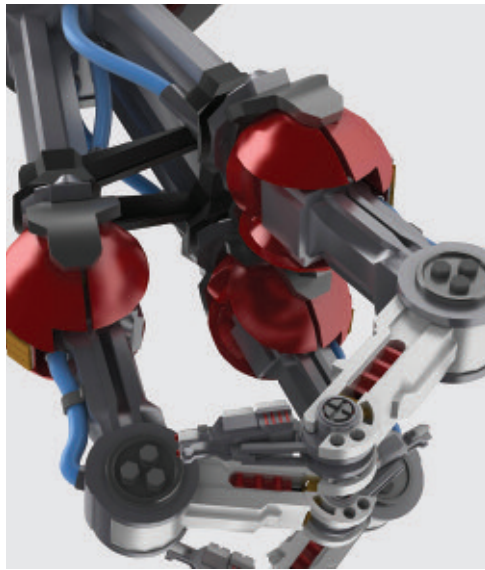
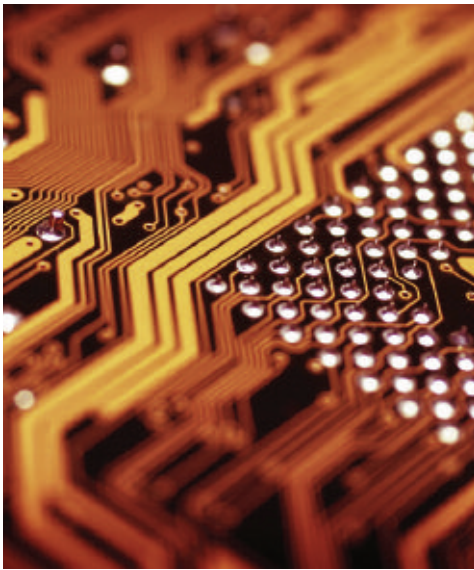


# SIGCSE 2011

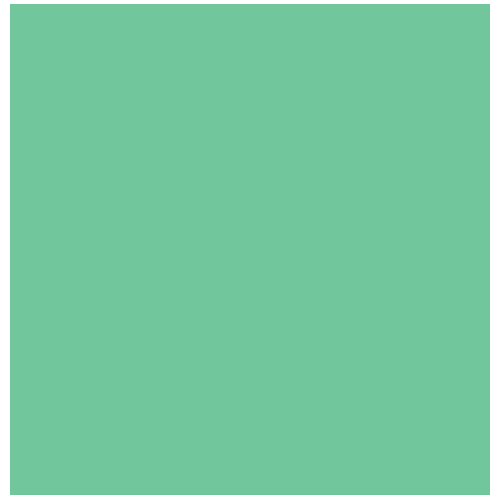
42nd TECHNICAL SYMPOSIUM on  
COMPUTER SCIENCE EDUCATION



**March 9 – 12, 2011**

Sheraton Dallas  
Dallas, Texas

## **“Reaching Out”**



## **Exhibit**Guide



# Microsoft Workshops and Tutorials at SIGCSE

## **Pre-Conference Workshop – Hawaii – Project Companion for Cloud-enabled Mobile Computing Courses**

Wednesday, March 9, 2011, 1:00pm – 5:00pm

Microsoft Research's Project Hawaii is an academic outreach and research dissemination project. The academic goal of Hawaii is to enable graduate and undergraduate university students to gain understanding and expertise in developing cloud-enabled mobile applications using the Microsoft Mobile and Cloud infrastructure. In this session Project Hawaii team will provide an overview of the project, with an emphasis on its use as a project companion for teaching mobile and cloud computing courses.

<http://research.microsoft.com/en-us/um/redmond/projects/hawaii>

## **F#—From Foundations to Modern Parallel and Data Rich Functional Programming**

Thursday, March 10, 2011, 10:45am – 12:00pm

F# is a multi-paradigm programming language, targeting the .NET/Mono platforms. F# brings you type safe, succinct, efficient and expressive functional programming language supporting both the imperative and object-oriented programming disciplines. Attendees will come away with a good idea of the utility and power of F# in the classroom context, and its use all the way up to postgraduate and research level.

<http://research.microsoft.com/en-us/um/cambridge/projects/fsharp>

## **XNA Game Studio and PexForFun: Teaching Serious Computer Science and Developing Algorithmic Thinking— *A Game Programming Framework for the PC, Xbox 360, and Windows Phone 7 Programming Exercises and Automatic Assessment in the Cloud***

Friday, March 11, 2011, 10:45am – 12:00pm

In this presentation educators will preview a 5-week XNA Game Studio mini-course which is easily integrated into an existing curriculum schedule and is designed to engage students in game development, reinforce CS concepts, and develop complex algorithmic skills with the XNA/C# framework. PexForFun is integrated into the mini-course as an additional tool for practice, mastery, and analysis. PexForFun connects teachers, curriculum authors, and students in a unique social experience, tracking and streaming progress updates in real time. Try it for yourself at <http://pex4fun.com> today.

## **Microsoft .NET Gadgeteer: A New Way to Create Electronic Devices**

Friday, March 11, 2011, 3:45pm – 5:00pm

This session will provide an overview of the various hardware and software elements of the .NET Gadgeteer platform. Attendees will be introduced to the modular electronics system, and learn how individual modules can be connected together to build sophisticated devices. They will learn about how .NET Gadgeteer devices can be programmed easily using the C# language, and interactively debugged Visual Studio IDE. Finally, the session will demonstrate how the toolkit supports the design of custom enclosures for .NET Gadgeteer projects, which can be built on demand by using 3D-printing technologies.

<http://research.microsoft.com/en-us/projects/gadgeteer>

The Microsoft logo is displayed in white on a dark, textured background. It consists of the word "Microsoft" in its characteristic sans-serif font, with the registered trademark symbol (®) at the end.



### *Welcome...*

to the 42nd annual SIGCSE Symposium, recognized as the premier event in computer science education. The approximately 1,200 attendees come from around the world, representing high schools, community colleges, four-year colleges, universities, industry, and government. Exhibits are always an important part of the SIGCSE Symposium, introducing and presenting new and exciting educational materials. Each day's program includes substantial open time slots when participants can visit the hall to examine textbooks, software and other materials, and to discuss their needs and concerns with you. Such personal connections are a favorite part of the SIGCSE Symposium for many of our attendees, and we further encourage this interaction by holding morning and afternoon refreshment breaks in the exhibits hall. Honoring our Texas site, we will also have performances in the first-ever SIGCSE Robot Rodeo to attract attendees to the exhibits. Ample exhibit hours allow time for attendees and exhibitors to meet and talk.

Other highlights of this year's symposium include:

- A full program of scholarly papers, panels, workshops, special sessions, "birds of a feather" sessions, posters and supporter sessions.
- Keynote talks by Matthias Felleisen (Northwestern University), Susan Landau (Radcliffe Institute for Advanced Study), and Luis Von Ahn, (Carnegie Mellon University, Google).
- Pokens - new hardware devices for easy exchange of contact information to enhance attendee-attendee and attendee-exhibitor contact.

We hope that you will take part in as many of these activities as your schedule permits.

We appreciate all you do to help make the Symposium an extraordinary event, and we are very happy that you are participating. Once again, Welcome to SIGCSE 2011.

**Thomas J. Cortina**

**Ellen L. Walker**

SIGCSE 2011 Symposium co-Chairs





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# SIGCSE 2011

## 42nd TECHNICAL SYMPOSIUM on COMPUTER SCIENCE EDUCATION

### SIGCSE 2011 Exhibit Guide Directory

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### **FREE** WIRELESS ACCESS

Wireless internet access is available throughout the  
SIGCSE 2011 Conference courtesy of

## SIGCSE

### Exhibit Hours

The Exhibits are located in the Sheraton Dallas Hotel,  
Lone Star BC.

The Exhibit Hall is open during the following hours:

Thursday • March 10 • 10:00 am - 6:00 pm

Friday • March 11 • 10:00 am - 4:30 pm

Saturday • March 12 • 9:30 am - 12:00 pm

### General Information

#### Badges

ACM SIGCSE 2011 badges must be worn for  
admission to all SIGCSE 2011 events. Badges will  
be checked at the door of the Exhibit Hall and all  
workshops and sessions.

#### Breaks - Exhibit Hall

Breaks will be held at the following times:

Thursday • March 10 • 10:00 am - 10:45 am

Thursday • March 10 • 3:00 pm - 3:45 pm

Friday • March 11 • 10:00 am - 10:45 am

Friday • March 11 • 3:00 pm - 3:45 pm

Saturday • March 12 • 10:10 am - 10:55 am

#### Policies

Cameras or recording devices of any kind will not  
be allowed. For insurance reasons, children under  
the age of 18 are not permitted on the Exhibit Floor.

#### Registration Area

The Registration Area is located on the second floor in  
the Lone Star Preconvene area and is open during the  
following times:

Wednesday • 3:00 pm - 9:30 pm

Thursday • 7:30 am - 4:00 pm

Friday • 7:30 am - 5:00 pm

Saturday • 8:00 am - 12:15 pm & 2:30 pm - 3:00 pm

Please visit the Exhibits during  
the symposium and support our  
exhibitors and supporters.

# Google in Education

Giving students the opportunity to become active creators  
of tomorrow's technology



Join us at SIGCSE to talk about how, together, we can inspire students to learn, grow, and shape the technologies of tomorrow.

## **Google's Education Initiatives in 2011**

Friday, March 11th - 1:45 - 3:00pm

## **Talk in Depth with Representatives from some of Google's Education Programs**

Friday, March 11th - 3:45 - 5:00pm

## **Beer and Wine Reception**

Friday, March 11th - 5:00pm - 6:00pm

**Learn more about Google in Education**

**<http://google.com/education>**

THURSDAY • MARCH 10, 2011

## F# - From Foundations to Modern Parallel and Data Rich Functional Programming

10:45 am - 12 Noon

Dallas A3

Presenters:

**Don Syme**, Microsoft Research, Cambridge and **Nigel Horspool**, tbc, University of Victoria

Presented courtesy of **Microsoft**

F# is a multi-paradigm programming language, targeting the .NET/Mono platforms. F# brings you type safe, succinct, efficient and expressive functional programming language supporting both the imperative and object-oriented programming disciplines. It is a simple and pragmatic language, and has particular strengths in data-oriented programming, parallel I/O programming, parallel CPU programming, scripting and algorithmic development. F# combines the advantages of typed functional programming with a high-quality, well-supported modern runtime system and set of libraries. This tutorial will teach F# from several angles:

- F# as a cross platform language for teaching, including using F# on Windows, Macs, with Linux and MonoDevelop, and on the TryF# system
- The advanced features of F#, including asynchronous and parallel programming and units of measure
- F# type providers and their applications to strongly typed programming with web ontologies
- F# as a modern data programming environment, including writing data-rich phone applications

Attendees should come away with a good idea of the utility and power of F# in the classroom context, and its use all the way up to postgraduate and research level.

## Intel Academic Community - Global MeeGo University Program MeeGo

1:45 pm - 3:00 pm

Dallas A3

Presenters:

**Selwyn You**, Intel Corporation, **Jukka Heikkilä**, University of Jyväskylä, **Russel J. Clark** and **Matthew Wolf**, Georgia Institute of Technology

Presented courtesy of **Intel**

Have you heard the buzz about MeeGo? The newly formed MeeGo Operating System-a combination of Intel's Moblin and Nokia's Maemo-provides a unified development environment for developers with world-wide distribution channels to consumers.

Learn how Intel's Global MeeGo University program can help you integrate application development on netbooks, tablets, and smartphones into your curricula. Professors from the University of Jyväskylä and Georgia Institute of Technology will share insight into classroom modules that meet demand for rich application development on client devices. They will also share student feedback, in addition to how, why, and when you should start introducing MeeGo to your students.

## Software as a Service, Cloud Computing, and Software Education

1:45 pm - 3:00 pm

Dallas D3

Presenter: **Armando Fox**, UC Berkeley

Presented courtesy of:  
**Amazon Web Services**

UC Berkeley leverages the combination of cloud computing and Software as a Service (SaaS), with its emphasis on productively creating well-tested, maintainable, reusable code, to let "one-pizza" teams of Berkeley undergrads design, develop, test, and deploy their own SaaS applications. Iteration-based agile development rewards regular progress, test-first design results in students actually enjoying testing, and cloud computing showcases deployed projects to friends, colleagues, and future employers, all while students absorb "big ideas" such as higher-order programming and metaprogramming. I'll also discuss other uses of cloud computing at Berkeley from lower-division through graduate CS courses.

Armando Fox is an Adjunct Professor at UC Berkeley, a co-author of "Above the Clouds: A Berkeley View of Cloud Computing", and a researcher at the intersection of cloud computing, machine learning, and parallel computing.



# SUPPORTER SESSIONS

# SIGCSE 2011

THURSDAY • MARCH 10, 2011

## Can Students Really Develop Software Collaboratively?

3:45 pm - 5:00 pm

Dallas A3

Presenter: **Brian Schimpf**

Presented courtesy of **IBM**

In the "real world" of software development, developers rarely work on a project alone. Development has become a "team sport" with accepted rules, best practices, and preferred tools. However, too often, students graduate only knowing how to develop code as an individual - not as part of a team. With IBM's Rational Team Concert (free for classroom use from IBM's Academic Initiative) students can work in a real-world team development scenario -- each with different roles on the team. Work items can be sized and assigned to each team member, and anyone can view real-time status and project health. Even better, professors can use the dashboards and reports to view each student's contribution to the project to help them assess each student individually.

FRIDAY • MARCH 11, 2011

## XNA Game Studio and PexForFun: Teaching Serious Computer Science and Developing Algorithmic Thinking

10:45 am - 12:00 pm

Dallas A3

Presenters:

**Peli de Halleux and Nikolai Tillmann**, Microsoft Research, Redmond

Presented courtesy of  
**Microsoft**

A Game Programming Framework for the PC, Xbox 360, and Windows Phone 7  
Programming Exercises and Automatic Assessment in the Cloud

Delivering core computer science concepts and promoting deep algorithmic thinking with engaging activities - such as game development - can be a challenge. It can be an additional challenge to infuse game development into an existing CS program with a prescribed curriculum such as Advanced Placement Computer Science. In this presentation educators will preview a 5-week XNA Game Studio mini-course which is easily integrated into an existing curriculum schedule and is designed to engage students in game development, reinforce CS concepts, and develop complex algorithmic skills with the XNA/C# framework. PexForFun is integrated into the mini-course as an additional tool for practice, mastery, and analysis.

Students in high school through college can use PexForFun as a stand-alone tool to learn and practice programming concepts. With PexForFun, students edit code within any browser; the code is executed and analyzed in the cloud for immediate feedback. PexForFun supports the C#, Visual Basic, and F# programming languages. PexForFun helps students more deeply understand what is happening within the code by using dynamic symbolic execution to thoroughly explore feasible execution paths. The real fun starts with Coding Duels in which students write code that implements a specification and track their progress against the efforts of other PexForFun users. PexForFun connects teachers, curriculum authors, and students in a unique social experience, tracking and streaming progress updates in real time. Try it for yourself at <http://pex4fun.com/>. Hear about the new XNA mini-course and PexForFun from the curriculum author and the authors of the system at this tutorial.

## Case Study - Using the Intel Manycore Testing Lab to Test and Scale Applications

1:45 pm - 3:00 pm

Dallas A3

Presenter:

**Bob Chesebrough**, Innovative Software Education, Intel

Presented courtesy of **Intel**

Expand your students' learning experiences with the Intel® Manycore Testing Lab-a unique, global, remote-access facility made available at no charge to members of the Intel Academic Community. The Intel Manycore Testing lab can be used to test, validate, and improve the scalability of classroom labs, homework, and capstone projects. The lab supports both Linux\* and Microsoft Windows\* with a 32-CPU/64-thread development environment, including up-to-date, essential performance tools to assist professors and their students.

Bob Chesebrough will demonstrate a command-line ray tracer application created by Master's degree student Dave Frogley. The application was tested, scaled, and tuned on the Intel Manycore Testing Lab. Discussions will include scaling methodologies and state-of-the-art software tools. Bob Chesebrough is a senior course architect in Intel's Innovative Software Education department.



## Google's Education Initiatives in 2011

1:45 pm - 3:00 pm

Dallas D3

Presented courtesy of **Google**

Google believes that all students should have the opportunity to become active creators of tomorrow's technology. Our goal is to leverage Google's strengths and infrastructure to increase access to high-quality, open educational content and technology in science, engineering, and math. We support access to computing curriculum and educational technology for all students, leveling the playing field so that students and educators alike have the opportunity to shape the technologies of their future.

During this session we will share what Google Education is planning for 2011 and how CS educators can use the following Google programs to inspire their students:

- App Inventor for Android
- Google Summer of Code
- Computer Science 4 High School (CS4HS)
- Computational Thinking

## Talk in Depth with Representatives from Google's Education Programs

3:45 pm - 5:00 pm

Dallas D3

Presented courtesy of **Google**

Google supports access to computing curriculum and educational technology for all students, leveling the playing field so that students and educators alike have the opportunity to shape the technologies of their future. The creators of tomorrow's innovations are everywhere, ready to be engaged and inspired.

This session will be your opportunity to talk in depth with Google representatives from key Google CS education programs. We'll also share material from other Google education programs and provide an opportunity to explore how, together, we can inspire students to shape the technologies of tomorrow. Representatives from the following programs will be present:

- App Inventor for Android
- Google Summer of Code
- Computer Science 4 High School (CS4HS)
- Computational Thinking
- Others TBD

### Google Beer and Wine Reception

5:00pm - 6:00pm

After a great time thinking about how to reach out and take CS education to the next level, come continue the conversation over a drink and some hors d'oeuvre on Google!

## Microsoft .NET Gadgeteer: A new way to create electronic devices

3:45 pm - 5:00pm

Dallas A3

Presenter: Nicolas Villar

Presented courtesy of **Microsoft**

Getting started building embedded devices is relatively complex which limits the students able to be successful and limits the complexity of the projects that they can undertake. With the Microsoft .NET Gadgeteer, someone with basic programming skills can be building sophisticated projects immediately. .NET Gadgeteer is a toolkit for building small electronic devices that combines the advantages of object-oriented programming, solderless assembly of electronics, and quick physical form factor design. Small devices can be iteratively designed, built and programmed in a matter of hours rather than days or weeks.

This session will provide an overview of the various hardware and software elements of the .NET Gadgeteer platform. Attendees will be introduced to the modular electronics system, and learn how to build sophisticated devices. They will learn about how .NET Gadgeteer devices can be programmed easily using the C# language, and interactively debugged Visual Studio IDE. Finally, the session will demonstrate how custom enclosures for .NET Gadgeteer projects can be built on demand by using 3D-printing technologies and predefined templates.




## From the mind to the marketplace.

Intel works with educators worldwide to revitalize how students think about technology. Because encouraging new ideas fuels innovation.

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Learn more at [Intel.com/software/academicprograms](http://Intel.com/software/academicprograms)

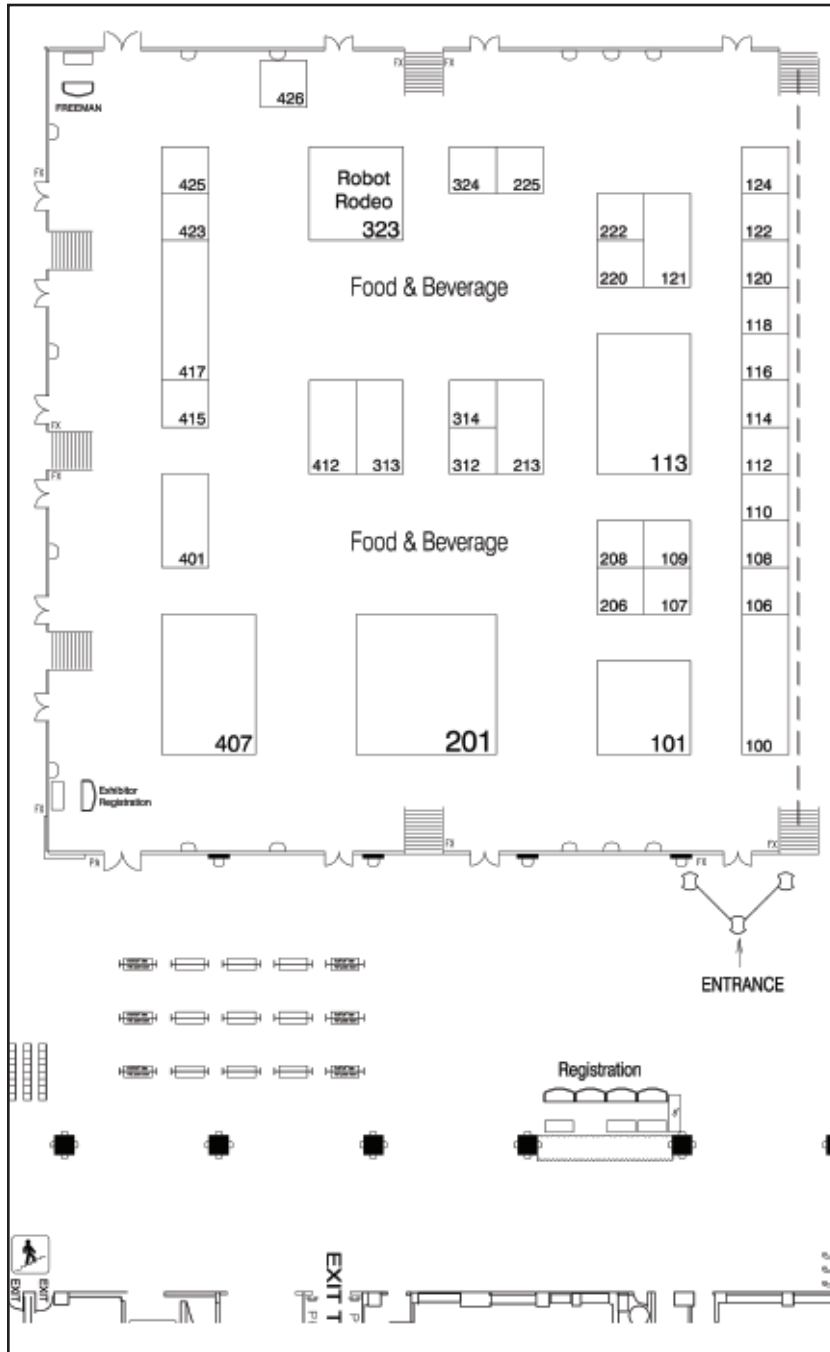
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# EXHIBIT HALL

Sheraton Dallas Hotel • Lone Star Ballroom • 2nd Floor

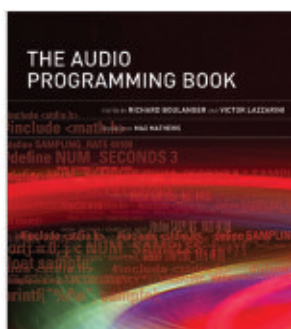
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Be sure to visit the Exhibits during the symposium and support our exhibitors and supporters.





## The Audio Programming Book

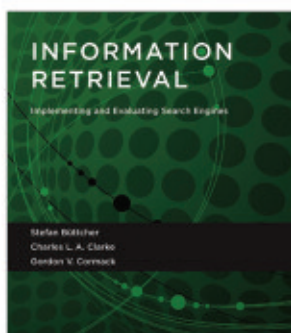
edited by Richard Boulanger  
and Victor Lazzarini

foreword by Max Mathews

"The Audio Programming Book is an invaluable resource for composers, sound designers, and programmers. The contributors have done an outstanding job of communicating not only the technology but also the artistry of programming audio applications. That art will surely flourish further, thanks to their efforts."

— Robert Rowe, Director, Steinhardt Music Composition Program, New York University

984 pp., 96 illus., \$60 cloth



## Information Retrieval

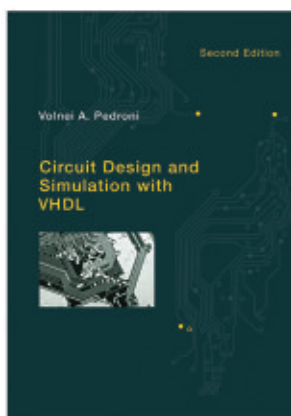
Implementing and Evaluating  
Search Engines

Stefan Büttcher, Charles L. A. Clarke,  
and Gordon V. Cormack

"An academic dynasty has come together to write an excellent textbook on information retrieval. Stefan Büttcher, Charles Clarke, and Gordon Cormack make up three generations of stellar information retrieval researchers with over fifty years of combined experience... This book is a must-read for all search academics and practitioners!"

— from the foreword by Amit Singhal

632 pp., 127 illus., \$55 cloth



## Circuit Design and Simulation with VHDL

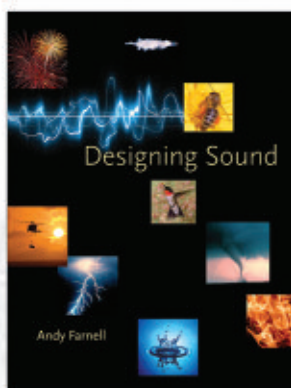
Second Edition

Volnei A. Pedroni

"Volnei Pedroni explains what designers really need to know to build hardware with VHDL. This book sets the standard for how hardware description languages should be taught."

— David Money Harris, Harvey Mudd College

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## Designing Sound

Andy Farnell

"A monumental work. This surely has the potential of becoming the sound designer's bible!"

— Kees van den Doel, Scientific Computing Laboratory, University of British Columbia

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Second Edition

Roland Siegwart, Illah R. Nourbakhsh,  
and Davide Scaramuzza

The second edition of a comprehensive introduction to all aspects of mobile robotics, from algorithms to mechanisms.

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A thorough exposition of quantum computing and the underlying concepts of quantum physics, with explanations of the relevant mathematics and numerous examples.

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## The SuperCollider Book

edited by Scott Wilson, David Cottle,  
and Nick Collins

foreword by James McCartney

The essential reference to SuperCollider, a powerful, flexible, open-source, cross-platform audio programming language.

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## AccessComputing

### Booth 417

UW Technology, University of Washington  
Box 354842  
Seattle, WA 98195-4842  
(206) 685-6222  
[www.washington.edu/accesscomputing/](http://www.washington.edu/accesscomputing/)

The goal of The Alliance for Access to Computing Careers (AccessComputing) is to increase the participation of people with disabilities in computing fields. Check out the AccessComputing Knowledge Base to help computing educators and employers, professional organizations, and other stakeholders develop more inclusive programs and share effective practices.

## ACM SIGAda

### Booth 121

2 Penn Plaza, Suite 701  
New York, NY 10121-0701  
319-273-6056  
[www.sigada.org](http://www.sigada.org)

Do you miss the elegance of Pascal in your beginning courses? Then come to the Ada booth to learn about the successes of Ada in the classroom. The same feedback Ada provides to programmers writing code for secure networks, avionics, and air traffic control systems helps beginners find their errors earlier.

## ACM-W (ACM's Women's Council)

### Booth 423

2 Penn Plaza, Suite 701  
New York, NY 10121-0701  
1-800-342-6626  
[www.women.acm.org](http://www.women.acm.org)

ACM-W's mission is to celebrate, inform and support women in computing, and work with the ACM-W community of computer scientists, educators, employers and policy makers to improve working and learning environments for women.

## Advancing Robotics Technology for Societal Impact (ARTSI)

### Booth 417

Hampton University, Department of Computer Science  
P.O. Box 6244  
Hampton, VA 23668  
(757) 727-5082  
[www.artsialliance.org](http://www.artsialliance.org)

The ARTSI (Advancing Robotics Technology for Societal Impact) Alliance, a consortium of 9 research universities and 19 historically black colleges and universities, encourages African American students to become involved in research and pursue graduate training in robotics and computer science. Hampton University and Carnegie Mellon University are the lead institutions.

## AlgoViz/Ensemble

### Booth 120

Department of Computer Science  
Virginia Tech  
Blacksburg, VA 24061  
540-357-1178  
[shaffer@vt.edu](mailto:shaffer@vt.edu)

Ensemble is the NSF NSDL Pathway for computing education, a distributed portal providing access to a broad range of existing educational resources for computing. AlgoViz.org is a gathering place for users and developers of algorithm visualizations and animations (AVs). It provides a gateway to AV-related services, collections, and resources.

## Alliance for the Advancement of African-American Researchers in Computing (A4RC)

### Booth 417

Department of Computer Science, McNair 508  
North Carolina A&T University  
Greensboro, NC 27411  
336-334-7245 • [gerry.dozier@ncat.edu](mailto:gerry.dozier@ncat.edu)

A4RC fosters increased African-American student awareness of and entry into computing research careers by promoting collaboration between HBCU's and R1 Universities. Faculty-Student research pods are comprised of partners from NCA & T, Jackson State University, Norfolk State University, Bennett College, Indiana University, Virginia Tech and University of Colorado at Boulder.

## Auburn University- JGRASP

### Booth 118

Computer Science and Software Engineering  
3101 Shelby Center  
Auburn, AL 36849  
334-844-6315 • [www.jgrasp.org](http://www.jgrasp.org)

Auburn University is the home of jGRASP, a freely available integrated development environment with visualizations for improving the comprehensibility of software. Auburn's Samuel Ginn College of Engineering provides degree programs (BS-PhD) in computer science, software engineering, wireless engineering, and computer engineering, as well as all traditional areas of engineering.

## Blackberry

### Booth 225

419 Phillip Street West  
Waterloo, ON N2L3X2  
519-888-7465 • [www.blackberry.com/academic](http://www.blackberry.com/academic)

The BlackBerry Academic Program provides your institution with resources that bring leading technology to the classroom. Use BlackBerry to enhance the learning experience. Incorporate innovative content with hands on learning. Register at [www.blackberry.com/academic](http://www.blackberry.com/academic) and become eligible for free BlackBerry smartphones. Visit Booth 225 and you could win a free BlackBerry smartphone!

## **The Coalition to Diversify Computing (CDC)**

### **Booth 417**

Virginia Tech, Computer Sciences  
2202 Kraft Drive  
Blacksburg, VA 540-231-8795  
<http://perez.cs.vt.edu>

The Coalition to Diversify Computing (CDC) is a joint organization of the ACM, CRA, and IEEE-CS. CDC's mission is to address the short fall of minority computing professionals in three areas: recruitment of undergraduates to graduate programs, retention of graduate students, and transition of MS/ Ph.D. graduates into academia and industry.

## **The College Board**

### **Booth 110**

45 Columbus Avenue  
New York, NY 10023  
[www.collegeboard.com](http://www.collegeboard.com)

The College Board is a mission-driven not-for-profit organization that connects students to college success and opportunity. Founded in 1900, the College Board was created to expand access to higher education. Today, the membership association is made up of more than 5,900 of the world's leading educational institutions and is dedicated to promoting excellence and equity in education. Each year, the College Board helps more than seven million students prepare for a successful transition to college through programs and services in college readiness and college success - including the SAT® and the Advanced Placement Program®. The organization also serves the education community through research and advocacy on behalf of students, educators and schools.

## **The Committee on the Status of Women in Computing Research (CRA-W)**

### **Booth 417**

1828 L Street NW, Suite 800  
Washington DC 20036  
[www.cra-w.org](http://www.cra-w.org)

CRA-W is an action-oriented committee dedicated to increasing the number and success of women participating in CSE research and education at all stages of the computing research pipeline. CRA-W has developed a large portfolio of programs and activities in undergraduate research, mentoring, community building, information sharing and career development.

## **Commonwealth Alliance for Information Technology (CAITE)**

### **Booth 417**

140 Governor's Drive  
University of Massachusetts Amherst  
Amherst, MA 01003  
413- 545-2013  
[www.caite.info](http://www.caite.info)

The Commonwealth Alliance for Information Technology Education (CAITE) brings together 15 public colleges and universities to address under-representation in Massachusetts' innovation economy. To reach underserved populations, CAITE focuses on community colleges as a gateway. CAITE's programs expand knowledge about IT careers and create clearer and nurturing educational pathways.

## **Computing Alliance of Hispanic-Serving Institutions (CAHSI)**

### **Booth 417**

University of Texas at El Paso  
500 W. University Burges Hall 410A  
El Paso, TX 79968  
[www.cahsi.org](http://www.cahsi.org)

The Computing Alliance of Hispanic-Serving Institutions (CAHSI) is a consortium of seven universities that are committed to increasing the number of Hispanics who earn baccalaureate and advanced degrees in computing. By fostering a community that shares resources, establishes research and curricular collaborations, and disseminates best practices, CAHSI is developing future Hispanic leaders while addressing the under-representation of Hispanics in computing.

## **Council for International Exchange of Scholars**

### **Booth 116**

## **Course Technology, a Part of Cengage Learning**

### **Booth 213**

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617-289-7700 • [www.cengage.com/coursetechnology](http://www.cengage.com/coursetechnology)

Cengage Learning is a global leader in providing integrated information solutions to business and professional customers. Course Technology, part of Cengage Learning, is the worldwide leader in computing education, offering more than 1,600 print and innovative technology-based products for business and technology training. Join us on Facebook at <http://www.facebook.com/cengagecoursetechnology>.



## CRC Press- Taylor & Francis Group LLC

### Booth 112

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## Educational Alliance for a Parallel Future (EAPF)

### Booth 108

408-203-6525  
[www.eapf.org](http://www.eapf.org)

The Educational Alliance for a Parallel Future (EAPF) is dedicated to establishing parallelism as a core competency within education and practice. Through alignment of academia, industry, research, and others, the EAPF provides leadership to drive consensus and prioritization on curricula transition, and resources to help educators integrate new concepts today.

## Empowering Leadership: Computing Scholars of Tomorrow (EL) Alliance

### Booth 417

Rice University  
6100 Main Street  
Houston, TX 77005 - 1892  
[www.empoweringleadership.org](http://www.empoweringleadership.org)

The EL Alliance is a national network of dedicated students, faculty, and staff that provide opportunities and programs to ensure the success of minority computing scholars at research universities.

## Franklin, Beedle & Associates Incorporated

### Booth 324

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## InterSystems, Inc.

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### National Center for Women and Information Technology (NCWIT)

#### Booth 417

University of Colorado  
Campus Box 320  
Boulder, CO 80309-0320  
[www.ncwit.org](http://www.ncwit.org)

The mission of NCWIT is to ensure that women are fully represented in the world of information technology and computing. NCWIT's goal is parity in the professional information technology (IT) workforce, and our fundamental strategy is to educate, disseminate, and advocate a national, multi-year implementation plan that generates tangible progress.

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## STARS Alliance

### Booth 417

College of Computing and Informatics, UNC Charlotte  
9201 University City Boulevard  
Charlotte, NC 28223-0001  
[www.starsalliance.org](http://www.starsalliance.org)

The STARS Alliance is a community of practice for advancing innovation through regional partnerships to broaden participation in computing. STARS member institutions implement the STARS Leadership Corps, a co-curricular program that engages students, professionals and educators in research and service to enhance student recruitment, retention, and graduation in computing.

## SIGCSE 2012

### Booth 220

SIGCSE 2012: Teaching, Learning, Collaborating. The 43rd offering of the world's largest meeting of CS educators will held in Raleigh, North Carolina, February 29 - March 3, 2012. Visit our booth for conference information and vote on next year's symposium logo.

## Turing's Craft, Inc.

### Booth 206

143 NE  
2900 Bedford Ave.  
Brooklyn, NY 11210  
718-951-4140  
[info@turingcraft.com](mailto:info@turingcraft.com)

Turing's Craft provides CodeLab, a web-based interactive programming exercise system for introductory classes in Python, Java, C++, C and other languages. Designed to reduce attrition and raise the level of the class, it is a seasoned system, used in over 100 schools. Since 2002, CodeLab has analyzed over 23,000,000 exercise submissions from more than 75,000 students.

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### Booth 114

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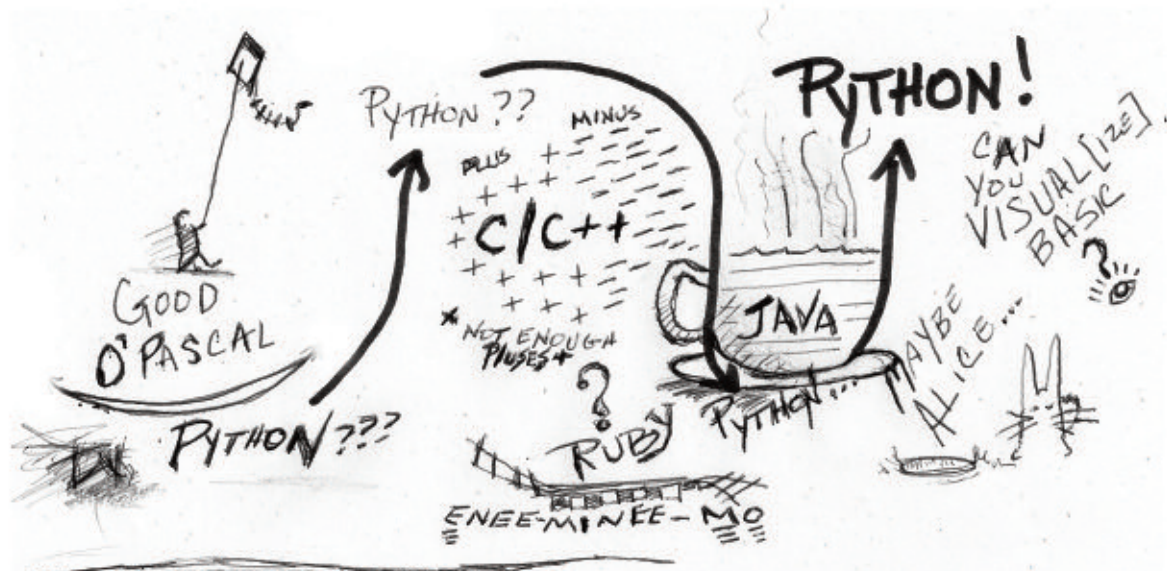


Plate 1.1 Python migration pattern

Python 2.xx

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