AM)
Events and Athletic Center Atrium

Continental Breakfast (8:00 AM - 9:00 AM)
Events and Athletic Center Atrium

**Concurrent Session 3 (9:00 AM - 10:15 AM)**

Session 3A (Papers) Software Engineering
Albertus 401

*Discovering Design Patterns In Software Behavior Models*
Sandeep Mitra, The College at Brockport, SUNY
T.M. Rao, The College at Brockport, SUNY
Massively (un)reliable system projects
Steven Crain, SUNY Plattsburgh

So What Are You Here For? Self-Efficacy (and Self-Criticism) As a Route to Coding Maturity
Nicholas Rosasco, Valparaiso University
Michael Glass, Valparaiso University

Session 3B (Tutorial)  Albertus 402
Guiding Students to Understand CS Concepts and Develop Process Skills with POGIL
Clif Kussmaul, Muhlenberg College

Session 3C
TBD

Plenary  (10:15 AM - 11:15 AM)  St. Joseph’s Hall Auditorium
Intellectual Property Basics for Entrepreneurs
Dr. Anthony Sabatelli
Intellectual Property and Patents Attorney at Dilworth IP

Concurrent Session 4 (11:30 AM - 12:45 PM)
Session 4A (Papers) Parallelism and Big Data  Albertus 402
Etudes For Parallel Programming Using The Traveling Salesman
David Valentine, Slippery Rock University
Using Phoenix ++ MapReduce to Introduce Undergraduate Students to Parallel Computing
Suzanne Matthews, United States Military Academy, West Point
Development Of An Introductory Big Data Programming And Concepts Course
Roland DePratti, Eastern Connecticut State University
Garrett Dancik, Eastern Connecticut State University
Russell Sampson, Eastern Connecticut State University
Fred Lucci, Eastern Connecticut State University

Session 4B (Panel)  
*Innovation with Scale: Turning Large Class Sizes into Opportunities for Pedagogical Innovation*
  
Michelle Trim, Neena Thota, Tim Richards, Marc Liberatore, William Verts, Gordon Anderson; University of Massachusetts Amherst

Session 4C  
*TBD*

Membership Meeting (1:15 PM - 1:45 PM)  Albertus 401?

Board Meeting (1:45 PM - 3:45 PM)  Albertus 401?
The Keynote Speakers

Pat Yongpradit, Chief Academic Officer, Code.org

Pat Yongpradit is the Chief Academic Officer for Code.org, a non-profit dedicated to promoting computer science education. He is a national voice on K-12 computer science education. As a high school computer science teacher, he inspired students to create mobile games and apps for social causes, and implemented initiatives to broaden participation in computer science among underrepresented groups, including tripling the number of girls. He has been recognized as a Microsoft Worldwide Innovative Educator, has been featured in the book, “American Teacher: Heroes in the Classroom”, and is certified in biology, physics, math, health, and technology education.

The New Wave of Computer Science Students

Computer science programs around the nation, at both 4-year and 2-year institutions, are seeing a wave of interest. In his keynote talk, Pat Yongpradit will discuss the factors that have led to the uptick in enrollment, describe the types of students reflected in this new wave of interest, describe how college instruction can adapt, and inspire current students to give back to their community. Pat will draw from his K-12 teaching career and experience as the Chief Academic Officer for Code.org, a national nonprofit promoting computer science education for all students.
Anthony D. Sabatelli, PhD, JD

Anthony D. Sabatelli, PhD, JD., is a registered patent attorney and partner at Dilworth IP., an intellectual property law firm in Trumbull, Connecticut. He holds a Ph.D. in organic chemistry from Yale University and a law degree from Salmon P. Chase College of Law. Prior to joining Dilworth, Dr. Sabatelli was vice president and in-house counsel at Rib-X Pharmaceuticals Inc. (now Melinta Therapeutics Inc.) and previously held patent counsel positions at both Merck and Procter & Gamble. He is an adjunct professor at the University of New Haven and an inventor on over a dozen patents. Dr. Sabatelli serves on several boards, including: CURE (Connecticut United for Research Excellence), the Board of Governors of the Yale Alumni Association, is Vice President of the Nicholas & Viola Spinelli Foundation, and is past chair of the Yale Graduate School Alumni Association, You can contact Dr. Sabatelli at asabatelli@dilworthip.com.

Intellectual Property Basics for Entrepreneurs

In this informal, yet informative presentation, Dr. Sabatelli will cover important topics in patent law of importance for faculty and entrepreneurs. These topics include: patentability, freedom-to-practice, subject matter eligibility (particularly for software and biotech developments), and a timeline of key patenting events. The talk will include fun and exemplary examples and will present a potentially dry topic in an engaging manner. Plenty of time will be available for Q&A. Come prepared with your questions.
1. *Injecting Open Source Content Into CS2/Data Structures Courses*
   Stewart Weiss, Hunter College CUNY,
   Joanna Klukowska, Courant Institute of Mathematical Sciences, NYU

2. *Data Science & Computing Across the Curriculum*
   Jeremiah Johnson, University of New Hampshire

3. *Using a Systems Perspective to Teach Introduction to Computer Organization with a Laboratory*
   Jean Herbst, Wellesley College

4. *Preventive Strategies on Cheating Among International Computer Science Students*
   Vladimir Riabov, Rivier University

5. *Exploring Opportunities for Interprofessional Education in a Software Engineering Course*
   Stefan Christov, Quinnipiac University
   Barbara Glynn, Quinnipiac University
   Margaret Gray, Quinnipiac University

6. *Computer Science For All in Western New York*
   Sarbani Banerjee, SUNY Buffalo State
   Neal Mazur, SUNY Buffalo State
   Ramona Santa Maria, SUNY Buffalo State

7. *Teaching Embedded Systems Using The Raspberry Pi and Sense Hat*
   Kevin McCullen, Plattsburgh State University

8. *Building uSafeNH Mobile App: the Evolution of an Undergraduate Project over Multiple Semesters*
   Karen Jin, University of New Hampshire

9. *Issue Related to Interdisciplinary Undergraduate Research*
   William Joel, Western Connecticut State University
10. Teaching a Computer Forensics Course; Challenges and Opportunities
    Yana Kortsarts, Widener University

11. Using a Temporal Weighted Data Model to Maximize Influence in Mobile Messaging Apps for Computer Science Education
    Songmei Yu, Felician University
    Sofya Poger, Felician University
Reviewers

Michalina Hendon, Bloomsburg University
Anurag Dasgupta, Valdosta State University
Kevin McCullen, Plattsburgh State University
Sofya Poger, Felician University
Xiaojun (Jenny) Yuan, CEAS, University at Albany, SUNY
John McManus, Randolph-Macon College
David Levine, Saint Bonaventure University
Mahmood Hossain, Associate Professor of Computer Science
David Shaffer, Westminster College
David Furcy, University of Wisconsin Oshkosh
Bill Nicholson, University of Cincinnati Clermont College
Zachary Kissel, Merrimack College
Mary Courtney, Pace University
Gurmukh Singh, SUNY at Fredonia
Christopher Stuetzle, Merrimack College
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Robert Noonan, College of William and Mary
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barbara bracken, Wilkes University
Daniel Rogers, The College at Brockport
Giovanni Vincenti, University of Baltimore
Seth Freeman, Capital Community College
Joan E. DeBello, St. John's University
Aparna Mahadev, Worcester State University
Christopher League, LIU Brooklyn
Seikyung Jung, Associate Professor
Shoshana Marcus, Kingsborough Community College of CUNY
debbie hughes, Lyndon State College
Jeffrey Stone, Pennsylvania State University
Bradley Kjell, Central Connecticut State University
David Valentine, Slippery Rock University
Jean Griffin, Temple University
Ingrid Russell, University of Hartford
Joseph Abandoh-Sam, Valley View University
Michael Jonas, University of New Hampshire at Manchester
Paul Olsen, The College of Saint Rose
Choong-Soo Lee, St. Lawrence University
Christine Wania, The College at Brockport, SUNY
Alice Fischer, University of New Haven
Susan Imberman, College of Staten Island
Ira Goldstein, Siena College
Delbert Hart, SUNY Plattsburgh
Kevin McCullen, Plattsburgh State University
Judith O'Rourke, The College of Saint Rose
Paul Dickson, Ithaca College
Xiaojun (Jenny) Yuan, University at Albany, SUNY
Alfreda Dudley, Towson University
Meg Fryling, Siena College