

## **Introduction from the Conference Co-Chairs**

This volume contains comments by the invited speakers at ITiCSE 97 (the Second SIGCSE/SIGCUE Joint Conference on Integrating Technology into Computer Science Education), some papers that were not available for the proceedings of the conference, and the products of the seven Working Groups associated with ITiCSE'97.

The conference invited speakers were Hermann Maurer, C. Dianne Martin, and A. Joe Turner. Each was the opening speaker for one of the days of the conference and each of their presentations generated discussion that lasted well beyond their session time. Their contributions to the success of the conference are most gratefully acknowledged.

The Working Group Reports deserve some special explanation. The topics of the Working Groups were selected prior to the conference and one or two people agreed to chair each group. The Working Group topics were advertised in the conference announcements and those who have expertise in the topic areas were invited to apply to join one of the groups. Working Groups were formed about a month before the conference and the members began their interaction by electronic mail. Group members met on the evening of May 31 and made plans for their on-site work during ITiCSE'97. The groups met on June 1, the day before the conference began; they met during the conference and presented interim reports in poster sessions on June 2nd and 4th. During the poster sessions, conference attendees had the opportunity to interact with the Working Group members, contributing valuable insight to the reports. Finally, the Working Groups remained a day after the conference to complete the reports. The reports were then read and edited by a committee. They were formatted and reviewed again by Working Group Coordinator, Vicki Almstrum. The reports were then returned to the Working Group chairs for another check and then went back to the editing committee for one last review.

All the Working Group members, and especially the Working Group chairs, have worked very hard to produce these reports. The effort spans some months of interaction, but was most intense during the five days around the ITiCSE conference. Because these people chose to participate in Working Groups, their conference attendance was constrained. Each group made its own schedule and some found more time than did others for conference activities. For all the Working Group participants, however, the chief occupation during the conference time was meeting, discussion, perhaps disagreement, more discussion, and finally the consensus reports that you find here. It was an intense, stimulating, exhausting experience. We believe the product of that effort will be valued and referenced for some years and will contribute significantly to the development of technology enhancements in computer science education.

The Working Group reports would not have been possible without the tireless leadership of the Working Group Coordinator, Vicki Almstrum. Vicki oversaw the entire process, from solicitation of topics, recommendation of the topics selected for the conference, review of applications to join a working group, schedule of activities at the conference, planning of resources and supplies at the conference site, management of the editors, formatting and review of the final reports, communication with the working group chairs, and finally production of this volume. Vicki's seemingly endless energy is amazing, but more important is her dedication to a process and product that are as good as she can make them. This is the second set of ITiCSE Working Groups and Vicki has brought the concept a giant step forward and prepared it for future development and further success.

The contents of this volume are also available through the ACM Digital Library. Watch for announcements on the SIGCSE and SIGCUE Web pages ([www.acm.org/sigcse](http://www.acm.org/sigcse) and [www.acm.org/sigcue](http://www.acm.org/sigcue)).

Thank you to all who contributed to this effort. It was a valuable part of a very successful conference and promises to be a lasting resource in the integration of technology into computer science education.

**Lillian N. (Boots) Cassel and Mats Daniels**

**Conference Co-Chairs**

SIGCSE/SIGCUE Joint Conference on Integrating Technology into Computer Science Education

As the chief editor for the Working Group Reports and Supplemental Proceedings, it is my pleasure to introduce this collection of papers. As the ITiCSE'97 WG Coordinator, I am especially pleased to present the reports of the seven Working Groups. Serving in this role has given me the opportunity to work closely with a talented group of people and watch a fascinating process of creation. I would like to express my appreciation to those who have been involved in the WG process: everyone who sent in a topic proposal or an application, the WG members, and especially the WG leaders. A particular note of thanks is due my fellow editors, who played an important role in ensuring that the final WG reports were edited into a consistent format for this volume. This entire process has been a practical demonstration of many of the principles that this conference is about: collaborating with a diverse group of colleagues who are usually separated in both time and space. This experience has helped to demonstrate the frustrations, pleasures, challenges, and limitations of using technology for accomplishing these tasks.

The Working Group reports represent a wide range of topics and experiences. The first two reports, by the WG on Designing Laboratories and the WG on Algorithm Visualization, can be seen as continuations of WG topics from ITiCSE'96 in Barcelona. The third report, by the WG on the Web and Distance Learning, considers the role of the Web in distance education from the point of view of the learner. The fourth report, by the WG on Social and Ethical Issues in Computing Education, discusses the use of information technology to integrate social and ethical issues within computing courses. The fifth and sixth reports consider two views of technologically supported collaboration. The first of these, by the WG on CMC in Collaborative Educational Settings, explores computer tools for collaborative situations, specifically computer-mediated communication in both distance and local education. The second of these reports, by the WG on Supporting Inter- and Intra-institutional Collaboration, looks at how collaboration can be used both *within* institutions and *between* institutions. This report also represents a novel WG model: the group conducted an on-site survey of conference attendees' experiences with collaborative efforts, the results of which are included in their report. Finally, the seventh WG, on Historical Perspectives in Computing Education, provides a broad view of computing education and the connections between our field and the rest of the world. All of these reports are the culmination of months of hard work and intense interaction. On behalf of the Working Groups, I hope you will find these reports to be informative and useful.

I wish to thank the three keynote speakers, Hermann Maurer, Dianne Martin, and Joe Turner, for providing us with a record of their speeches. These papers were produced after the conference specifically for inclusion in this collection of papers. This volume also includes five papers that didn't arrive in time for the regular proceedings, Nan Schaller's detailed record of the outcome of the panel she moderated on Java in CS education, and the abstracts for the posters and demonstrations that were presented during the conference.

One editing note: Both spellings of "program(me)" are used throughout the WG reports and the keynote papers in order to differentiate between two concepts that are vital to computing education. *Program* is used to refer to a series of instructions to control the operation of a computer, while *programme* is used to refer to an academic line of study.

In closing, thank you to everyone who helped make this conference such a pleasant and productive experience.

**Vicki L. Almstrum**  
**ITiCSE'97 Working Group Coordinator**

## ***ITiCSE'97 Programme Committee***

### **Conference Co-Chairs**

Lillian (Boots) Cassel  
Villanova University, USA

Mats Daniels  
Uppsala University, Sweden

### **Local Arrangements**

Anders Berglund  
Uppsala University, Sweden

### **Working Groups**

Vicki L. Almstrum  
University of Texas at Austin, USA  
and Uppsala University, Sweden

### **Demonstrations and Posters**

Jonas Barklund  
Uppsala University, Sweden

### **Registration**

Dick Austing  
University of Maryland University College, USA

### **Tutorials**

Jim Hightower  
State University of California – Fullerton, USA

### **Publication**

Gordon Davies  
The Open University, UK