

# SIGCSE 2004

Norfolk, Virginia

The 35<sup>th</sup> Technical Symposium on  
Computer Science Education

Symposium Program

March 3-7, 2004

<http://www.csc.villanova.edu/sigcse2004>



***SIGCSE 2004***



Sponsored by:  
The Association for Computing Machinery  
Special Interest Group for Computer Science Education

## Welcome to SIGCSE 2004 in Norfolk

We're glad you've joined us! This program provides you a detailed guide to the SIGCSE 2004 technical program. Each day offers the opportunity to learn about innovative and evolving trends in computing education and educational research. This welcome message gives you some highlights of the Symposium.

On Wednesday evening, you might jump start your conference experience by participating in a workshop. This year, we extend our traditional offerings with two free screenings of the film "To Dream Tomorrow", an award winning film about Ada Lovelace.

SIGCSE usually opens Thursday with a keynote address delivered by the winner of the SIGCSE Award for Outstanding Contributions to Computer Science Education. Unfortunately, this year's winner, Mordechai (Moti) Ben-Ari, is not able to join us. We will miss hearing Moti's thoughts, and hope he can present them to us at a future conference. The opening address will be delivered by Owen Astrachan, whose passion for teaching programming will be evident as he shares his experience. After attending interesting sessions, viewing student research posters, and visiting the vendor exhibits while enjoying a free lunch, plan on participating in one of the friendly Birds of a Feather discussions. The film "To Dream Tomorrow" will be shown again on Thursday, supplemented by a special Birds of a Feather led by the film's creators, John Füegi and Jo Francis. Begin your Thursday evening with an hors d'oeuvres reception to visit with friends and colleagues before heading out to visit one of Norfolk's great restaurants.

Take advantage of learning a new topic during an interesting mix of sessions on Friday morning. Don't forget to visit the NSF showcase, faculty posters, student research competition, and our terrific vendor exhibits. We break at noon for our luncheon banquet, during which we honor Bruce Klein, who is receiving the SIGCSE Award for Lifetime Service. The afternoon sessions will keep you busy, and you might choose to continue your learning with an evening workshop experience. Enjoy the Norfolk night life to close the day.

Saturday will kick off with invited talks by Peter Denning and Eugene Spafford, both of whom will encourage us to consider "Great Principles and Grand Challenges" in our teaching and learning. Sessions and activities continue through Saturday afternoon, and the day wraps up with additional workshop opportunities.

In short, this program is terrific, and you'll have the opportunity to learn and share with like-minded people each day. We feel it's important that you also take advantage of being out of your normal routine and re-energize! We anticipate that you will find some great ideas to integrate into your work.

We hope you have a wonderful, rewarding time. We gratefully thank our committee, volunteers, authors, reviewers, session chairs, exhibitors, ACM contacts, Sheridan Press, our exhibit managers from IMI, the staff at the Marriott and Sheraton hotels, and Norfolk State University.

Daniel Joyce and Deborah Knox  
SIGCSE 2004 Symposium Chairs

## General Schedule Notes

### Registration will be open:

Wednesday	5:00 PM - 10:00 PM
Thursday	7:30 AM - 5:00 PM
Friday	7:30 AM - 5:00 PM
Saturday	7:30 AM - 5:00 PM

### Exhibits will be open:

Thursday	11:30 AM - 5:00 PM
Friday	9:30 AM - 5:00 PM
Saturday	9:30 AM - 12:00 PM

### Film Screenings: "To Dream Tomorrow" in Chesapeake

Wednesday	7:00 PM, 8:30 PM
Thursday	11:00 AM, 12:00 PM, 1:00 PM, 2:00 PM, 3:00 PM, 4:00 PM, 5:00 PM

"To Dream Tomorrow" is a 50 minute film that tells the story of Ada Bryon Lovelace, her work with Charles Babbage, and their contributions to computing. The final screening will be followed by a Birds of a Feather session led by the directors.

**Posters** will be on display in James at various times throughout the conference. See the detailed schedule for the times the posters will be "presented".

**NSF CCLI Project Showcase** presentations will take place in the exhibits hall Thursday from 11:30 to 1:30 and from 3:00 to 5:00, and Friday from 10:00 to noon and from 2:00 to 4:00.

**Note well** that two technical tracks on Friday will take place at the Sheraton Hotel, across the street from the Convention Center. Also, the Sheraton will host the First Timer's Lunch and the SIGCSE Reception on Thursday, as well as several Workshops on Friday and Saturday.

## Symposium at a Glance

Day	Time	Event	Location
Wednesday	7:00-10:00	Workshops 1 - 10	
	7:00-9:30	"To Dream Tomorrow"	Chesapeake
Thursday	8:30-9:45	Opening and Keynote	Hampton Roads Ballroom
	9:45-10:15	Coffee Break	
	10:15-11:30	Technical Sessions	
	11:00-5:45	"To Dream Tomorrow"	Chesapeake
	11:30-1:30	NSF Project Showcase	Norfolk Ballroom
	11:30-2:00	Grab 'n Go Lunch & Exhibits	Norfolk Ballroom & Foyer
	12:00-2:00	First Timers' Lunch	Sheraton Providence Hall
	2:00-3:15	Technical Sessions	
	2:00-4:00	Student Posters	James
	3:00-5:00	NSF Project Showcase	Norfolk Ballroom
	3:15-4:00	Coffee Break & Exhibits	Norfolk Ballroom & Foyer
	4:00-5:15	Technical Sessions	
	5:45-6:30	Birds of a Feather: Session I	
	6:45-7:30	Birds of a Feather: Session II	
Friday	7:30-9:30	SIGCSE Reception - Hors d'oeuvres	Sheraton International Ballroom
	8:45-10:00	Technical Sessions	
	10:00-10:45	Coffee Break & Exhibits	Norfolk Ballroom & Foyer
	10:00-12:00	NSF Project Showcase	Norfolk Ballroom
	10:45-12:00	Technical Sessions	
	12:00-2:00	SIGCSE Luncheon	Hampton Roads Ballroom
	2:00-3:15	Technical Sessions	
	2:00-4:00	NSF Project Showcase	Norfolk Ballroom
	3:15-4:00	Faculty Posters	James
	3:15-4:00	Coffee Break & Exhibits	Norfolk Ballroom & Foyer
	4:00-5:15	Technical Sessions	
Saturday	5:30-6:15	SIGCSE Business Meeting	Marriott Ballroom IV
	6:15-7:00	CCSC Business Meeting	Marriott Ballroom IV
	7:00-10:00	Workshops 11 - 20	
	8:30-10:30	Great Principles and Grand Challenges	Hampton Roads Ballroom
	10:30-11:15	Faculty Posters	James
	10:30-11:30	Coffee Break & Exhibits	Norfolk Ballroom & Foyer
	11:30-12:30	Technical Sessions	
Saturday	2:15-3:30	Technical Sessions	
	3:30-4:00	Short Break	
	4:00-5:15	Technical Sessions	
	5:30-6:00	SIGCSE Wrap-up Session	Hampton Roads IV-V
	7:00-10:00	Workshops 21-28,31,32	

**SIGCSE 2004 would like to thank our Corporate Supporters**

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## 35th SIGCSE Technical Symposium on Computer Science Education

### Wednesday Evening, 7:00 p.m. to 10:00 p.m.

#### Workshops 1-10

Wed. 7:00 – 10:00

*Descriptions and locations of workshops are listed in the Workshops section toward the end of this program.* Various Locations

**Note:** Workshops 7-10 will be held in Brown Memorial Hall (Wing C/Second Floor) at Norfolk State University. A free shuttle to the university will depart at 6:30 from the street just outside the gold doors in front of the Norfolk Ballroom.

### Wednesday Evening, 7:00 p.m. to 9:30 p.m.

#### FILM SCREENING "To Dream Tomorrow"

Wed. 7:00 – 9:30

Chesapeake

Showings at 7:00 and 8:30

### Thursday Morning, 8:30 a.m. to 9:45 a.m.

#### SIGCSE Opening Ceremonies and Keynote Address

Thur. 8:30 – 9:45

8:30 **Welcome**

Hampton Roads Ballroom

Daniel Joyce, Symposium Chair, *Villanova University*

Deborah Knox, Symposium Chair, *The College of New Jersey*

8:50 **Keynote Address: Everything I Needed to Know about  
Programming and Computer Science I Learned from my  
Teachers**

Owen Astrachan

Professor of the Practice of Computer Science

Duke University

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**Thursday Morning, 9:45 a.m. to 10:15 a.m.**

Coffee Break

Thur. 9:45 – 10:15

**Thursday Morning, 10:15 a.m. to 11:30 a.m.**

**PAPERS Paired Programming/Collaborative Learning** Thur. 10:15 – 11:30  
Hampton Roads I-III

Chair: Roberta Evans Sabin, *Loyola College*

10:15 ***Coupling Pair Programming and Writing: Learning About Students' Perceptions and Processes***

Tammy VanDeGrift, *University of Washington*

10:40 ***On Understanding Compatibility of Student Pair Programmers***

Neha Katira, *North Carolina State University*

Laurie Williams, *North Carolina State University*

Eric Wiebe, *North Carolina State University*

Carol Miller, *North Carolina State University*

Suzanne Balik, *North Carolina State University*

Ed Gehringer, *North Carolina State University*

11:05 ***Student Culture vs Group Work in Computer Science***

William Waite, *University of Colorado at Boulder*

Michele Jackson, *University of Colorado at Boulder*

Amer Diwan, *University of Colorado at Boulder*

Paul Leonardi, *Stanford University*

**PAPERS Testing and Debugging in CS1/CS2** Thur. 10:15 – 11:30  
Hampton Roads VI-VIII

Chair: Lucia Dettori, *DePaul University - School of CTI*

10:15 ***Debugging: From Novice to Expert***

Ryan Chmiel, *University of Illinois at Urbana-Champaign*

Michael Loui, *University of Illinois at Urbana-Champaign*

10:40 ***CMeRun: Program Logic Debugging Courseware for CS1/CS2 Students***

Jim Etheredge, *University of Louisiana at Lafayette*

11:05 ***Using Software Testing to Move Students from Trial-and-Error to Reflection-in-Action***

Stephen Edwards, *Virginia Tech*

**PAPERS HCI**

Chair: Robert Bryant, *Gonzaga University*

10:15 ***Design, Science, and Engineering Topics? Teaching HCI with a Unified Method***

Scott McCrickard, *Virginia Tech*

Christa Chewar, *Virginia Tech*

Jacob Somervell, *Virginia Tech*

10:40 ***Case Studies for Teaching Usability Engineering***

Mary Beth Rosson, *Penn State*

John Carroll, *Penn State*

Con Rodi, *Virginia Tech*

11:05 ***Term Project User Interface Specifications in a Usability Engineering Course: Challenges and Suggestions***

Laura Leventhal, *Bowling Green State University*

Julie Barnes, *Bowling Green State University*

Joseph Chao, *Bowling Green State University*

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**SPECIAL SESSION Nifty Assignments**

Thur. 10:15 – 11:30  
Hampton Roads IV-V

Organizer: Nick Parlante, *Stanford University*

Participants: David Reed, *Creighton University*

David Matuszek, *University of Pennsylvania*

John Estell, *Ohio Northern University*

Jeff Lehman, *Huntington College*

Donald Chinn, *University of Washington, Tacoma*

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**SPECIAL SESSION Taking Advantage of National Science Foundation Funding Opportunities**

Thur. 10:15 – 11:30  
Marriott Ballroom IV

Organizer: Steve Cunningham, *National Science Foundation*

Participants: Ernest McDuffie, *National Science Foundation*

Harriet Taylor, *National Science Foundation*

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**SPECIAL SESSION Information Technology Accreditation Activities**

Thur. 10:15 – 11:30  
Marriott Ballroom V-VII

Organizer: Doris Lidtke, *ABET*

Participants: Eydie Lawson, *Rochester Institute of Technology*

Barbara Price, *Georgia Southern University*

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**VENDOR SESSION (Sponsored by Microsoft) Curriculum Innovation and Curriculum Repository**

Thur. 10:15 – 11:30  
Yorktown

Tom McMail and Tom Healy, *Microsoft Research*

**Thursday Morning and Afternoon, 11:00 a.m. to 5:45 p.m.**

**FILM SCREENING “To Dream Tomorrow”** Thurs. 11:00 – 5:45  
Chesapeake  
Showings at 11:00, 12:00, 1:00, 2:00, 3:00, 4:00, and 5:00

**Thursday Morning and Afternoon, 11:30 a.m. to 2:00 p.m.**

**First Timers’ Lunch** Thur. 12:00 – 2:00  
Sheraton Providence Hall

**Non-first timers: Grab and Go Lunch** Thur. 11:30 – 2:00  
Norfolk Ballroom & Foyer

**Thursday Afternoon, 2:00 p.m. to 3:15 p.m.**

**PAPERS New Technologies for Classroom Instruction** Thur. 2:00 – 3:15  
Hampton Roads I-III

Chair: John Hill, *United States Military Academy*

2:00 **Handwritten Slides on a TabletPC in a Discrete Mathematics Course**  
Evan Golub, *University of Maryland*

2:25 **Experiences with a Tablet PC Based Lecture Presentation System in Computer Science Courses**  
Richard Anderson, *University of Washington*  
Ruth Anderson, *University of Virginia*  
Beth Simon, *University of San Diego*  
Steven Wolfman, *University of Washington*  
Tammy VanDeGrift, *University of Washington*  
Ken Yasuhara, *University of Washington*

2:50 **Using Pen-Based Computers Across the Computer Science Curriculum**  
Dave Berque, *DePauw University*  
Terri Bonebright, *DePauw University*  
Michael Whitesell, *DePauw University*

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**PAPERS Outcomes Assessment** Thur. 2:00 – 3:15  
Hampton Roads VI-VIII

Chair: Constance Bland, *Mississippi Valley State University*

2:00 **Assessment of a Course Redesign: Introductory Computer Programming Using Online Modules**  
Nira Herrmann, *Drexel University*  
Jeffrey Popyack, *Drexel University*  
Bruce Char, *Drexel University*  
Paul Zoski, *Drexel University*

2:25 **A Statistical Analysis of Student Performance in Online Computer Science Courses**  
Merry McDonald, *Northwest Missouri State University*  
Brian Dorn, *Iowa State University*  
Gary McDonald, *Northwest Missouri State University*

2:50 **Evaluating the Effectiveness of a New Instructional Approach**  
Barbara Moskal, *Colorado School of Mines*  
Deborah Lurie, *Saint Joseph’s University*  
Stephen Cooper, *Saint Joseph’s University*

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**PAPERS Programming Languages Course** Thur. 2:00 – 3:15  
Marriott Ballroom I-III

Chair: Chenglie Hu, *Carroll College*

2:00 **PL-Detective: A System for Teaching Programming Language Concepts**  
Amer Diwan, *University of Colorado*  
William Waite, *University of Colorado*  
Michele Jackson, *University of Colorado*

2:25 **Highlighting Programming Language Issues Using Mixed Language Programming in Maple and C**  
Andrew Phillips, *University of Wisconsin - Eau Claire*

2:50 **A Tutor on Scope for the Programming Languages Course**  
Eric Fernandes, *Ramapo College of New Jersey*  
Amruth Kumar, *Ramapo College of New Jersey*

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**PANEL Cryptography and Computer Security for Undergraduates** Thur. 2:00 – 3:15  
Hampton Roads IV-V

Moderator: Paul De Palma, *Gonzaga University*

Panelists: Charles Frank, *Northern Kentucky University*  
Suzanne Gladfelter, *Penn State York*  
Joshua Holden, *Rose-Hulman Institute of Technology*

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**SPECIAL SESSION SIGCSE Special Projects Showcase** Thur. 2:00 – 3:15  
Marriott Ballroom IV  
Organizer: Sally Fincher, *University of Kent*  
Participants: Edward F. Gehringer, *North Carolina State University*  
Richard E. Pattis, *Carnegie Mellon University*  
Jesse M. Heines, *University of Massachusetts Lowell*  
Matt DeJongh, *Hope College*  
Mark D. LeBlanc, *Wheaton College*  
Raymond Lister, *University of Technology, Sydney*  
Eric Roberts, *Stanford University*

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**SPECIAL SESSION Status Report on the SIGCSE Committee on the Implementation of a Discrete Mathematics Course** Thur. 2:00 – 3:15  
Marriott Ballroom V-VII  
Organizer: Doug Baldwin, *SUNY Geneseo*  
Panelists: Bill Marion, *Valparaiso University*  
Henry Walker, *Grinnell College*

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**VENDOR SESSION (Sponsored by IBM) e-business On Demand and the Software Development Platform** Thur. 2:00 – 3:15  
Yorktown

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**POSTERS ACM Student Research Competition** Thur. 2:00 – 4:00  
James

**Thursday Afternoon, 3:15 p.m. to 4:00 p.m.**

**Coffee Break & Exhibits** Thur. 3:15 – 4:00  
Norfolk Ballroom & Foyer

**Thursday Afternoon, 4:00 p.m. to 5:15 p.m.**

**PAPERS Object-Oriented Issues** Thur. 4:00 – 5:15  
Chair: Jaime Niño, *University of New Orleans* Hampton Roads I-III  
4:00 ***Seven Design Rules for Teaching Students Sound Encapsulation and Abstraction of Object Properties and Member Data***  
Michael Wick, *University of Wisconsin - Eau Claire*  
Daniel Stevenson, *University of Wisconsin - Eau Claire*  
Andrew Phillips, *University of Wisconsin - Eau Claire*  
4:25 ***Adding Objects to the Traditional ACM Programming Contest***  
Steven Andrianoff, *Saint Bonaventure University*  
Dalton Hunkins, *Saint Bonaventure University*  
David Levine, *Saint Bonaventure University*  
4:50 ***The Game of Set® – An Ideal Example for Introducing Polymorphism and Design Patterns***  
Stuart Hansen, *University of Wisconsin - Parkside*

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**PAPERS New Curricular Directions** Thur. 4:00 – 5:15  
Chair: Martha Kosa, *Tennessee Technological University* Hampton Roads VI-VIII  
4:00 ***The Dream of a Common Language: The Search for Simplicity and Stability in Computer Science Education***  
Eric Roberts, *Stanford University*  
4:25 ***Redesigning Introductory Computer Programming with HTML, JavaScript, and Java***  
Qusay Mahmoud, *University of Guelph*  
Wlodek Dobosiewicz, *University of Guelph*  
Dave Swayne, *University of Guelph*  
4:50 ***τέχνη: A First Step***  
Timothy Davis, *Clemson University*  
Robert Geist, *Clemson University*  
Sarah Matzko, *Clemson University*  
James Westall, *Clemson University*

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- PAPERS Formal Methods and Theory** Thur. 4:00 – 5:15  
 Chair: Joan Krone, *Denison University* Marriott Ballroom I-III
- 4:00 **Attribute Based Compiler Implemented Using Visitor Pattern**  
 Norman Neff, *The College of New Jersey*
- 4:25 **Language Emulator, a Helpful Toolkit in the Learning Process of Computer Theory**  
 Luiz Vieira, *Universidade Federal de Minas Gerais*  
 Marcos Vieira, *Universidade Federal de Minas Gerais*  
 Newton Vieira, *Universidade Federal de Minas Gerais*
- 4:50 **A Visual and Interactive Automata Theory Course with JFLAP 4.0**  
 Ryan Cavalcante, *Duke University*  
 Thomas Finley, *Cornell University*  
 Susan Rodger, *Duke University*

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- PANEL Predictors for Success in Studying CS** Thur. 4:00 – 5:15  
 Hampton Roads IV-V
- Moderator: Roger Boyle, *University of Leeds, UK*  
 Panelists: Nathan Rountree, *ScienceUniversity of Otago*  
 Tamar Vilner, *Open University of Israel*  
 Brenda Wilson, *Murray State University*

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- PANEL The Relationship Between CS Education Research and the SIGCSE Community** Thur. 4:00 – 5:15  
 Marriott Ballroom IV
- Moderator: Michael Goldweber, *Xavier University*  
 Panelists: Martyn Clark, *University of Leeds*  
 Sally Fincher, *University of Kent at Canterbury*

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- SPECIAL SESSION Articulation Through a Body of Knowledge: A Report on an NSF ATE Project Involving Radford University and the Virginia Community College System** Thur. 4:00 – 5:15  
 Marriott Ballroom V-VII
- Organizer: Joe Chase, *Radford University*  
 Participants: Dennie Templeton, *Radford University*  
 Michael Peterson, *Virginia Community College System*  
 Carlotta Eaton, *New River Community College*  
 Diane Wolff, *Virginia Western Community College*  
 Edward Okie, *Radford University*

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- VENDOR SESSION (Sponsored by Microsoft)** Thur. 4:00 – 5:15  
**Tablet PC's in the Computer Science Curriculum** Yorktown  
 Jeffrey L. Popyack, Bruce Char, Nira Herrmann, *Drexel University*

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**Thursday Evening, 5:45 p.m. to 6:30 p.m.**

**Birds of a Feather: Session I**

- The Evaluation of Faculty: The next SIGCSE Committee?** Marriott Ballroom I  
 Henry Walker, *Grinnell College*
- Preparing for a Career as an Educator in Academia** Marriott Ballroom II  
 Dan Cliburn, *Hanover College*  
 Jeff Forbes, *Duke University*
- Mathematical Reasoning in Computer Science** Marriott Ballroom III  
 Peter B. Henderson, *Butler University*
- Empirical Evidence of Influences on Women's Representation in the Computing Sciences** Marriott Ballroom IV  
 J. McGrath Cohoon, *University of Virginia*  
 Marguerite Giguette, *Xavier University of Louisiana*
- Transitioning to Computer Science at the University Level** Marriott Ballroom V  
 Gian Mario Besana and Lucia Dettori, *DePaul University*  
 Alicia Gutschow, *Blue Ridge Community College*
- Assessing The CS/CIS Major: What Works And What Doesn't Work** Marriott Ballroom VI  
 Nieves McNulty and Madeleine Schep, *Columbia College*
- Who's Managing Who? Using Course Management Systems in Computer Science Courses** Marriott Ballroom VII  
 Jeffrey L Popyack, Bruce Char, Paul Zoski, and Nira Herrmann, *Drexel University*
- Computer Networking Revisited** Yorktown  
 Dick Mowe, *St. Cloud State University*
- A Concepts-based Approach to Teaching Programming** Shangri-La  
 Peter Van Roy, *Université Catholique de Louvain*
- Database Education: Where are we now?** Franklin  
 Suzanne W. Dietrich and Susan D. Urban, *Arizona State University*
- Discussion with the Directors of "To Dream Tomorrow"** Chesapeake  
 John Füegi and Jo Francis

**Thursday Evening, 6:45 p.m. to 7:30 p.m.**

**Birds of a Feather: Session II**

- Volunteering within SIGCSE** Marriott Ballroom I  
 Henry Walker, *Grinnell College*
- Establishing a Common Ground for Information Technology Competency** Marriott Ballroom II  
 Joseph Chase, *Radford University*  
 Peter DePasquale, *The College of New Jersey*
- The Computer Science Small Department Initiative (CS\_SDI)** Marriott Ballroom III  
 Cathy Bareiss, *Olivet Nazarene University*
- Colleges Serving the Community** Marriott Ballroom IV  
 Andrew Beiderman and Donna Hiestand-Tupper, *The Community College of Baltimore County – Essex Campus*

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<b>Building and Researching CS Learning Communities</b>	Marriott Ballroom V
Hilary Holz, <i>CSU-Hayward</i>	
Tyson Henry, <i>CSU-Chico</i>	
Paula Gabbert, <i>Furman University</i>	
<b>Lab Experience in the CS Curriculum</b>	Marriott Ballroom VI
Tia Watts and Lynn Stauffer, <i>Sonoma State University</i>	
<b>Alternative Introductions to Computing and Programming</b>	Marriott Ballroom VII
Mark Guzdial, <i>Georgia Tech</i>	
<b>Pedagogies of Engagement for the Computing Sciences</b>	Shangri-La
Robert Beck, <i>Villanova University</i>	
<b>Using History to Teach Computing</b>	Franklin
John Impagliazzo, <i>Hofstra University</i>	
<b>Teaching Computer Security</b>	Yorktown
Robert Montante, <i>Bloomsburg University</i>	

**Thursday Evening, 7:30 p.m. to 9:30 p.m.**

<b>SIGCSE Reception - Hors d'oeuvres</b>	Thur. 7:30 – 9:30
	Sheraton International Ballroom

**Friday Morning, 8:45 a.m. to 10:00 a.m.**

<b>PAPERS Taming Java</b>	Fri. 8:45 – 10:00
Chair: Joel Adams, <i>Calvin College</i>	Sheraton York
8:45 <b><i>Taming the Tiger: Teaching the Next Version of Java™</i></b>	
Jeremy D. Frens, <i>Calvin College</i>	
9:10 <b><i>Taming a Professional IDE for the Classroom</i></b>	
Charles Reis, <i>Rice University</i>	
Robert Cartwright, <i>Rice University</i>	
9:35 <b><i>Java IO and Testing Made Simple</i></b>	
Viera K. Proulx, <i>Northeastern University</i>	
Richard Rasala, <i>Northeastern University</i>	

<b>PAPERS Algorithms and Data Structures</b>	Fri. 8:45 – 10:00
Chair: Bonita McVey, <i>St. Norbert College</i>	Marriott Ballroom I-III
8:45 <b><i>Contemplate Sorting with Columnsort</i></b>	
Lester McCann, <i>University of Wisconsin - Parkside</i>	
9:10 <b><i>Teaching Growth of Functions Using Equivalence Classes – An Alternative to Big O Notation</i></b>	
Constantine Roussos, <i>Lynchburg College</i>	
9:35 <b><i>Buffer Pools and File Processing Projects for an Undergraduate Data Structures Course</i></b>	
Clifford Shaffer, <i>Virginia Tech</i>	

<b>PRESENTATIONS ACM Research Presentations Undergraduate Students</b>	Fri. 8:45 – 10:00 Chesapeake I
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<b>PRESENTATIONS ACM Research Presentations Graduate Students</b>	Fri. 8:45 – 10:00 Chesapeake II
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<b>PANEL Incorporating Writing Into the CS Curriculum</b>	Fri. 8:45 – 10:00 Marriott Ballroom V-VII
Moderator: Lisa Kaczmarczyk, <i>University of Texas at Austin</i>	
Panelists: Gerald Kruse, <i>Juniata College</i>	
Dian Rae Lopez, <i>University of Minnesota, Morris Campus</i>	
Deepak Kumar, <i>Bryn Mawr College</i>	

<b>SPECIAL SESSION Pervasive Computing in the Undergraduate Curriculum</b>	Fri. 8:45 – 10:00 Marriott Ballroom IV
Organizer: Mark Burge, <i>Armstrong Atlantic State University</i>	

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FRIDAY FRIDAY FRIDAY FRIDAY FRIDAY FRIDAY FRIDAY FRIDAY FRIDAY

**SPECIAL SESSION Kinesthetic Learning in the Classroom** Fri. 8:45 – 10:00  
Sheraton Stratford  
Organizer: Steven Wolfman, *University of Washington*  
Participants: Andrew Begel, *University of California, Berkeley*  
Daniel Garcia, *University of California, Berkeley*

**VENDOR SESSION (Sponsored By IBM)** Fri. 8:45 – 10:00  
**University Partnerships: Building Tomorrow's Business and Technology Leaders Together** Yorktown

**Friday Morning, 10:00 a.m. to 10:45 a.m.**

**Coffee Break & Exhibits** Fri. 10:00 – 10:45  
Norfolk Ballroom & Foyer

**Friday Morning, 10:45 a.m. to 12:00 p.m.**

**PAPERS Gender Issues** Fri. 10:45– 12:00  
Chair: Kim Kihlstrom, *Westmont College* Sheraton York  
10:45 **Increasing High School Girls' Self Confidence and Awareness of CS through a Positive Summer Experience**  
Lori Pollock, *University of Delaware*  
Kathleen McCoy, *University of Delaware*  
Sandra Carberry, *University of Delaware*  
Namratha Hundigopal, *University of Delaware*  
Xiaoxin You, *University of Delaware*  
11:10 **A CSI Course Designed to Address Interests of Women**  
Lauren Rich, *Georgia Institute of Technology*  
Heather Perry, *Georgia Institute of Technology*  
Mark Guzdial, *Georgia Institute of Technology*  
11:35 **Understanding Gender and Confidence in CS Course Culture**  
Lilly Irani, *Stanford University*

**PAPERS Evaluating Student Programming Skills** Fri. 10:45 – 12:00  
Chair: Jeffrey Forbes, *Duke University* Marriott Ballroom I-III  
10:45 **CSI Assessment Using Memory Diagrams**  
Mark Holliday, *Western Carolina University*  
David Luginbuhl, *Western Carolina University*  
11:10 **The QUIVER System**  
Christopher Chess Ellsworth, *Appalachian State University*  
James B. Fenwick, Jr., *Appalachian State University*  
Barry L. Kurtz, *Appalachian State University*  
11:35 **Assessing the Assessment of Programming Ability**  
Charlie Daly, *Dublin City University*  
John Waldron, *Trinity College Dublin*

**PAPERS Artificial Intelligence** Fri. 10:45 – 12:00  
Chair: Xuesong Zhang, *Southeast Missouri State University* Chesapeake  
10:45 **Enhancing Lisp Instruction with RCXLisp and Robotics**  
Frank Klassner, *Villanova University*  
11:10 **Using Game Days to Teach a Multiagent System Class**  
Leen-Kiat Soh, *University of Nebraska*  
11:35 **A Distributed Task Environment for Teaching Artificial Intelligence with Agents**  
John Hill, *United States Military Academy*  
Kenneth Alford, *United States Military Academy*

**PANEL Bioinformatics in the Undergraduate Curriculum: Opportunities for Computer Science Educators** Fri. 10:45 – 12:00  
Marriott Ballroom IV  
Moderator: Matt DeJongh, *Hope College*  
Panelists: Debra Burhans, *Canisius College*  
Travis Doom, *Wright State University*  
Mark LeBlanc, *Wheaton College*

**PANEL Teaching Faculty Positions** Fri. 10:45 – 12:00  
Marriott Ballroom V-VII  
Moderator: Thomas B. Horton, *University of Virginia*  
Panelists: John P. Dougherty, *Haverford College*  
Daniel D. Garcia, *University of California, Berkeley*  
Susan H. Rodger, *Duke University*

**SPECIAL SESSION Resources to Support the Use of Java in Introductory Computer Science** Fri. 10:45 – 12:00  
Sheraton Stratford  
Organizer: Eric Roberts, *Stanford University*

**VENDOR SESSION (Sponsored by Apple)** Fri. 10:45 – 12:00  
**Mac OS X: The Ultimate Platform for CS Education** Yorktown  
Matt MacInnis, *Manager of Research and Scientific Computing Apple Higher Education*

**Friday Afternoon, 12:00 p.m. to 2:00 p.m.**

**SIGCSE Luncheon and Awards Ceremony** Fri. 12:00 – 2:00  
Hampton Roads Ballroom

**Friday Afternoon, 2:00 p.m. to 3:15 p.m.**

- PAPERS Factors that Lead to Success in CS** Fri. 2:00 – 3:15  
Chair: William Oblitey, *Indiana University of Pennsylvania* Sheraton York
- 2:00 **Houston, We Have a Problem: There's a Leak in the CS1 Affective Oxygen Tank**  
Dawn McKinney, *University of South Alabama*  
Leo Denton, *University of South Alabama*
- 2:25 **Wanted: CS1 Students. No Experience Required.**  
Phil Ventura, *State University of West Georgia*  
Bina Ramamurthy, *University at Buffalo, SUNY*
- 2:50 **Core Empirical Concepts and Skills for Computer Science**  
Grant Braught, *Dickinson College*  
Craig Miller, *DePaul University*  
David Reed, *Creighton University*

- PAPERS CS Education Research** Fri. 2:00 – 3:15  
Chair: Carl Alphonse, *University at Buffalo, SUNY* Marriott Ballroom I-III
- 2:00 **Scaffolding with Object Diagrams in first Year Programming Classes: Some Unexpected Results**  
Lynda Thomas, *University of Wales, Aberystwyth*  
Mark Ratcliffe, *University of Wales, Aberystwyth*  
Benjy Thomasson, *University of Wales, Aberystwyth*
- 2:25 **CS Educational Research: A Meta-Analysis of SIGCSE Technical Symposium Proceedings**  
David Valentine, *Slippery Rock University*
- 2:50 **Evaluation of Subsetting Programming Language Elements in a Novice's Programming Environment**  
Peter DePasquale, *The College of New Jersey*  
John A.N. Lee, *Virginia Tech*  
Manuel A. Pérez-Quiñones, *Virginia Tech*

- PAPERS Systems-Level Programming** Fri. 2:00 – 3:15  
Chair: Soe Than, *Virginia Military Institute* Chesapeake
- 2:00 **Raising Motivation in Real-time Laboratories: The Soccer Scenario**  
Mehdi Amirijoo, *Linköping University*  
Aleksandra Tešanović, *Linköping University*  
Simin Nadjm-Tehrani, *Linköping University*
- 2:25 **Illustrating Computer Hardware Concepts using PIC-based Projects**  
Nurul Sarkar, *Auckland University of Technology*  
Trevor Craig, *Yeungjin College*
- 2:50 **Writing Efficient Programs: Performance Issues in an Undergraduate CS Curriculum**  
Saumya Debray, *University of Arizona*

- PANEL Responding to the Challenges of Teaching Computer Ethics** Fri. 2:00 – 3:15  
Marriott Ballroom V-VII
- Moderator: Frances Grodzinsky, *Sacred Heart University*  
Panelists: Ed Gehringer, *North Carolina State University*  
Laurie King, *College of the Holy Cross*  
Herman Tavani, *Rivier College*

- SPECIAL SESSION The 2003 Model Curriculum for a Liberal Arts Degree in Computer Science** Fri. 2:00 – 3:15  
Marriott Ballroom IV
- Organizer: Kim Bruce, *Williams College*  
Participants: Alyce Brady, *Kalamazoo College*  
Robert Noonan, *College of William and Mary*  
Allen Tucker, *Bowdoin College*  
Henry Walker, *Grinnell College*

- SPECIAL SESSION "But it Looks Right": The Bugs Students Don't See** Fri. 2:00 – 3:15  
Sheraton Stratford
- Organizer: David Ginat, *Tel-Aviv University*  
Participants: Owen Astrachan, *Duke University*  
Dan Garcia, *University of California, Berkeley*  
Mark Guzdial, *Georgia Institute of Technology*

**Friday Afternoon, 3:15 p.m. to 4:00 p.m.**

- Coffee Break & Exhibits** Fri. 3:15 – 4:00  
Norfolk Ballroom & Foyer
- Faculty Poster Session** Fri. 3:15 – 4:00  
James

**Friday Afternoon, 4:00 p.m. to 5:15 p.m.**

- PAPERS Pedagogic Approaches to CS1** Fri. 4:00 – 5:15  
Chair: Marcia Schlafmitz, *New Jersey City University* Sheraton York
- 4:00 **Enhancing Apprentice-Based Learning of Java**  
Michael Kölling, *University of Southern Denmark*  
David J. Barnes, *University of Kent*
- 4:25 **Components-First Approaches to CS1/CS2: Principles and Practice**  
Emily Howe, *The Ohio State University*  
Matthew Thornton, *The Ohio State University*  
Bruce Weide, *The Ohio State University*
- 4:50 **What Do the Experts Say? Teaching Introductory Design from an Expert's Perspective**  
Tracy Lewis, *Virginia Polytechnic Institute and State University*  
Mary Beth Rosson, *Pennsylvania State University*  
Manuel Pérez-Quiñones, *Virginia Polytechnic Institute and State University*

**PAPERS Networks** Fri. 4:00 – 5:15  
 Chair: Nurul Sarkar, *Auckland University of Technology* Marriott Ballroom I-III  
 4:00 **Bringing J2ME Industry Practice into the Classroom**  
 David Umphress, *Auburn University*  
 James Cross, *Auburn University*  
 Jhilmil Jain, *Auburn University*  
 Nischita Meda, *Auburn University*  
 Larry A. Barowski, *Auburn University*  
 4:25 **Teaching Wireless Networking with Limited Resources**  
 Brad Richards, *Vassar College*  
 Benjamin Stull, *Vassar College*  
 4:50 **Remote Access Internetworking Laboratory**  
 Sung Yoo, *Middle Tennessee State University*  
 Scott Hovis, *Middle Tennessee State University*

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**PAPERS Operating Systems** Fri. 4:00 – 5:15  
 Chair: Jim Howatt, *Southeastern Louisiana University* Chesapeake  
 4:00 **Running on the Bare Metal with GeekOS**  
 David Hovemeyer, *University of Maryland*  
 Jeffrey Hollingsworth, *University of Maryland*  
 Bobby Bhattacharjee, *University of Maryland*  
 4:25 **Design Patterns for Semaphores**  
 Kenneth Reek, *Rochester Institute of Technology*  
 4:50 **A Disk Head Scheduling Simulator**  
 Steven Robbins, *University of Texas at San Antonio*

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**PANEL Offshore Outsourcing: Current Conditions & Diagnosis** Fri. 4:00 – 5:15  
 Marriott Ballroom IV  
 Moderator: Clifton Kussmaul, *Muhlenberg College*  
 Panelists: Ernest Ferguson, *Northwest Missouri State University*  
 Daniel McCracken, *City College of New York*  
 Mary Ann Robbert, *Bentley College*

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**SPECIAL SESSION The Computer Science Small Department Initiative Report** Fri. 4:00 – 5:15  
 Marriott Ballroom V-VII  
 Organizer: Cathy Bareiss, *Olivet Nazarene University*  
 Participants: Marsha Meredith, *Blackburn College*  
 Kris Powers, *Berry College*  
 Christine Shannon, *Centre College*  
 Scott Thede, *DePauw University*  
 Judy Williams, *William Penn University*

**SPECIAL SESSION Implementation Challenges for a K-12 Computer Science Curriculum** Fri. 4:00 – 5:15  
 Sheraton Stratford  
 Organizer: Allen Tucker, *Bowdoin College*  
 Participants: Fadi Deek, *New Jersey Institute of Technology*  
 Jill Jones, *Carl Hayden High School*  
 Dennis McCowan, *Weston Public Schools*  
 Chris Stephenson, *University of Waterloo*  
 Anita Verno, *Bergen Community College*

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**VENDOR SESSION (Sponsored by Microsoft)** Fri. 4:00 – 5:15  
**Using Visual Studio.NET in an Academic Setting** Yorktown  
 Joe Hummel, *Lake Forest College*

**Friday Evening, 5:30 p.m. to 6:15 p.m.**

**SIGCSE Business Meeting** Fri. 5:30 – 6:15  
 Marriott Ballroom IV

**Friday Evening, 6:15 p.m. to 7:00 p.m.**

**CCSC Business Meeting** Fri. 6:15 – 7:00  
 Marriott Ballroom IV

**Friday Evening, 7:00 p.m. to 10:00 p.m.**

**Workshops 11-20** Fri. 7:00 – 10:00  
*Descriptions and locations of workshops are listed in the Workshops section toward the end of this program.* Various Locations

**Note:** Workshops 17-20 will be held in Brown Memorial Hall (Wing C/Second Floor) at Norfolk State University. A free shuttle to the university will depart at 6:30 from the street just outside the gold doors in front of the Norfolk Ballroom.

**Saturday Morning, 8:30 a.m. to 10:30 a.m.**

- Great Principles and Grand Challenges Session** Sat. 8:30 – 10:30  
Hampton Roads Ballroom
- 8:30 **Invited Address: Great Principles in Computing Curricula**  
Peter Denning  
Computer Science Department  
Naval Postgraduate School
- 9:30 **Invited Address: What \*is\* Information Security?**  
Gene Spafford  
Purdue University

**Saturday Morning, 10:30 a.m. to 11:30 a.m.**

- Faculty Poster Session** Sat. 10:30 – 11:15  
James
- Coffee Break & Exhibits** Sat. 10:30 – 11:30  
Norfolk Ballroom & Foyer

**Saturday Morning, 11:30 a.m. to 12:30 p.m.**

- PAPERS Graphics** Sat. 11:30 – 12:30  
Hampton Roads I-III
- Chair: Dennis Bouvier, *Saint Louis University*
- 11:30 ***If You Know B-Splines Well, You Also Know NURBS!***  
John Fisher, *Michigan Technological University*  
John Lowther, *Michigan Technological University*  
Ching-Kuang Shene, *Michigan Technological University*
- 12:00 ***Simple, Low-Cost Stereographics: VR for Everyone***  
John Zelle, *Wartburg College*  
Charles Figura, *Wartburg College*
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- PAPERS Courses for Non-Majors** Sat. 11:30 – 12:30  
Hampton Roads VI-VIII
- Chair: Pourang Irani, *University of Manitoba*
- 11:30 ***Scheme-based Web Programming as a Basis for a CS0 Curriculum***  
Timothy Hickey, *Brandeis University*
- 12:00 ***Teaching Computation to Undergraduate Scientists***  
Daniel Kaplan, *Macalester College*

- PAPERS Courseware** Sat. 11:30 – 12:30  
Marriott Ballroom I-III
- Chair: Deborah Trytten, *University of Oklahoma*
- 11:30 ***CFX: Finding Just the Right Examples for CS1***  
Dale Reed, *University of Illinois at Chicago*  
Sam John, *University of Illinois at Chicago*  
Ryan Aviles, *University of Illinois at Chicago*  
Feihong Hsu, *University of Illinois at Chicago*
- 12:00 ***Agent-Based Cooperative Learning: A Proof-of-Concept Experiment***  
Leen-Kiat Soh, *University of Nebraska*  
Hong Jiang, *University of Nebraska*  
Charles Ansoorge, *University of Nebraska*

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- PAPERS Events vs. GUIs** Sat. 11:30 – 12:30  
Hampton Roads IV-V
- Chair: Hilary Holz, *California State University, Hayward*
- 11:30 ***Developing Principles of GUI Programming Using Views***  
Judith Bishop, *University of Pretoria*  
Nigel Horspool, *University of Victoria*
- 12:00 ***Events Not Equal To GUIs***  
Stuart Hansen, *University of Wisconsin - Parkside*  
Timothy Fossum, *University of Wisconsin - Parkside*

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- PAPERS Visualization** Sat. 11:30 – 12:30  
Marriott Ballroom IV
- Chair: Steven Robbins, *University of Texas at San Antonio*
- 11:30 ***Effective Features of Algorithm Visualizations***  
Purvi Saraiya, *Virginia Tech*  
Clifford Shaffer, *Virginia Tech*  
Scott McCrickard, *Virginia Tech*  
Chris North, *Virginia Tech*
- 12:00 ***An Extensible Framework for Providing Dynamic Data Structure Visualizations in a Lightweight IDE***  
Dean Hendrix, *Auburn University*  
James Cross, *Auburn University*  
Larry Barowski, *Auburn University*

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- PAPERS Distributed/Parallel Computing** Sat. 11:30 – 12:30  
Marriott Ballroom V-VII
- Chair: Thad Crews, *Western Kentucky University*
- 11:30 ***Virtual Trees for the Byzantine Generals Algorithm***  
Ahuva Tikvati, *Weizmann Institute of Science*  
Mordechai Ben-Ari, *Weizmann Institute of Science*  
Yifat Ben-David Kolikant, *Weizmann Institute of Science*
- 12:00 ***A Practical Access to the Theory of Parallel Algorithms***  
Christoph Kessler, *Linköping University*

**Saturday Afternoon, 2:15 p.m. to 3:30 p.m.**

- PAPERS Computer Security** Sat. 2:15 – 3:30  
Chair: Linda Null, *Penn State Harrisburg* Hampton Roads I-III
- 2:15 ***Designing and Implementing a Cyberwar Laboratory Exercise for a Computer Security Course***  
Paul Wagner, *University of Wisconsin - Eau Claire*  
Jason Wudi, *University of Wisconsin - Eau Claire*
- 2:40 ***Teaching Computer Security at a Small College***  
Cathie LeBlanc, *Plymouth State University*  
Evelyn Stiller, *Plymouth State University*
- 3:05 ***Tele-Lab IT Security: An Architecture for Interactive Lessons for Security Education***  
Ji Hu, *University of Trier*  
Christoph Meinel, *University of Trier*  
Michael Schmitt, *University of Trier*

- PAPERS CS: Other Points of View** Sat. 2:15 – 3:30  
Chair: Greg Butler, *Regis University* Hampton Roads VI-VIII
- 2:15 ***The Role of Computer Science in Undergraduate Bioinformatics Education***  
Debra Burhans, *Canisius College*  
Gary Skuse, *Rochester Institute of Technology*
- 2:40 ***CS++: Content Is Not Enough***  
Roger Boyle, *University of Leeds*  
Martyn Clark, *University of Leeds*
- 3:05 ***Digital Media in Computer Science Curricula***  
Yue-Ling Wong, *Wake Forest University*  
Jennifer Burg, *Wake Forest University*  
Victoria Strokanova, *Wake Forest University*

- PAPERS First Year Courses** Sat. 2:15 – 3:30  
Chair: Thaddeus Pawlicki, *University of Rochester* Marriott Ballroom I-III
- 2:15 ***A Concepts-First Introduction to Computer Science***  
Kenneth Goldman, *Washington University*
- 2:40 ***Science of Computing Suite (SOCS): Resources for a Breadth-First Introduction***  
Carl Burch, *Saint John's University*  
Lynn Ziegler, *Saint John's University*
- 3:05 ***We Claim this Class for Computer Science. A Non-Mathematician's Discrete Structures Course***  
Adrienne Decker, *University at Buffalo, SUNY*  
Phil Ventura, *State University of West Georgia*

- PANEL Great Principles in Computing** Sat. 2:15 – 3:30  
Hampton Roads IV-V
- Moderator: Peter Denning, *Naval Postgraduate School*  
Panelists: Rudolph Darken, *Naval Postgraduate School*  
Eric Roberts, *Stanford University*  
Mark Guzdial, *Georgia Tech*

- SPECIAL SESSION Teaching Software** Sat. 2:15 – 3:30  
**Development Methods: The Case of Extreme Programming** Marriott Ballroom IV
- Organizer: Orit Hazzan, *Technion - Israel Institute of Technology*  
Participants: Joe Bergin, *Pace University*  
James Caristi, *Valparaiso University*  
Yael Dubinsky, *Technion - Israel Institute of Technology*  
Laurie Williams, *North Carolina State University*

- SPECIAL SESSION IEEE-CS/ACM Computing** Sat. 2:15 – 3:30  
**Curricula: Computer Engineering and Software Engineering Volumes** Marriott Ballroom V-VII
- Moderator: John Impagliazzo, *Hofstra University*  
Participants: Esther A. Hughes, *Virginia Commonwealth University*  
Richard LeBlanc, *Georgia Tech*  
Tim Lethbridge, *University of Ottawa*  
Andrew McGettrick, *University of Strathclyde*  
Ann E. Sobel, *Miami University*  
Pradip K. Srimani, *Clemson University*  
Mitchell Theys, *University of Illinois at Chicago*

**Saturday Afternoon, 3:30 p.m. to 4:00 p.m.**

- Short Break** Sat. 3:30 – 4:00

**Saturday Afternoon, 4:00 p.m. to 5:15 p.m.**

- PAPERS Web-based Technologies** Sat. 4:00 – 5:15  
Hampton Roads I-III
- Chair: Helmar Burkhart, *University of Basel*
- 4:00 **Electronic Commerce Software Laboratory**  
Alfred Weaver, *University of Virginia*
- 4:25 **Web Services as the Foundation for Learning Complex Software System Development**  
Marty Humphrey, *University of Virginia*
- 4:50 **AlgoVista: An Algorithmic Search Tool in an Educational Setting**  
Christian Collberg, *University of Arizona*  
Stephen Kobourov, *University of Arizona*  
Suzanne Westbrook, *University of Arizona*

- PAPERS Design & Modeling in Introductory Courses** Sat. 4:00 – 5:15  
Hampton Roads VI-VIII
- Chair: Mario Guimaraes, *Kennesaw State University*
- 4:00 **Design Patterns For Marine Biology Simulation**  
Dung “Zung” Nguyen, *Rice University*  
Mathias Ricken, *Rice University*  
Stephen Wong, *Rice University*
- 4:25 **MODELeR: Multimedia Object Design Learning Resource**  
John Coffey, *The University of West Florida*  
Robert Koonce, *Embry-Riddle Aeronautical University*
- 4:50 **Programming in Context – A Model-First Approach to CS1**  
Jens Bennedsen, *IT University West*  
Michael E. Caspersen, *University of Aarhus*

- PAPERS Capstone Courses** Sat. 4:00 – 5:15  
Marriott Ballroom I-III
- Chair: Farid Hallouche, *Saginaw Valley State University*
- 4:00 **Benefits of Using Socially-Relevant Projects in Computer Science and Engineering Education**  
Michael Buckley, *University at Buffalo, SUNY*  
Helene Kershner, *University at Buffalo, SUNY*  
Kris Schindler, *University at Buffalo, SUNY*  
Carl Alphonse, *University at Buffalo, SUNY*  
Jennifer Braswell, *University of California, San Diego*
- 4:25 **Research, Teaching, and Service: The Miniconference as a Model for CS Graduate Seminar Courses**  
Paolo Sivilotti, *The Ohio State University*  
Bruce Weide, *The Ohio State University*
- 4:50 **A Reusable, Academic-Strength, Metrics-Based Software Engineering Process for Capstone Courses and Projects**  
Richard Conn, *Kennesaw State University and Microsoft*

- PANEL Managing the Introductory Database Course: What Goes In and What Comes Out** Sat. 4:00 – 5:15  
Marriott Ballroom IV
- Moderator: Elizabeth Adams, *James Madison University*
- Panelists: Mary Granger, *George Washington University*  
Don Goelman, *Villanova University*  
Catherine Ricardo, *Iona College*

- SPECIAL SESSION Transitioning to an Objects-Early Three-Course Introductory Sequence: Issues and Experiences** Sat. 4:00 – 5:15  
Hampton Roads IV-V
- Organizer: Manuel A. Perez-Quinones, *Virginia Tech*
- Participants: Steven Edwards, *Virginia Tech*  
Claude W. Anderson, *Rose Hulman Institute of Technology*  
Doug Baldwin, *SUNY Geneseo*  
James Caristi, *Valparaiso University*  
Paul J. Wagner, *University of Wisconsin- Eau Claire*

- SPECIAL SESSION Computing Curricula 2004: The Overview Project** Sat. 4:00 – 5:15  
Marriott Ballroom V-VII
- Organizer: Russell Shackelford, *Stanford University*
- Participants: Lillian Cassel, *Villanova University*  
James Cross, *Auburn University*  
John Impagliazzo, *Hofstra University*  
Eydie Lawson, *Rochester Institute of Technology*  
Richard LeBlanc, *Georgia Tech*  
Andrew McGettrick, *University of Strathclyde*  
Robert Sloan, *University of Illinois at Chicago*  
Heikki Topi, *Bentley College*

**Saturday Afternoon, 5:30 p.m. to 6:00 p.m.**

- SIGCSE Wrap-up Session** Sat. 5:30 – 6:00  
Hampton Roads IV-V

**Saturday Evening, 7:00 p.m. to 10:00 p.m.**

- Workshops 21-28,31,32** Sat. 7:00 – 10:00  
Various Locations
- Descriptions and locations of workshops are listed in the Workshops section toward the end of this program.*

**Note:** Workshops 28 and 31 will be held in Brown Memorial Hall (Wing C/Second Floor) at Norfolk State University. A free shuttle to the university will depart at 6:30 from the street just outside the gold doors in front of the Norfolk Ballroom.

**PROGRAM-AT-A-GLANCE**

**Thursday, March 4**

8:30- 9:45- 10:15- 11:30- 2:00-  
9:45 10:15 11:30 2:00 3:15

Hampton Roads	I-III	Break	Paired Programming	New Technologies
	IV-V		Nifty Assignments	Cryptography and Security
	VI-VIII		Testing and Debugging	Outcomes Assessment
Marriott Ballroom	I-III		HCI	Programming Languages
	IV		NSF Funding Opportunities	Special Project Showcase
	V-VII		IT Accreditation	Discrete Math Status Report
Hampton Roads Ballroom	Welcome & Keynote			
Sheraton Providence Hall			1st Timers' Lunch	
Yorktown		Vendor Session	Vendor Session	
Chesapeake James		Hourly Film Screening: "To Dream Tomorrow"		
Norfolk Ballroom & Foyer			Grab 'n Go Lunch and Exhibits	

**PROGRAM-AT-A-GLANCE**

**Thursday, March 4**

3:15- 4:00- 5:45- 6:45- 7:30-  
4:00 5:15 6:30 7:30 9:30

Hampton Roads	I-III	OO Issues		
	IV-V	Success Predictors		
	VI-VIII	Curricular Directions		
Marriott Ballroom	I-III	Formal Methods	Birds of a Feather	Birds of a Feather
	IV	Education Research		
	V-VII	NSF ATE Project		
Yorktown	Vendor Session			
Shangri-La Franklin				
Chesapeake	"To Dream Tomorrow"			
Norfolk Ballroom & Foyer	Break & Exhibits	Exhibits (close at 5:00)		
Sheraton Int'l Ballroom				SIGCSE Reception

**Friday, March 5**

8:45- 10:00- 10:45- 12:00- 2:00-  
10:00 10:45 12:00 2:00 3:15

Marriott Ballroom	I-III	Algorithms & Data Structures	Evaluating Prog. Skills	CS Education Research
	IV	Pervasive Computing	Bioinformatics	CC2003 - Liberal Arts
	V-VII	Writing in the CS Curriculum	Faculty Positions	Computer Ethics
Sheraton York	Taming Java	Gender Issues	Success Factors	
Sheraton Stratford	Kinesthetic Learning	Java-Based Resources	Student Bugs	
Chesapeake	Student Research	AI	Systems-Level Programming	
Hampton Roads Ballroom			SIGCSE Lunch	
Yorktown	Vendor Session	Vendor Session		
Norfolk Ballroom & Foyer	Exhibits (open at 9:30)	Break & Exhibits	Exhibits	

**Friday, March 5**

3:15- 4:00- 5:30- 6:15- 7:00- 7:00- 10:00

Marriott Ballroom	I-III	Networks		
	IV	Offshore Outsourcing	SIGCSE Bus. Meeting	CCSC Bus. Meeting
	V-VII	CS Small Departments		
Sheraton York	Pedagogic Approaches			Workshops 11-20  Various Onsite and Offsite Locations
Sheraton Stratford	K-12 CS Curriculum			
Chesapeake	Operating Systems			
James	Faculty Posters			
Yorktown	Vendor Session			
Norfolk Ballroom & Foyer	Break & Exhibits	Exhibits (close at 5:00)		

**PROGRAM-AT-A-GLANCE**

**Saturday, March 6**

		8:30-10:30	10:30-11:30	11:30-12:30	2:15-3:30
Hampton Roads	I-III			Graphics	Computer Security
	IV-V			Events vs. GUIs	Great Principles
	VI-VIII			Courses for Non-Majors	Other Viewpoints
Marriott Ballroom	I-III			Courseware	First Year Courses
	IV			Visualization	Extreme Programming
	V-VII			Distributed/Parallel Computing	CC2001: SE and CE Volumes
Hampton Roads Ballroom	Great Principles and Grand Challenges				
Sheraton Providence Hall Yorktown					
James		Faculty Posters			
Norfolk Ballroom & Foyer	Exhibits (open at 9:30)	Break & Exhibits	Exhibits (close at noon)		

**Saturday, March 6**

		3:30-4:00	4:00-5:15	5:30-6:00	7:00-10:00	
Hampton Roads	I-III	Short Break	Web-based Technologies		Workshops 21-28,31,32	
	IV-V		Objects-Early Sequence	SIGCSE Wrap-up		
	VI-VIII		Design & Modeling			
Marriott Ballroom	I-III		Capstone Courses			Various Onsite and Offsite Locations
	IV		Intro Database Course			
	V-VII		CC2004: The Overview Project			

**SIGCSE 2004 Vendor Sessions  
Yorktown**

Through the SIGCSE 2004 Symposium, exhibitors have the opportunity to schedule sessions on topics of their choice. The following sessions have been coordinated with the SIGCSE 2004 Committee. The SIGCSE 2004 Committee and SIGCSE appreciate the interest of these companies in computer science education and their willingness to work with the SIGCSE 2004 committee to coordinate these events.

**Curriculum Innovation and Curriculum Repository**

Tom McMail and Tom Healy, *Microsoft Research*

*Thursday, 10:15 – 11:30*

Sponsored by Microsoft

We live in a Digital Decade that continues to deliver technology to empower people -- ubiquitous computing devices, high-speed mobile Internet access, natural computer interfaces, grid computing, and collaborative technologies. As software evolves, so do the skills and knowledge required by the next generation of computer professionals. This talk will present how Microsoft University Relations collaborates with higher education on curriculum projects on a worldwide scale. The University Relations content and curriculum repository database will be discussed.

**e-business On Demand and the Software Development Platform**

*Thursday 2:00 – 3:15*

Sponsored by IBM

This briefing will provide an overview of how IBM software can enable you to simplify building, developing and deploying on demand applications, secure information assets and optimize your environment for the most productive utilization of IT infrastructure. IBM developer tools and technologies, including WebSphere Studio and Rational developer tools, will also be introduced.

**Tablet PC's in the Computer Science Curriculum**

Jeffrey L. Popyack, Bruce Char, and Nira Herrmann, *Drexel University*

*Thursday, 4:00 – 5:15*

Sponsored by Microsoft

Drexel professors use the Microsoft Tablet PC Software Development Kit (SDK) and Ink features in their CS courses. They will present on how these tools demonstrate key concepts for their students.

## **University Partnerships: Building Tomorrow's Business and Technology Leaders**

### **Together**

*Friday 8:45 – 10:00*

Sponsored by IBM

This panel discussion will provide a unique perspective surrounding the future of technology and academia. Covering such areas as the IBM Scholars Program, e-business on demand, and skills needed in industry, the panel will address the critical issues facing Computer Science today, and how IBM is working cooperatively with academia toward success. The discussion will provide conference attendees with an outlook of some innovative programs that help build stronger industry-academia partnerships.

## **Mac OS X: The Ultimate Platform for CS Education**

Matt MacInnis, *Manager of Research and Scientific Computing Apple Higher Education*

*Friday 10:45 – noon*

Sponsored by Apple

When students learn on a single, integrated platform with a native Java environment, vertically integrated services and a robust, powerful user interface, they benefit in innumerable ways. Mac OS X provides these benefits to the learner and the instructor. Whether it's the tightly integrated UNIX shells, the presence of commonly-used applications like Microsoft Office, or simply the unparalleled stability and security of its open source BSD core, many users have found that Mac OS X is a superior alternative to both Windows and Linux. In this talk, we will explore some of the more technical reasons that Mac OS X provides the best-possible environment for teaching users about Computer Science. Topics will include Apple's free Xcode development environment, its integrated Java capabilities, how the system architecture lends itself to rapid application development and will address future directions for Java on the Macintosh. Apple especially encourages Windows and Linux users to attend and experience the difference Mac OS X can make not only in their role as a teacher or professor, but also in their day to day lives.

## **Using Visual Studio.NET in an Academic Setting**

Joe Hummel, *Associate Professor, Math/Computer Science Department, Lake Forest College*

*Friday 4:00 – 5:15*

Sponsored by Microsoft

Joe has been using Visual Studio.NET in his CS concepts course for several years and has also provided professional development for higher ed and high school CS educators.

## **The SIGCSE 2004 Doctoral Consortium**

**Wednesday, March 3, 2004, 8:30 AM -5:30 PM**

**Marriott Ballroom V**

### **Coordinators**

Sue Fitzgerald, *Metropolitan State University*

Todd Stevens, *Radford University*

### **Description**

The SIGCSE Doctoral Consortium will be held the day before the regular sessions of the SIGCSE Technical Symposium begin. The aims of the Doctoral Consortium are:

- To offer a friendly forum for students to discuss their work and receive constructive feedback
- To offer relevant information on issues important to doctoral candidates
- To nurture a community of researchers

The Consortium is designed primarily for students currently enrolled in a Ph.D. program at any stage of study. Students in any area of computing are welcome to apply. The Consortium allows participants to interact with established researchers and with other students. It is a forum to discuss the process of research and life in academia. Each participant will give a short, critiqued research presentation.

### **Discussants**

Dr. Joe Chase, *Radford University*

Dr. J. Philip East, *University of Northern Iowa*

Dr. Orit Hazzan, *Technion - Israel Institute of Technology*

Dr. Manuel A. Pérez-Quñones, *Virginia Polytechnic Institute & State University*

Dr. Marian Petre, *The Open University, UK*

Dr. Mark Ratcliffe, *University of Wales, Aberystwyth*

### **Participants**

Marjahan Begum, *The University of Nottingham*

Adrienne Decker, *University at Buffalo, SUNY*

Kate Deibel, *University of Washington, Seattle*

Anna Eckerdal, *Uppsala University*

Rebecca Grasser, *Cleveland State University*

Jonathan Holloway, *University of Wales, Aberystwyth*

H. Chad Lane, *University of Pittsburgh*

Tracy Lewis, *Virginia Polytechnic Institute*

Peter McDonald, *MIT University*

Anatole D. Ruslanov, *Drexel University*

Benjy Thomasson, *University of Wales, Aberystwyth*

Jorge Vasconcelos, *John Hopkins University*

Titus Winters, *University of California, Riverside*

## SIGCSE 2004 Birds of a Feather

Birds of a Feather sessions are informal gatherings of attendees who share a common interest.

### Session I: Thursday, March 4, 2004, 5:45 p.m. to 6:30 p.m.

#### **The Evaluation of Faculty: The Next SIGCSE Committee?** Marriot Ballroom I Henry Walker, *Grinnell College*

Numerous faculty suggest that promotion, tenure, and salary committees may not understand the discipline of computing -- particularly related to computing education. This suggests that a group may be interested in reviewing current literature and surveying computing faculty regarding appropriate policies and best practices. Such work could lead to a focused report of appropriate expectations and practices. This BoF session will expand informal discussions and will help ascertain interest in this topic. For example, participants will review possible foci for the development of a new report in this area. With sufficient interest, this session might develop into a new SIGCSE Committee.

#### **Database Education: Where are we now?** Marriot Ballroom II Suzanne W. Dietrich and Susan D. Urban, *Arizona State University*

Database education has experienced several changes in recent years with the inclusion of object database concepts and the web. Some have met this challenge with introducing a second database course for undergraduates. Others who do not have this luxury have removed some topics from the first course to make room for the additional material. This BOF will provide the opportunity for a reflective discussion on dealing with this challenge and an open discussion on the future directions for database education.

#### **Mathematical Reasoning in Computer Science** Marriot Ballroom III Peter B. Henderson, *Butler University*

Mathematics and mathematical reasoning are central to computer science, and mathematical concepts should become an integral part of the entire CS curriculum. This birds-of-a-feather will be a forum for educators to discuss the role of mathematics in computer science curricula.

#### **Empirical Evidence of Influences on Women's Representation in the Computing Sciences** Marriot Ballroom IV J. McGrath Cohoon, *University of Virginia*

Marguerite Giguette, *Xavier University of Louisiana*

We will discuss women's under-representation in the computing sciences from two viewpoints. Newly completed nationwide research documents the ways in which faculty can help retain women at comparable rates to men, demonstrating that actions at the department level can effectively stem the outflow of women. We will discuss effective intervention points for retaining women in the major, with a focus on the empirically documented successful methods. Since many conclusions regarding the decline of women in the computing sciences are based on anecdotal evidence or locally-based samples, the National Science Foundation (NSF) recently awarded Xavier University of Louisiana a three-year grant to collect nationwide data in order to arrive at a more scientific understanding of this phenomenon. This study will investigate gender, ethnic, and cultural differences as related to the under-representation of women in the computing sciences. This study's research team will discuss aspects of the study and exchange ideas with people interested in this type of work.

#### **Transitioning to Computer Science at the University Level** Marriot Ballroom V Gian Mario Besana and Lucia Dettori, *DePaul University* Alicia Gutschow, *Blue Ridge Community College*

More and more students are entering the CS programs at 4-year institutions with previous experience gathered either in High School or at 2-year Junior Colleges. It is becoming increasingly difficult to provide proper placement of incoming freshmen into introductory courses of the CS curriculum and to ensure proper articulation agreements to create seamless transfer experiences. We would like to have a productive discussion in which information about existing solutions is shared and a list of desiderata for optimal solutions is produced.

#### **Assessing The CS/CIS Major: What Works And What Doesn't Work** Marriot Ballroom VI Nieves McNulty and Madeleine Schep, *Columbia College*

Most colleges and universities require assessment of their programs. Some departments do just enough to satisfy their deans. We, however, are interested in meaningful assessment that will help us improve our programs and that, in turn, will benefit our students. In this session, we would like faculty to share their assessment experiences so others may learn about strategies that work well, and about some pitfalls to avoid.

#### **Who's Managing Who? Using Course Management Systems in Computer Science Courses** Marriot Ballroom VII Jeffrey L Popyack, Bruce Char, Paul Zoski, and Nira Herrmann, *Drexel University*

This discussion will focus on the use of course management systems (WebCT, Blackboard, TopClass, et al.) by computer science educators to administer their courses. Come share success stories, "war stories", workarounds, advice, and the like.

#### **Computer Networking Revisited** Yorktown Dick Mowe, *St. Cloud State University*

A panel at SIGCSE 2001 examined the place for computer networking ideas in the computer science curriculum. Some concepts remained in a computer networks class. Others found their way into other existing classes and still others into new classes and even new degree programs. The discussion leader for this BOF participated in that panel and would like to revisit the topic and to compare notes again. Two areas that have caught public attention are wireless networking and network security. What are the implications for the computer science curriculum?

#### **A Concepts-based Approach to Teaching Programming** Shangri-La Peter Van Roy, *Université Catholique de Louvain*

We propose to teach computer programming in terms of programming concepts, not in terms of programming languages or paradigms. We start with a small set of concepts and show students how to design, program, and reason with them. We then add concepts one by one to remove limitations in expressiveness. We have taught with this approach since 2001. We would like to meet with other educators who are interested in this approach and/or have also taught with a similar approach, to exchange ideas and experiences.

### **Preparing for a Career as an Educator in Academia**

Franklin

Dan Cliburn, *Hanover College*

Jeff Forbes, *Duke University*

Over the last several years, the number of Computer Science graduate students who choose to pursue careers in academia has decreased at alarming rates. Many of those remaining who do choose academia are not prepared for the teaching requirements that they face in their first position. This BOF will discuss how to best prepare participants for a career in academia. Specific topics will include, choosing the right graduate school, whether to focus on teaching or research during graduate study, what types of academic positions are available and how best to obtain one, how to choose an institution that will be a good fit upon graduation, and being successful in that first job. Student participants at SIGCSE are encouraged to attend.

### **Discussion with the Directors of “To Dream Tomorrow”**

Chesapeake

John Füegi and Jo Francis

“To Dream Tomorrow” is an award-winning film presenting the life and contributions to the computing discipline of Ada Lovelace. During this special Birds of a Feather session, which immediately follows the 5:00 PM Thursday screening, the film’s creators will lead a discussion about the film.

## **Session II: Thursday, March 4, 2004, 6:45 p.m. to 7:30 p.m.**

### **Volunteering within SIGCSE**

Marriot Ballroom I

Henry Walker, *Grinnell College*

The SIGCSE organization thrives through the efforts of its members. Some areas of activity include: participating on conference committees, writing papers for the SIGCSE Bulletin inroads or for conferences, organizing sessions at conferences, reviewing papers and proposals submitted to conferences, participating on SIGCSE Committees, submitting proposals for SIGCSE Project Grants, organizing or participating in a SIGCSE Chapter, and making nominations for SIGCSE’s annual awards for Contributions to Computer Science Education and for Service to the Computing Community. This BoF session will provide a forum to discuss many of these opportunities and allow interested SIGCSE members to indicate their interest in specific activities.

### **Establishing a Common Ground for Information Technology Competency**

Marriot Ballroom II

Joseph Chase, *Radford University*

Peter DePasquale, *The College of New Jersey*

The purpose of this session is to gather educators who are currently addressing the addition or modification of introductory information technology courses into their curriculum to discuss what techniques, texts, and tools are currently used in providing these service courses. It is anticipated that the discussion will include the content “expected” from such a curriculum – especially from those experiencing feedback from industry partners.

### **Teaching Computer Security**

Marriot Ballroom III

Robert Montante, *Bloomsburg University*

The objective of this session is to bring together those who are interested in teaching computer and network security or who might want to incorporate security topics into their courses. I expect an exchange of ideas concerning the following: What topics should be included in a computer security course? What would be a good textbook? What resources are available? What laboratory setup and exercises can be used? Can we develop a forum for sharing resources and ideas?

### **Colleges Serving the Community**

Marriot Ballroom IV

Andrew Beiderman and Donna Hiestand-Tupper, *The Community*

*College of Baltimore County – Essex Campus*

Combining the resources of our Computer Science and Multimedia programs, CCBC-Essex has developed a series of two-week workshops designed to teach Science, Mathematics and IT faculty of secondary schools and colleges how to create multimedia presentations for use in their own classrooms. During this Birds of a Feather session, we will discuss this and other ways small colleges can attract people to its programs.

### **Building and Researching CS Learning Communities**

Marriot Ballroom V

Hilary Holz, *CSU-Hayward*

Tyson Henry, *CSU-Chico*

Paula Gabbert, *Furman University*

Dwindling CS enrollment is making it crucial for many departments to recruit and retain not just underrepresented students, but all students. Recent studies have shown that techniques which work in other science, math, and engineering (SME) fields are not, in general, effective in CS. This session will review current research on R&R (focusing on CS learning communities), review recent methodological advances in educational research, and then focus on ACM-W student chapters as a case study. Faculty sponsors from ACM-W chapters in several different types of institutions will be present. The discussion will focus both on how to build a learning community and on how to document the impact of that community on recruitment and retention.

### **Lab Experience in the CS Curriculum**

Marriot Ballroom VI

Tia Watts and Lynn Stauffer, *Sonoma State University*

The Computing Curricula 2001 (CC2001) strongly advocates practice and hands-on experience for computer science students by stressing that “the overall program must include extensive opportunities for students to develop practical skills.” Many CS programs implement this by using lab sessions. At the same time, many academic institutions are confronting difficult fiscal futures; thus, the labor-intensive pedagogy that is integral for effective lab sessions is being threatened. This session will focus on the laboratory experience for CS undergraduates.

### **Alternative Introductions to Computing and Programming**

Marriot Ballroom VII

Mark Guzdial, *Georgia Tech*

For people offering, developing, or seeking introductory computing courses that include a significant programming component, with a special focus on improving retention and attracting women, minorities, and non-CS majors.

### **Pedagogies of Engagement for the Computing Sciences**

Robert Beck, *Villanova University*

We will discuss ways to promote student learning outside the regularly scheduled classroom and laboratory hours. Examples include service learning, study abroad, internships, individual student research projects, learning communities, and civic engagement.

### **Using History to Teach Computing**

John Impagliazzo, *Hofstra University*

This session will focus on a “history approach” as a way of teaching computing. The idea is to have history be an ongoing theme throughout a course through the adaptation of relevant historical materials. The session will explore ways to develop or seek out materials to enhance course delivery.

### **The Computer Science Small Department Initiative (CS\_SDI)**

Cathy Bareiss, *Olivet Nazarene University*

This special session will discuss the recent work of the Computer Science Small Department Initiative (CS\_SDI) in three areas: the identification of strengths and weaknesses that are typically found in small departments( 5 or less FTE CS faculty), applying the CC2001 guidelines to small departments, and departmental guidelines for areas such as faculty load and maintaining a departmental lab.

## **The 2004 ACM International Student Research Contest**

**Thursday, March 4, 2:00 – 4:00, James**

**Friday, March 5, 8:45 – 10:00, Chesapeake**

The Student Research Competition (SRC) sponsored by Microsoft Research awards prizes to the top three graduate and undergraduate students as determined by conference attendee evaluations of their research projects. Initially, students use the interactive nature of a visual presentation to highlight different aspects of their research to individual evaluators. These presentations are evaluated on their quality, the significance of the work, and the clarity of the informal discussion. The semi-finalists, the top five students in each category, present their contributions using the standard forum of conference presentation during two conference sessions. This venue provides selected audience attendees with another platform for evaluation, the student with experience in formal presentations, and conference participants with the opportunity to learn of ongoing, current research in computer science.

The first round of competition takes place in the James room from 2:00-4:00 p.m. on Thursday and the semi-finalists give their conference presentations in Chesapeake I (undergraduate) and Chesapeake II (graduate) from 8:45 - 10:00 a.m. on Friday. The ACM SIGCSE SRC winners will receive their awards during Friday’s luncheon.

## **SIGCSE 2004 Faculty Poster Sessions**

Posters present work-in-progress and other topics for which dialog with Symposium attendees is particularly appropriate. Posters are on display all day on Friday or Saturday, and authors will be available for discussion during the afternoon break on Friday and morning break on Saturday.

**Friday, March 5, 3:15 – 4:00**

**James**

### **Curator: Web-hosted Automated Grading and Collection System**

Dwight Barnette and William McQuain, *Virginia Tech*

### **Lemons Into Lemonade: Using Spam as a Teaching Tool**

Megan Conklin, *Elon University*

### **OOPic-Based Mobile Robots in the Curriculum**

Brian Culver and Tim McGuire, *Sam Houston State University*

### **Integrating Ethical and Social Issues into the Undergraduate Computer Science Curriculum Using Case-Based Instruction**

Melissa Dark, *Purdue University*

Ahmad Ghafarian, *North Georgia College and State University*

Jesse X. Yu, *College of St. Elizabeth*

### **Undergraduate Cluster Computing**

Farian Homma, Anne Kirk, and Matthew Haas, *SUNY Geneseo*

### **BIRD - A Low Overhead, Real-Time Display and Note-Taking System**

Evan Golub, *University of Maryland*

### **Developing Online Learning Modules Using the Adaptive Hypertext Features of NetCoach**

PJ Goodman and Stephen H. Edwards, *Virginia Tech*

### **Utilizing Activity Charts in Qualitative CSE Research**

Bruria Haberman, *Holon Academic Institute of Technology and The Weizmann Institute of Science*

Cecile Yehezkel, *The Weizmann Institute of Science*

### **Mass Production of Individual Feedback**

David Heaney and Charlie Daly, *Dublin City University*

### **Survivor: Getting Through That Class The First Time**

James Huggins, *Kettering University*

Joseph Bergin, *Pace University*

James Caristi, *Valparaiso University*

Ellen Walker, *Hiram College*

**CS Breadth Exposure Through Student Competition**

Iretta Kearse, *Spelman College*

**SIMPL: A Simplified Message Passing Library**

Tim McGuire, *Sam Houston State University*

**A Simple, Pedagogical Processor Architecture Model**

Robert Montante, *Bloomsburg University of Pennsylvania*

**Simple Network Programming Examples and Assignments**

Richard Mowe, *St. Cloud State University*

**Easy Integration of LEGO Mindstorms into Vacuum World Simulations**

David R. Musicant and Andrew Exley, *Carleton College*

**Implementing Web Languages in a Compiler Construction Course**

Ariel Ortiz, *Tecnologico de Monterrey, Campus Estado de Mexico*

**A Multi-tier Adaptation of Grid Computing in Computer Science Curriculum**

Bina Ramamurthy, *University at Buffalo, SUNY*

**Anonymous group work to assist the pedagogical processes in early software design**

Mark Ratcliffe, Benjy Thomasson, and Wayne Ellis, *University of Wales*

**Maintaining Ugly Code**

Nancy Tinkham, *Rowan University*

**Random Pop Quiz 101**

Jenq-Foung Yao and Yongqiao Xiao, *Georgia College & State University*

**Saturday, March 6, 10:30 - 11:15**

**James**

**Overcoming Misconceptions about Computer Science With Multimedia**

Glenn D. Blank, Sally Hiestand, and Fang Wei, *Lehigh University*

**RAPTOR: Introducing Programming to Non-Majors with Flowcharts**

Martin C. Carlisle, Terry A. Wilson, Jeffrey W. Humphries, and Steven M. Hadfield, *United States Air Force Academy*

**Moving to CC 2001 in a Small School**

John Dooley, *Knox College*

**Impact of Pre-Programming Course Curriculum on Learning in the First Programming Course**

Rob Faux, *University of Minnesota – Morris*

**KJP Language to Improve Teaching of Programming**

Jose Garrido, *Kennesaw State University*

**Recruiting Middle School Girls into a Computer Magnet High School**

Kathy Garvin-Doxas and Lecia J. Barker, *University of Colorado*

**Kennesaw Database Courseware: Recent Enhancements and Evaluation Component**

Mario Guimaraes, *Kennesaw State University*

**Kinesthetic Role-Playing for Data Structures**

William Joel, *Western Connecticut State University*

**A Course In Black Box Software Testing**

Cem Kaner, *Florida Institute of Technology*

**Stretching Horizons: Stimulating Information Technology Education among Underrepresented Minorities**

Myungsook Klassen and Ali Akbari, *California Lutheran University*  
Russell Stockard, *California State University Northridge*

**Activities of the ACM Two-Year College Education Committee**

Karl Klee, *Alfred State College*

Elizabeth K. Hawthorne, *Union County College*

**Effective Online Materials for Introductory Programming Courses**

Thomas Otani, *Naval Postgraduate School*

**Exploring Design Patterns in Java using the BlueJ IDE**

Jim Paterson and John Haddow, *Bell College*

**Disarming the Language “War”: Offering Multiple Pathways in CS1 and CS2**

Jon Preston and Jeff Chastine, *Clayton College and State University*

**CS0: Another Approach**

Susan Reiser, Rebecca Bruce, and J. Dean Brock, *University of North Carolina at Asheville*

**Towards a More Effective Way of Teaching the Cybersecurity Basics Course at IUP**

Rose Shumba and Mary Micco, *Indiana University of Pennsylvania*

**A Signal Computing Course for Software Undergraduates**

Michael Stiber, *University of Washington, Bothell*

**Developing a Medical & Bioinformatics Masters Degree**

Guenter Tusch, Paul Leidig, Gregory Wolffe, Lowry Stephenson, Donna Larson, Gary Brooks, and Douglas Kindschi, *Grand Valley State University*

**Design and Implementation of a Course in Algorithmic Thinking**

Jorge Vasconcelos, *Johns Hopkins University*

**Visualizing and Experimenting with Real Compiler Source code for Teaching Graduate Compiler Design**

Elizabeth White and Rahul Singh, *George Mason University*  
Ranjan Sen, *Microsoft Corporation*

## NSF CCLI Project Showcase

The NSF CCLI showcase participants are recipients of National Science Foundation Division of Undergraduate Education Course, Curriculum & Laboratory Improvement Program (NSF DUE CCLI) grants. All showcase sessions focus on educational issues: effective ways to present particular concepts in a classroom, using and evaluating new teaching techniques, anticipating future directions in the curriculum, and a host of other ideas directly applicable to college faculty. Showcase participants are faculty members from small liberal arts colleges to research-oriented universities. The webpage for the showcase is: <http://www.cs.virginia.edu/~cwm2n/cgi-bin/cclishowcase04.cgi>.

**Coordinator:** Christopher W. Milner, *University of Virginia*

Thursday, 11:30AM – 1:30 PM  
Norfolk Ballroom

**Development and Evaluation of a Customizable, Collaborative Electronic Textbook for the Tablet PC**

Ryan McFall, *Hope College*

**Helping Computer Science Faculty Teach Computer Ethics the DOLCE Way**

Keith W. Miller, *University of Illinois at Springfield*

Tracy Camp and Barbara Moskal, *Colorado School of Mines*

Deborah Johnson, *University of Virginia*

Laurie King, *College of the Holy Cross*

Chuck Huff, *St. Olaf College*

**Integrating Computer Ethics Across the Curriculum**

Marion Ben-Jacob, *Mercy College*

**Network Processing and Network Processors: Bridging Undergraduate Learning and Research in Software and Hardware**

Liang Cheng, *Lehigh University*

Thursday, 3:00 PM – 5:00 PM  
Norfolk Ballroom

**Development and Validation of a Case Study Approach to Teaching Human-Computer Interaction**

John M. Carroll, *The Pennsylvania State University*

**Designing an Adaptive Tutor for CS-II Laboratory**

Jungsoon P. Yoo, Judy Hankins, Cen Li, Chrisila Pettey, and Sung Yoo,

*Middle Tennessee State University*

**Multidisciplinary Teamwork: An Undergraduate Robotics Course Emphasizing Integrated System Design**

Jerry B. Weinberg, Cem Karacal, George Engel, Ai-Ping Hu, and William

White, *Southern Illinois University at Edwardsville*

**Teaching Software Testing On-line**

Stephen Edwards, *Virginia Polytechnic Institute and State University*

Friday, 10:00AM – Noon

Norfolk Ballroom

**GridForce: A Multi-tier Approach to Prepare our Workforce for Grid Technology**

Bina Ramamurthy, *SUNY at Buffalo*

**Performance Modeling of Embedded Systems for Senior Undergraduates**

Robert Klenke, *Virginia Commonwealth University*

**Phase II and Beyond: For Undergraduate Computational Science at JMU**

James Sohaki and David Pruett, *James Madison University*

**Individualized Exercises for Assessment and Self-Assessment of Programming Knowledge**

Peter L. Brusilovsky, *University of Pittsburgh*

Friday, 2:00 PM – 4:00 PM

Norfolk Ballroom

**Web-Based Tutors for Learning Programming in C++/Java?**

Amruth N. Kumar, *Ramapo College of New Jersey*

**Using Robots to Enhance An Undergraduate Liberal Arts Computer Science Curriculum with Open-Lab Projects**

Amruth N. Kumar, *Ramapo College of New Jersey*

**CLICS: A Computational Laboratory for Information and Computer Security**

Andrew T. Phillips and Paul Wagner, *University of Wisconsin - Eau Claire*

**The Pasc Galois Project: Visualization in Abstract Mathematics**

Michael Bardzell and Kathleen Shannon, *Salisbury University*

## SIGCSE 2004 Workshops

The following workshops are available to attendees at a nominal fee. Workshops listed as Computer Lab workshops will be held in Brown Memorial Hall (Wing C/Second Floor) at Norfolk State University. A free shuttle to Norfolk State University will depart at 6:30 from the street just outside the gold doors in front of the Norfolk Ballroom. The shuttle will return participants to the four conference hotels after the session. Please note that some of the "on-site" workshops are being held at the Sheraton Hotel, about a block from the Convention Center.

### Wednesday Workshops, 7:00 p.m. to 10:00 p.m.

- 1. Nifty Examples in Discrete Mathematics** Marriot Ballroom I  
William Marion, *Valparaiso University*  
Peter B. Henderson, *Butler University*

Good examples are powerful tools for enhancing student understanding of important connections between topics in discrete mathematics and fundamental ideas in computer science. The presenters will illustrate some nifty examples they have used to supplement material found in typical discrete math texts, or to present topics in novel ways. Small groups will work through some of these examples and discuss what they have learned. In addition, participants will submit one or two examples they have used. Groups will work to refine some of these examples. All materials presented, collected and developed will be posted on a workshop web page.

- 2. Java and XML in Concert** Marriot Ballroom II  
Helmar Burkhart, *University of Basel*

Both Java and XML offer platform independence: Java for software, XML for data. Thus, both technologies are ideal building blocks for future-oriented application development. The workshop's focus is on the Java — XML interaction and comprises a round trip of hot technologies used for tasks such as XML data access and processing, XML-Java binding, web service development, and XML-driven software generation. The presentation includes plenty of courseware samples and applications. Workshop attendants should have a basic knowledge of both XML and Java. After the workshop, attendees will have seen an overview of leading edge technologies and have a basic understanding why and how to include them in the classroom.

- 3. HCI in the Classroom** Marriot Ballroom III  
Daniel D. McCracken, *City College of New York*

Human-Computer Interaction is a recognized field in the CS curriculum, as of Computing Curricula 2001. But what is it? Can you teach it without a formal background in the subject? This workshop addresses both questions, through a combination of lecture/demonstrations, group exercises, and discussion of how to fit HCI into an already-crowded CS curriculum. Each participant may request a copy of *User-Centered Website Development: A Human-Computer Interaction Approach*, by Dan McCracken and Rosalee Wolfe (DePaul University). All will receive a CD containing instructor supplements, including a complete set of PowerPoint slides. NSF support is gratefully acknowledged.

- 4. Developing Software for the Tablet PC** Marriot Ballroom V  
Jeffrey L. Popyack, Bruce Char, and Nira Herrmann, *Drexel University*

Tablet PC's feature a stylus capable of inputting a data type called Ink. Ink has many characteristics that allow freehand pen annotation, editing, handwriting recognition, and text search. Microsoft's Tablet PC Software Development Kit (SDK) allows development of Windows-based applications for Tablet PC's with Visual Studio .NET, which includes a full set of graphical user interface and Ink manipulation tools. This introductory-level workshop includes a general overview of Tablet PC use, brief introduction to the Visual Studio .NET environment, salient features of C#, introduction to resources and demos available for Tablet PC developers, and instruction on using the SDK. THIS IS A HANDS-ON WORKSHOP - TABLET PCs WILL BE AVAILABLE FOR USE BY WORKSHOP ATTENDEES.

- 5. Active and Cooperative Learning Techniques for Computer Science Education** Marriot Ballroom VI  
Jeffrey J. McConnell, *Canisius College*

Active and cooperative learning provides a powerful mechanism to enhance depth of learning and increase material retention. Active and cooperative learning get students involved with the material rather than passively listening to a lecture. This workshop will use introductory material on active and cooperative learning for a number of activities that will give participants direct experience with and the chance to observe these techniques in action.

- 6. Intellectual Property Law Basics for Computer Science Instructors** Marriot Ballroom VII  
David G. Kay, *University of California, Irvine*

An introduction to the basics of intellectual property law (patents, copyrights, trade secrets, trademarks) designed to give computer science instructors a framework for answering student questions, debunking misconceptions, and understanding how the law and computing interact.

- 7. LEGO MindStorms Across the Computer Science Curriculum** Norfolk State Univ.  
Frank Klassner, *Villanova University*  
Myles McNally, *Alma College*  
Pamela Lawhead, *University of Mississippi*

This workshop will explore how to use LEGO MindStorms as an active-learning platform for teaching topics ranging from Programming 101 to Computer Architecture to Operating Systems to Artificial Intelligence. We will identify common problems first-timers may face in adopting the platform, and describe approaches to overcome them. In this workshop, COMPUTER SCIENCE will be emphasized over robot-building. Participants will receive material on how to use Java, C/C++, and Lisp to control and program MindStorms. All experience levels are welcome. THIS IS A COMPUTER LAB WORKSHOP.

**8. Using the NSF Digital Library to Enhance Your Teaching** Norfolk State Univ.

Manuel A. Pérez-Quñones, Edward Fox, and J.A.N. Lee, *Virginia Tech*  
Lillian Cassel, *Villanova University*  
John Impagliazzo, *Hofstra University*  
C. Lee Giles, *Pennsylvania State University*

This workshop will show how to use the resources available in the NSF Digital Library to improve your class lectures and activities. The workshop will also help participants in the preparation of materials that can be submitted to CITIDEL, the computing repository of the NSF DL, and to other online repositories. The preparation includes evaluation of the materials, which will lead to refinement and ultimate submission for distribution. Participants will learn techniques for future development and evaluation of resources and will gain strategies on how to use the National Digital Library. THIS IS A COMPUTER LAB WORKSHOP.

**9. jGRASP: An Integrated Development Environment with Visualizations for Teaching Java in CS1, CS2, and Beyond** Norfolk State Univ.

James H. Cross II, Dean Hendrix, and David Umphress, *Auburn University*

jGRASP is an integrated development environment, created specifically to provide automatic generation of software visualizations for the purpose of improving the comprehensibility of the software. These visualizations, which are particularly well-suited for CS1 and CS2 students learning Java, include the Control Structure Diagram, the UML Class Diagram, and the visual debugger. The workshop will include tutorials and example programs to demonstrate how instructors can improve the learning and programming experience of their students with jGRASP. Instructors are encouraged to bring programs from their own courses to experiment with the visualizations during the workshop. jGRASP is freely available at [www.jgrasp.org](http://www.jgrasp.org). THIS IS A COMPUTER LAB WORKSHOP.

**10. LAMP: An Approach for Teaching Internet Technology Using Open Source Software** Norfolk State Univ.

Jigang Liu, *Metropolitan State University*  
Kai Qian, *Southern Polytechnic State University*

Although Microsoft has a very strong presence in the market of Internet technology, open source software is gaining acceptance worldwide at a pace beyond many predictions, with many businesses, government and non-profit organizations, and universities already using it. In this workshop we will introduce you to how to employ open source software, Linux, Apache, MySQL, and PHP (LAMP) in particular, to teach Internet technology in a university setting. Through three target-oriented small projects, you will experience how easy it is to create a non-trivial 3-tier web based application with LAMP. Some pedagogical issues, such as course design, software selection, teaching strategies, and case studies, are also briefly discussed in the workshop. No prior experience in Internet technology is required for computer science educators. THIS IS A COMPUTER LAB WORKSHOP.

**Friday Workshops, 7:00 p.m. to 10:00 p.m.**

**11. Bioinformatics for Computer Scientists** Sheraton York  
Debra T. Burhans, *Canisius College*

Gary R. Skuse and Paul T. Tymann, *Rochester Institute of Technology*

This workshop is designed to introduce computer science educators to the emerging field of bioinformatics. The workshop will provide an overview of basic biological concepts, including fundamental structures such as cells, genes, chromosomes and proteins along with higher-level concepts such as genomes, proteomes and the biobibliome. Some important algorithms for bioinformatics analysis will be introduced, in particular those related to sequence assembly and gene prediction. The workshop will conclude with a discussion of bioinformatics resources for educators, including software, databases, course and laboratory materials, exercises, and on-line teaching tools.

**12. Teaching Software Engineering (Software Development Process) Using Real Projects for Real Clients** Hampton Roads I

David Klappholz, *Stevens Institute of Technology*  
Dan Port, *University of Hawaii at Manoa*

A course based on teams working on real projects for real clients requires a great deal of material as well as decisions on such issues as team formation, client vetting, grading of individual versus team effort, agile versus heavyweight process, etc. We begin with Barry Boehm's USC CS577, a course that comes with readily available lecture slides, homeworks, templates for artifacts, guides to their use, and examples of previous student projects, and discuss its tailoring to various situations, including use at research universities, universities with adult student populations, and minority institutions.

**13. Microsoft .Net Programming (Part 1): Building Applications with C#, J# or VB .NET** Hampton Roads II

Joe Hummel, *Lake Forest College*

Microsoft .NET is an exciting new framework for programming not only on Windows platforms, but Linux and FreeBSD as well. This workshop will introduce the attendee to .NET programming, in particular with regards to building console-based and GUI applications. Both command-line tools (free) and Visual Studio .NET (\$) will be demonstrated. The purpose of this workshop is to introduce .NET, allowing attendees to evaluate their use in a CS or IT curriculum. PowerPoint presentations will be example-based, and suitable for introducing .NET to students; attendees have access to all PowerPoint slides for use in their classes.

**14. An Introduction to Aspect Oriented Programming** Yorktown  
Timothy Knautz and Stuart Hansen, *University of Wisconsin-Parkside*

Aspect Oriented Programming (AOP) is a relatively new programming paradigm where crosscutting concerns are emphasized. A crosscutting concern is some feature of a program that is present throughout the system and cannot be easily encapsulated into a class. Examples of crosscutting concerns are security, profiling and visualization. In AOP, concerns are grouped into aspects, which are then woven into the system. This workshop introduces AOP using AspectJ, but the ideas presented are applicable to any aspect oriented language. Topics include: Object Oriented vs. Aspect Oriented programming, join points, pointcuts, advice, introductions, aspects, weaving and the AspectJ implementation.

**15. Marine Biology Simulation Case Study** Sheraton Stratford  
Alyce Brady, *Kalamazoo College*  
Kathleen Larson, *Kingston High School*

The Java-based Marine Biology Simulation case study developed for the Advanced Placement program is equally appropriate for CS1/CS2 courses at the high school or college level. The program illustrates topics from the introductory sequence, such as object interaction, interfaces, inheritance, dynamic binding, a variety of data structures, and discrete simulation. The accompanying narrative discusses the program's design and implementation, and presents a number of modifications to introduce new pedagogical topics. It focuses extensively on testing, and includes analysis questions, exercises, and programming assignments. This workshop will introduce the case study and how to integrate it into introductory courses.

**16. Multimedia Construction Projects for CS1/2** Hampton Roads III  
Mark Guzdial, *Georgia Institute of Technology*

Multimedia construction can be a motivating and creative domain for examples and assignments in computer science classes. Because of the speed and capacity of modern computers, simple and obvious algorithms that fit even at the CS1 and CS2 levels run in reasonable time. In this workshop, we will cover both algorithms and working code for creation and manipulation of sound, image, and video data. Example techniques will include sound splicing and reversing, chroma key ("blue screen") image effects, animation, and Photoshop-like filters. Example code will be presented in Python (Jython), Smalltalk (Squeak), and Java.

**17. Teaching Design Patterns in CS1/CS2** Norfolk State Univ.  
Carl Alphonse, *University at Buffalo, State University of New York*  
Dung (Zung) Nguyen and Stephen Wong, *Rice University*  
Philip Ventura, *State University at West Georgia*  
Michael R. Wick, *University of Wisconsin - Eau Claire*

Object-oriented programming (OOP) is an effective paradigm to abstract the problems at hand and master their complexity; as such it is pervasive in all large modern software systems. Many of the recurring abstractions are expressed by design patterns making them powerful tools to formulate and implement complex, yet flexible, extensible, robust and correct systems. From our experience teaching CS1/CS2, we believe it is possible and desirable to teach OOP from a design patterns perspective. This workshop addresses how to present design patterns in an objects-first CS1/CS2 sequence so that their purpose and applicability are plainly grasped by a beginning student. THIS IS A COMPUTER LAB WORKSHOP.

**18. Assistive Technology in Computer Science** Norfolk State Univ.  
Blaise W. Liffick, *Millersville University*

This workshop will demonstrate how assistive technology (AT) for the disabled can be incorporated into computer science as a method of demonstrating basic CS principles, human-computer interaction methods, and social, legal, and ethical issues in computing. There is an increasing need for computer professionals who are familiar with AT to (1) provide support to disabled employees, and (2) provide support for company clients. This workshop will prepare computer science educators to incorporate examples, assignments, and specific information about AT into standard computer science courses, as well as present a model for a course on AT from a computer science perspective. THIS IS A COMPUTER LAB WORKSHOP.

**19. Teaching an Introductory Computer Graphics Course Using OpenGL** Norfolk State Univ.  
Dan Cliburn, *Hanover College*

In the past, introductory graphics courses focused traditionally on algorithms for drawing points, lines and polygons using low-level or system specific commands. This approach has become dated with the introduction of OpenGL and other high level 3D graphics application programming interfaces (API). OpenGL is an API that provides access to graphics hardware through functions common to 3D graphical applications. This workshop focuses on using OpenGL to teach a junior/senior level elective course in computer graphics. Both OpenGL programming techniques and the design of a high level 3D graphics API such as OpenGL will be covered. THIS IS A COMPUTER LAB WORKSHOP.

**20. Team OOP Projects as a Teaching Tool** Norfolk State Univ.  
Maria Litvin, *Phillips Academy*

One widely accepted claim about OOP — that it facilitates team software development — is often presented without providing students with adequate hands-on experience. Participants in this workshop will take part in a meaningful OOP project. Tasks will be divided among programmers with various technical strengths. The team leader and group leaders will supervise the work of team members and integrate their code into a final product. The emphasis will be on project management rather than on writing Java code. The workshop will include a brief overview of the key OOP concepts and a post-lab discussion of the development process and results. Some familiarity with Java is expected. THIS IS A COMPUTER LAB WORKSHOP.

**Saturday Workshops, 7:00 p.m. to 10:00 p.m.**

**21. WANS, LANs, and WLANs - Networking** Sheraton Brandon  
**Laboratories using Simulation**

Chris McDonald, *The University of Western Australia*

This workshop will demonstrate that many practical aspects of computer networking can best be motivated, demonstrated, developed and analyzed through quality, interactive, simulation tools. The workshop reflects on our 12 years' teaching experience with the simulation of wide-area, local-area Ethernet, and the exciting, new, mobile and ad-hoc wireless environments, in undergraduate courses of up to 180 students each year. Faculty will be introduced to exercises and assessments suitable for open- and closed-laboratory sessions, and even capstone projects. Road-tested student exercises will demonstrate detection and recovery from data-corruption and loss, data-link protocols, table-driven and on-demand routing algorithms, fragmentation, encryption and compression.

**22. Robot Control and Embedded Systems on** Hampton Roads I  
**Inexpensive Linux Platforms**

Edward C. Epp, *Intel Corporation*

Robotics and embedded systems labs are making their way into the undergraduate curricula for reasons that include creating motivational exercises, exercising cross discipline problem-solving skills, and supporting courses (AI, embedded, OS, architecture). A new set of small, inexpensive (\$300-600), Linux control boards provides increased flexibility and richness. This workshop explores small XScale controllers along with available software. We will learn how to compile Linux kernels, use cross-compilers, take advantage of Java, use PCMCIA flash memory, interact with wireless sensor nets (802.11, bluetooth, and motes), set up web servers, use USB webcams, control an AmigoBot, and interact with serial controllers.

**23. Java: an Eventful Approach** Hampton Roads VIII  
Andrea Danyluk, Kim Bruce, and Tom Murtagh, *Williams College*

In this workshop we describe an objects-first approach to teaching Java that introduces event-driven programming in the very first programming examples, introduces concurrent threads early, and uses graphics and animation extensively. We show how these seemingly advanced topics can be presented so that they are easy for introductory course students to grasp. We also show how our approach exposes students to object-oriented programming techniques more thoroughly than is possible in more traditional approaches. Our approach is supported by materials developed with NSF funding including extensive course notes, laboratory exercises, the Objectdraw library, and a textbook to be published in 2004.

**24. Building a Modern Computer from First Principles** Yorktown  
Shimon Schocken, *Interdisciplinary Center Herzliya*  
Noam Nisan, *Hebrew University of Jerusalem*

We describe a course that aims to demystify the integrated function of computer systems. Using a modular series of projects, we guide the students through the gradual construction of a complete working computer. Starting with simple Nand gates, the students build the computer's architecture using a simple hardware description language and a hardware simulator. Next, they write an assembler, a virtual machine, a compiler for a simple object-based language, a mini-OS, and finally a user-level application such as Tetris. This is achieved in a one-semester course by virtue of extreme simplicity and modular design. Further, we provide extensive APIs and facilitate unit-testing using pre-supplied test programs and files. The course assumes no special knowledge beyond programming, and is accompanied by a textbook which is forthcoming in MIT press. The web site is in [www.idc.ac.il/tecs](http://www.idc.ac.il/tecs).

**25. Microsoft .Net Programming (Part 2): Building** Franklin  
**Web-Based Applications in C#, J# or VB .NET**  
Joe Hummel, *Lake Forest College*

Microsoft .NET is an exciting new framework for programming not only traditional applications, but web-based applications as well. This workshop is a follow-on to part 1, demonstrating how .NET is used to build both form-based web apps and web services. The purpose of this workshop is to (a) learn more about web-based programming, and (b) allow attendees to evaluate the use of .NET in a CS or IT curriculum. PowerPoint presentations will be example-based, and suitable for presenting .NET to students; attendees have access to all PowerPoint slides for use in their classes.

**26. Developing Secure Applications** Washington  
Brian Loomis, *Microsoft Corporation*

This workshop will describe the tools, processes and techniques used in building secure applications for business. As these techniques become broadly adopted in practice, universities considering a new or existing course in secure software or software engineering course may use this as a state-of-the-practice review. Secure application design focuses on three areas: securing the platform infrastructure, securing the application (through design and code-based access), and testing. The workshop will cover theoretical aspects of security as well as practical lifecycle management in modern software engineering practice. Attendees should be familiar with a modern programming language since demos include advanced coding techniques.

**27. Teaching Computer Science with Python** Wilson  
John M. Zelle, *Wartburg College*

Python is a free, object-oriented, scripting language. Its simplicity and elegance make it a perfect language for beginning programmers and enhances the productivity of experienced professionals. Python is now a standard tool in many areas of software development. Using Python in our CS curriculum has allowed our students to focus more on fundamental concepts and less on arcane language issues. This workshop is an introduction to the Python language emphasizing its uses in teaching from introductory programming to upper-level courses such as Data Structures, Databases, Internet Programming, Operating Systems, and Computer Graphics.

**28. Games, Cellphones and PDAs: Enhancing Undergraduate Computing Education with the Java Micro Edition (J2ME)** Norfolk State Univ.

Mark Burge, *Armstrong Atlantic State University*

How do you prepare students today, to work on the most widely available computing platforms of tomorrow? Programmable cell phones and personal digital assistants (PDAs) have already become more numerous than PCs. With their small size and mobility, these devices present both new opportunities and unique software engineering challenges like small memory models, cross-platform development, state machines, and wireless networking. You will learn how to use the Java Micro Edition (J2ME) to easily develop labs based on arcade and logic games that will motivate and excite your students. Based on the initial results of an NSF CCLI project; please visit [vision.armstrong.edu](http://vision.armstrong.edu) for further information. THIS IS A COMPUTER LAB WORKSHOP.

**31. JSPs in the Classroom** Norfolk State Univ.  
Chong-wei Xu, *Kennesaw State University*

This workshop will introduce participants to JavaServer Pages (JSPs), and with teaching experiences in classrooms. JSPs are a new technology for building Web applications. A Web application consists of three tiers. The middle tier is made up of presentation logic, business logic, and database management. JSPs mix HTML, JavaScript, JavaBeans, and custom tags to implement these functionalities. Participants will learn the installation of Tomcat, the structures of JSPs, the practical skills of implementations, the design of components, and the MVC model that modulates Web applications. A CD that contains PowerPoint slides with linked examples and Tomcat will be delivered. THIS IS A COMPUTER LAB WORKSHOP.

## SIGITE (Special Interest Group on Information Technology Education) Workshop

**32. The ABET Accreditation Process for Computing Programs** Sheraton Claremont  
Lillian N. Cassel, *CAC*  
Doris K. Lidtke, *ABET, Inc.*  
Don Bailes, *CSAB, Inc.*  
Neal Coulter, *PEPC*

Computing programs may be interested in pursuing accreditation, but feel that they do not understand the process. Individuals within the program, who would be responsible for implementing the process, do not know where to go to gather needed information. This workshop will bring together representatives of ABET, Inc.; CAC (Computing Accrediting Commission); CSAB, Inc.; experienced Information Systems and Computer Science program evaluators; and representatives of programs that have recently succeeded in the process. The workshop will begin with an overview of the process from the commission perspective (ABET, Inc. and CAC (Computing Accreditation Commission)). Then, program representatives will review the process planning and implementation from their end, including self study hints and sample course materials. To wrap things up, experienced accreditation team members will discuss the process from their end and give perspectives on what they review. Finally, all participants will engage in Q&A. This workshop is a "must attend" for programs interested in IS, CS, IT or any Computing accreditation at the baccalaureate level.

## SIGCSE 2004 Symposium Committee

**Dan Joyce**, Symposium Co-Chair  
Villanova University

**Wanda Dann**, Program Co-Chair  
Ithaca College

**Douglas Harms**, Publications Chair  
DePauw University

**Greg Wolffe**, Workshops Coordinator  
Grand Valley State University

**Ann Sobel**, ACM Student Research  
Competition Chair  
Miami University, OH

**Sue Fitzgerald**, Doctoral Consortium  
Coordinator  
Metropolitan State University

**Paul Tymann**, Evaluations  
Rochester Institute of Technology

**George Harrison**, Local Arrangements  
Norfolk State University

**Henry Walker**, Database Administrator  
Grinnell College

**Cary Laxer**, Registration  
Rose-Hulman Institute of Technology

**Deborah Knox**, Symposium Co-Chair  
The College of New Jersey

**Tom Naps**, Program Co-Chair  
University of Wisconsin - Oshkosh

**Myles McNally**, Special Sessions and Panels  
Coordinator  
Alma College

**Jim Howatt**, Birds-of-a-Feather Coordinator  
Southeastern Louisiana University

**Kris Powers**, Faculty Posters Coordinator  
Berry College

**K. Todd Stevens**, Doctoral Consortium  
Coordinator  
Radford University

**John Lewis**, Treasurer  
Villanova University

**Jim Aman**, Student Volunteers Coordinator  
St. Xavier University

**John Dooley**, Database Administrator  
Knox College

**Larry Merkle**, Registration  
Rose-Hulman Institute of Technology

## SIGCSE 2004 Symposium Statistics

	<b>Accepted</b>	<b>Submitted</b>
<b>Papers</b>	90	320
<b>Panels</b>	11	16
<b>Special Sessions</b>	16	21
<b>Workshops</b>	31	64
<b>Faculty Posters</b>	40	58
<b>Birds of a Feather</b>	20	41

### **Paper Reviewing**

Number of reviewers:	538
Number of reviews received:	1946
Number of reviews assigned to each paper:	at least 6
Number of papers with 6 or more reviews:	161
Number of papers with exactly 5 reviews:	133
Number of papers with exactly 4 reviews:	26

**Paper acceptance rate:** 28.13%

## SIGCSE 2004 Award Winners

Mordechai Ben-Ari, Weizmann Institute of Science  
*SIGCSE Award for Outstanding Contribution to Computer Science Education*

Bruce Klein, Grand Valley State University  
*SIGCSE Award for Lifetime Service*

## ITiCSE 2004

**University of Leeds, UK**

**June 28-30, 2004**

<http://www.iticse04.leeds.ac.uk/>

### **Conference Chair**

Roger Boyle  
University of Leeds, UK

## SIGCSE 2005

**St. Louis, Missouri, USA**

**February 23 - 27, 2005**

<http://www.ithaca.edu/sigcse2005/>

### **Symposium Co-Chairs**

Wanda Dann  
Ithaca College  
[wpdann@ithaca.edu](mailto:wpdann@ithaca.edu)

Tom Naps  
University of Wisconsin - Oshkosh  
[naps@uwosh.edu](mailto:naps@uwosh.edu)

## Convention Center

The layout of the first three floors is straightforward and therefore is not shown.

### First Floor

- Norfolk Ballroom (Exhibits & Coffee Breaks)

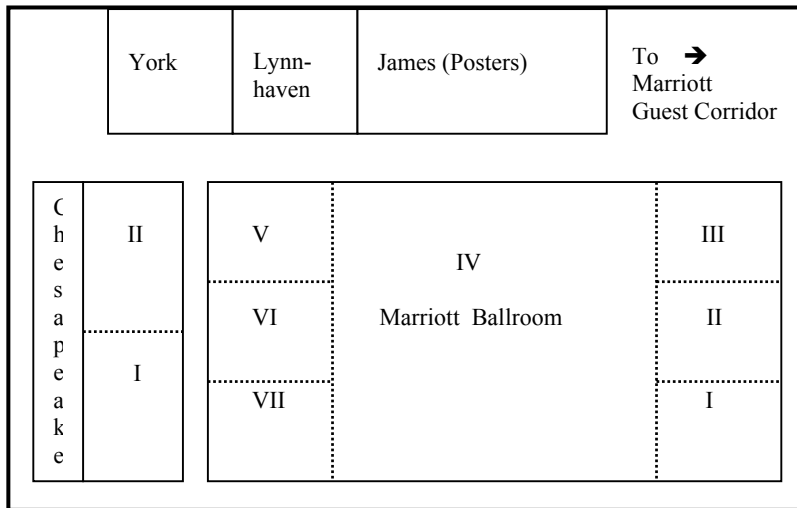
### Second Floor

- Yorktown , Shangri-La, Franklin (Vendor Sessions)
- Enterprise (E-Mail Room)

### Third Floor

- Registration (in Conference Foyer)
- Hampton Roads I – VIII
- Washington, Wilson (near Registration)

### Fourth Floor Map:



## Sheraton

Leave front\* of Marriott, turn right, shortly make another right, walk to the corner of East Main and Atlantic, and the Sheraton is diagonally across the intersection. Enter lobby and ascend the broad staircase to your right.

### Third Floor

- The International Ballroom
- The Providence, York, and Stratford rooms

### Fourth Floor

- Brandon and Claremont rooms

\*In case of inclement weather you can reach the Sheraton from the Marriott under partial cover by exiting on the Skywalk on the 2<sup>nd</sup> floor.