

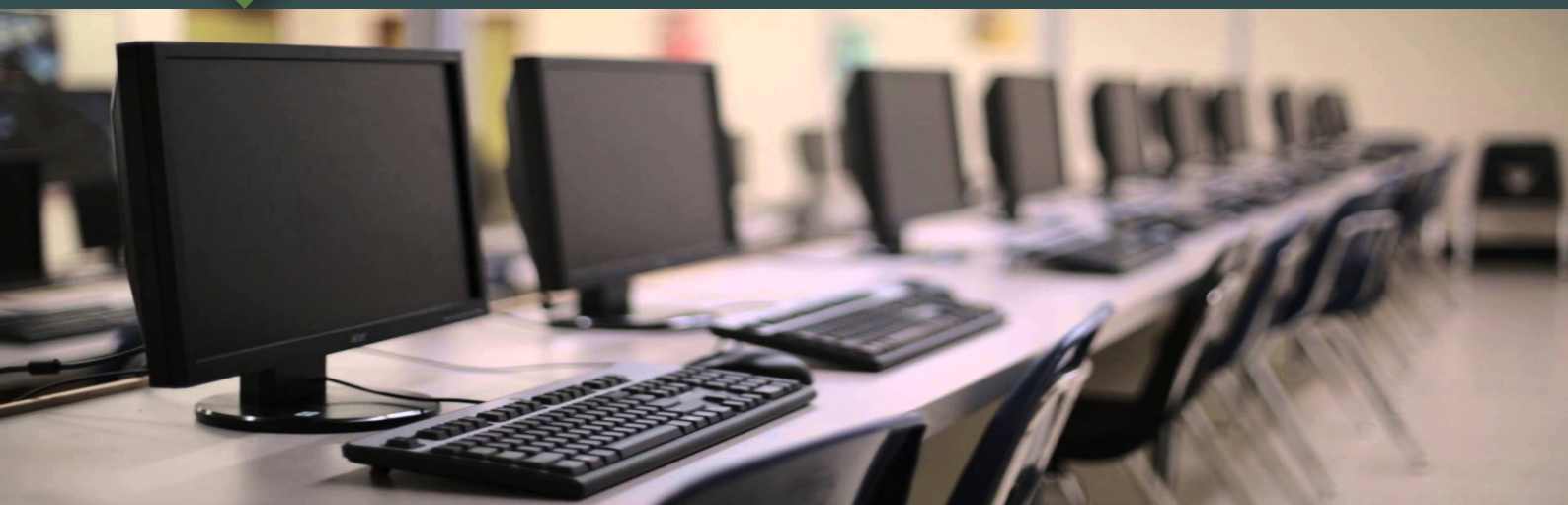


Special Interest Group for Information Technology Education



Association for
Computing Machinery

Advancing Computing as a Science & Profession



SIGITE

ACM Special Interest Group on IT Education

NEWSLETTER

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EDITOR'S NOTE

Welcome back to the *SIGITE Newsletter*. The main event last year was the 17th Annual Conference on Information Technology Education (SIGITE 2016) and the 5th Annual Conference on Research in Information Technology (RIIT 2016), which were both held in Boston on September 28 - October 1. This edition of the newsletter provides information and highlights from that conference as well as some information about the upcoming conference in Rochester.

Diana Wang
George Mason University

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The MAGIC Spell Studios Facility @ RIT

Steve Zilora
SIGITE CHAIR

MESSAGE FROM OUR CHAIR

Dear Members

Memories of SIGITE 2016 in Boston are beginning to fade, but its success should not go unnoticed. This was the second conference in a row where attendance exceeded 150. You'll find a complete listing of all the stats for the conference in this newsletter.

This attendance milestone is important for a number of reasons. First, the obvious result of having so many of us together is the number of opportunities for collaboration. I am sure I am not the only one who, after hearing someone's presentation, approached them about collaborating on future work.

Others also take notice of our attendance. ACM Headquarters regularly reviews the SIGs for viability. Operating successful conferences is one of the key aspects of this. But, in the category of success breeding more success, vendors also pay attention to the number of attendees. These vendors have limited funds for attending (and supporting) the conferences of professional societies. Their decision of which ones to support is based largely on the number of potential customers they will meet. A large attendance means more vendors will be interested in supporting us. That, in turn, means we will have more funds to keep registration fees down (vendor support accounts for about 20% of conference revenue) and provide support for student presenters.

Our 2017 conference in Rochester, NY has the potential to be another record setter. With a theme of "Ena-

bling the Future", I expect we will have submissions supporting IoT, new lab techniques, designing for scale, distance learning, and all the other possibilities that information technology makes possible. A third year in a row of 150+ attendance will help move us into a new category and a new chapter for SIGITE.

I hope to see you there!

Steve Zilora

Rochester Institute of Technology

SIGITE EXECUTIVE

CHAIR



Steve Zilora

Rochester Institute of Technology

VICE CHAIR



Richard Helps

Brigham Young University

SECRETARY



Rick Homkes

Purdue University

PAST CHAIR



Rob Friedman

University of Washington Tacoma



SIGITE/RIIT 2016 **REPORT**



CONFERENCE REPORT

SIGITE/RIIT 2016

September 28 - October 1, Boston, Massachusetts

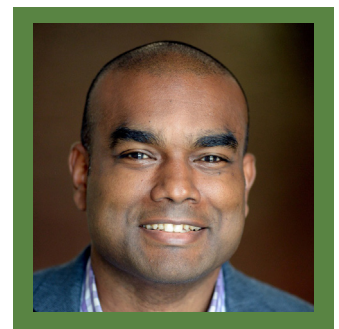


The SIGITE/RIIT 2016 Annual Conference was held in Boston, Massachusetts and hosted by the University of Massachusetts Boston. The program

featured a combination of papers, panels and lightning talks, a poster session and a reception for Community College educators sponsored by the ACM Committee for Computing Education in Community Colleges and the BATEC National Center for Computing and Information Technologies.

The Hilton Back Bay (which is located on the site of Mechanic Arts High School founded in 1893, the first technical preparatory school designed to prepare the students for higher education in the field of engineering) proved to be an excellent choice in terms of conference facilities and proximity within the city as indicated in comments from both attendees and sponsors. Also helping in the success of the event was a cadre of students from Bunker Hill Community College who served as able assistants.

The conference also continued the inclusion of a social excursion in order to help participants get acclimated to the region. This year's Boston Duck Boat tour highlighted historical sites in Boston and Cambridge, navigated down the Charles River, and was thoroughly enjoyed by all who participated.



The keynote speaker for the conference was

Nigel Jacob, Co-founder of the Mayor's Office of New Urban Mechanics, a civic innovation incubator and R&D Lab within Boston's City Hall. His talk, entitled "Using Technology to Build Compassion", focused on his work that centers on making urban life better via innovative, people-oriented applications of technology and design. This has enabled Boston to provide new and impactful technologies that engage, empower, and improve life for its citizens. This ground breaking work earned Nigel a number of awards including being named a Public Official of the Year in 2011 by Governing Magazine, a White House Champion of Change and the Tribeca Disruptive Innovation award for 2012.

Deborah Boisvert

Conference Chair SIGITE/RIIT 2016

ACADEMIC REPORT

SIGITE/RIIT 2016

September 28 - October 1, Boston, Massachusetts

The joint theme for the SIGITE/RIIT

was “Securing the Future”, showcasing innovative approaches in information technology that continue to define and strengthen our field. The call for participation attracted 114 submissions, 67 of which were submitted to SIGITE and 20 to RIIT. The technical areas of networking, mobile devices, security, and development continued to be popular with researchers; as did innovation in content, pedagogy and assessment. SIGITE has 26 papers in its program for an acceptance rate of 39% and RIIT has 9 papers for an acceptance rate of 45%.

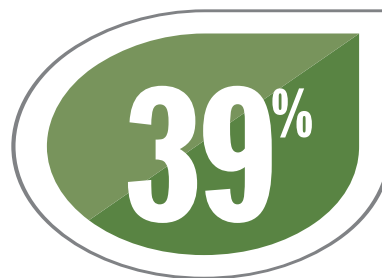
A best paper was chosen from each conference, which are both highlighted on the following pages.

Conferences cannot happen without the help of reviewers, and SIGITE 2016 and RIIT 2016 were no exception. 106 reviewers worked diligently to ensure that every paper had at least three independent reviews and that, where divergences occurred, consensus was reached. Over 420 reviews were ultimately conducted which hopefully resulted in constructive feedback that benefitted the authors regardless of the decision.

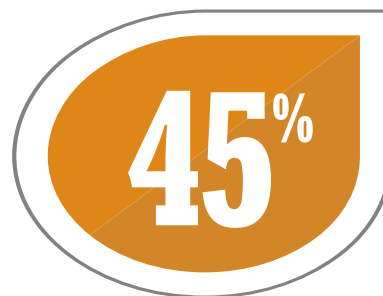
I hope you found the conference compelling and motivating with opportunities to reconnect with colleagues you know, identify new collaborators, and left with a commitment to research and innovation that will result in new submissions to SIGITE or RIIT this upcoming year.

Steve Zilora

Program Chair SIGITE/RIIT 2016



**Acceptance
Rate
at SIGITE 2016**



**Acceptance
Rate
at RIIT 2016**

106 reviewers worked diligently to ensure that every paper had at least three independent reviews.

TOP PAPER

SIGITE 2016

A Capstone Design Project for Teaching Cybersecurity to Non-technical Users

Tanya Estes

United States Military Academy

Johnathan Robison

United States Military Academy

Luke Jenkins

United States Military Academy

James Finocchiaro

United States Military Academy

Justin Dalme

United States Military Academy

Edward Sobiesk

United States Military Academy

Jean Blair

United States Military Academy

Michael Emana

United States Military Academy

<http://doi.acm.org/10.1145/2978192.2978216>

This paper presents a multi-year undergraduate computing capstone project that holistically contributes to the development of cybersecurity knowledge and skills in non-computing high school and college students. We describe the student-built Vulnerable Web Server application, which is a system that packages instructional materials and pre-built virtual machines to provide lessons on cybersecurity to non-technical students. The Vulnerable Web Server learning materials have been piloted at several high schools and are now integrated into multiple security

lessons in an intermediate, general education information technology course at the United States Military Academy. Our paper interweaves a description of the Vulnerable Web Server materials with the senior capstone design process that allowed it to be built by undergraduate information technology and computer science students, resulting in a valuable capstone learning experience. Throughout the paper, a call is made for greater emphasis on educating the non-technical user.

TOP PAPER

RIIT 2016

MP4 Steganography: Analyzing and Detecting TCSteg

Anthony Ramirez

Illinois Institute of Technology

Alfredo Fernandez

Illinois Institute of Technology

<http://doi.acm.org/10.1145/2978178.2978181>

The MP4 files has become to most used video media file available, and will mostly likely remain at the top for some time to come. This makes MP4 files an interesting candidate for steganography. With its size and structure, it offers a challenge to steganography developers. While some attempts have been made to create a truly covert file, few are as successful as Martin Fiedler's TCSteg. TCSteg allows users to hide a TrueCrypt hidden volume in an MP4 file. The structure of the file makes it difficult to identify that a volume exists. In our analysis of TCSteg, we will show how Fielder's code works and how

we may be able to detect the existence of steganography. We will then implement these methods in hope that other steganography analysis can use them to determine if an MP4 file is a carrier file. Finally, we will address the future of MP4 steganography.

EVALUATION REPORT

SIGITE/RIIT 2016

Survey Results

88 attendees submitted surveys

57%

Continuing past practices, conference attendees of SIGITE/RIIT 2016 were asked to complete an evaluation. There were 88 responses to the conference evaluation, for a 57% response rate. A majority of responses (54 or 61%) reported that they attended as an author and/or presenter. An even higher percentage (73%) recognized the opportunity of SIGITE/RIIT as a chance to network with colleagues.

All aspects of the program (papers, panel, workshops, lightning talks, the keynote, and the sponsor interactions) were overwhelmingly rated at or above good, with the work-shops, panels, and keynote address receiving primarily very good or excellent ratings. All aspects of the venue and facilities also received very good ratings indicating support for the logistical execution of the conference. The excursion had very positive feedback (alt-

hough they wish that the weather had cooperated a little better!) and those who attended the dinner reception overwhelming felt that it provided good food and valuable time to connect with others. Most respondents also rated the web site and registration at or above good, and the general organization typically split between very good and excellent.

When asked in an open-ended questions about the positive aspects of SIGITE/RIIT 2016, the people and networking opportunities as well as organization of the conference were mentioned several times. The importance of being able to maintain currency in a diverse set of IT education topics and IT research was also mentioned as a positive. In addition, several participants appreciated the inclusion of community college educators and the opportunity to network with them during a reception. When asked how the confe-

rence could be improved, the most common feedback suggested that the program committee needs to continue to increase the technical depth and diversity of the paper presentations then offer fewer panels. A common complaint was the cost of lodging (although they did like being in Boston) and suggested that more travel assistance, especially to students, be provided when these conditions exist. When asked what would make SIGITE/RIIT 2016 a better conference, respondents suggested that more access to a college campus would be a plus.

The SIGITE/RIIT conference chair appreciates the feedback provided by the attendees of the 2016 conferences and plans to use the comments shared to improve the 2017 conferences.

Deborah Boisvert

Conference Chair SIGITE/RIIT 2016



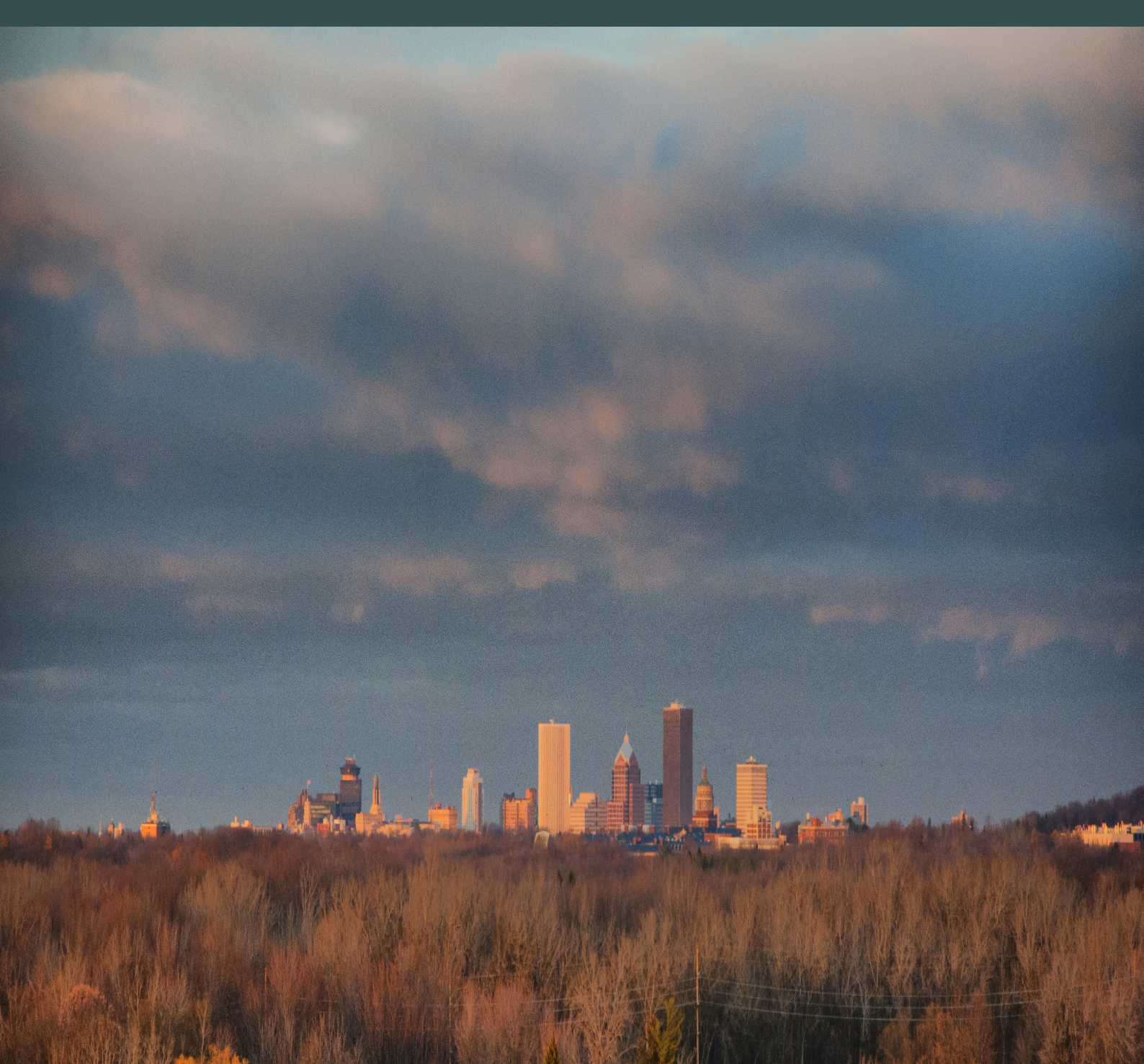
UPCOMING CONFERENCES

SIGCSE 2017 WASHINGTON, USA MARCH 8-11, 2017

SIGCSE 2017 welcomes colleagues from around the world to present demos, lightning talks, papers, panels, posters, special sessions, and workshops, and to discuss computer science education in birds-of-a-feather sessions and informal settings. The SIGCSE Technical Symposium addresses problems common among educators working to develop, implement and/or evaluate computing programs, curricula, and courses. The symposium provides a forum for sharing new ideas for syllabi, laboratories, and other elements of teaching and pedagogy, at all levels of instruction.

CSEDU 2017 PORTO, PORTUGAL APRIL 21-23, 2017

CSEDU 2017, the International Conference on Computer Supported Education, aims at becoming a yearly meeting place for presenting and discussing new educational environments, best practices and case studies on innovative technology-based learning strategies, institutional policies on computer supported education including open and distance education, using computers. In particular, the Web is currently a preferred medium for distance learning and the learning practice in this context is usually referred to as e-learning. CSEDU 2017 is expected to give an overview of the state of the art as well as upcoming trends, and to promote discussion about the pedagogical potential of new learning and educational technologies in the academic and corporate world.



PREVIEW **SIGITE/RIIT 2017**



COMING SOONER THAN YOU THINK SIGITE/RIIT 2017 - Rochester, NY

The joint theme for the SIGITE/RIIT: Enabling the Future

SIGITE/RIIT 2017 will be hosted by **the Rochester Institute of Technology** and take place in Rochester, NY at the Hyatt Regency located in downtown Rochester **October 4 – 7, 2017**.

From its establishment in the early 1800s, Rochester, NY has long been a city that leveraged innovation. The Erie Canal allowed Rochester millers to ship their flour across the state to Albany (earning it the nickname, “Flour City”), flexible photographic film allowed George Eastman to grow his Kodak empire, and today photonics are creating new possibilities. The canal, the flexible film, and photonics are all enablers, but in the Internet of Things, ubiquitous computing, and smart communities, information technology is the enabler. The networking, the massive data stores, and the user experience all depend on information technology. The aim of the conferences is to showcase how information technology enables the future.

The conference web site (<http://sigite2017.sigite.org/>) is now and will be your definitive source for all information about the conference. This year the executive committee is made up of:

Conference Chair—Steve Zilora, RIT (Stephen.Zilora@rit.edu)

Programming Co-Chair—Tom Ayers, Broward College (tayers@broward.edu)

Programming Co-Chair—Dan Bogaard, RIT (Dan.Bogaard@rit.edu)

Sponsorship Co-Chair—Bryan Goda, UW-Tacoma (godab@uw.edu)

Sponsorship Co-Chair—Hollis Greenberg, WIT (greenbergh1@wit.edu)

Feel free to contact any of them for more information!

Steve Zilora

Conference Chair SIGITE/RIIT 2017



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