

## 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  
Conference Co-chair  
The College of Saint Rose

James D. Teresco  
Conference Co-chair  
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

**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*

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**

**Albertus 216**

*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)**

**Albertus 401**

*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](https://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](mailto: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.

## Faculty Posters

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  
Nadeem Hamid, Berry College  
Lijun Ni, University at Albany, SUNY  
Robert Noonan, College of William and Mary  
barbara bracken, Wilkes University  
Eileen Peluso, Lycoming College  
Jimmy Chen, Salt Lake Community College  
Lucia Dettori, DePaul University  
Patricia Morreale, Kean University  
William Harrison, St John Fisher College  
Jeff Martens, UMBC IS  
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

## Preliminary Program

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