# Contents

## Working Group Reports

- Developing laboratories for the SIGCSE Computing Laboratory Repository: guidelines, recommendations, and sample labs
  Report of the ITiCSE’97 Working Group on Designing Laboratory Materials for Computing Courses
  1

- Using the WWW as the delivery mechanism for interactive, visualization-based instructional modules
  Report of the ITiCSE’97 Working Group on Visualization
  13

- The Web and distance learning: what is appropriate and what is not
  Report of the ITiCSE’97 Working Group on the Web and Distance Learning
  27

- Using information technology to integrate social and ethical issues into the computer science and information systems curriculum
  Report of the ITiCSE’97 Working Group on Social and Ethical Issues in Computing Curricula
  38

- Computer-mediated communication in collaborative educational settings
  Report of the ITiCSE’97 Working Group on CMC in Collaborative Educational Settings
  51

- Harnessing technology for effective inter- and intra-institutional collaboration
  Report of the ITiCSE’97 Working Group on Supporting Inter- and Intra-institutional Collaboration
  70

- Historical perspectives on the computing curriculum
  Report of the ITiCSE’97 Working Group on Historical Perspectives in Computing Education
  94

## Supplemental Proceedings

### Keynote presentations

- The emergence of sophisticated distributed teaching and learning environments
  H. Maurer, Graz University of Technology, Austria
  112

- The case for integrating ethical and social impact into the computer science curriculum
  C. Dianne Martin, The George Washington University, USA
  114

- Technology in computing education: yet another bandwagon?
  Joe Turner, Clemson University, USA
  121

### Papers and panel

- Programming practical work and problem sessions via the Internet
  Marian Petre and Blaine Price, The Open University, UK
  125
The automatic assessment of Z specifications
Eric Foxley, Omar Salman, and Zarina Shukur, The University of Nottingham, UK

Evaluation software: improving consistency and reliability of performance rating
Jon Anderson Preston, Georgia Institute of Technology, USA

Forms of assessment that develop communication skills in Computer Science and Mathematics — a case study
Anders Tengstrand and Mathias Hedenborg, Växjö University, Sweden

Computer science unit management challenges in the “enwebbed” age
Maria Jean Hall and Timo Vuori, Edith Cowan University, Australia

Panel report: Using Java in computer science education
Nan C. Schaller (Moderator), Rochester Institute of Technology, USA
Michael Berman, Rowan University, USA
Judith Bishop, University of Pretoria, South Africa
Paddy Nixon, Trinity College, Ireland
Evelyn Rozanski, Rochester Institute of Technology, USA
Peter Welch, University of Kent, UK

Posters and demonstrations

Effective organization and management of computer science curriculum with world wide web — schematic model presentation
Dennis Anderson, St. Francis College, USA

Using of computing curricula 1991 for transition from "Mathematics" to "Applied Mathematics and Computer Science" baccalaureate programme
Iouri A. Bogoiavlenski, Andrew A. Pechnikov, Gennady S. Sigovtsev and Anatoly V. Voronin, * University of Petrozavodsk, Russia, ** GruppvaruExperterna i Sverige AB, Sweden

Integrating courseware into collaborative learning environments
Safia Barikzai, South Bank University, UK

LINK: a software package for discrete mathematics and algorithms
Jonathan Berry, Elon College, USA

A philosophy of teaching Java
Judith M. Bishop, University of Pretoria, South Africa

A single-sex programme in computer science and engineering
Gerd Brandell, Svante Carlsson, Häkan Ekblom and Ann-Charlotte Nord, Luleå University, Sweden

Networked PBL teaching the teacher on flexible learning
Rolf Carlsson*, Göran Karlsson**, and Bengt Olsen***, * Datakonsult AB, Sweden, ** The Royal Institute of Technology, Stockholm, Sweden, *** GruppvaruExperterna i Sverige AB, Sweden

Using Emil Post's machine for an introduction to formal programming
V. Dagdilelis and M. Satratzemi, University of Macedonia, Greece
Virtual office hours
Douglas D. Dankel II and James Hearn, University of Florida, USA

Detecting plagiarism in introductory programming courses
Monika Danielsson, Uppsala University, Sweden

SEDA, an advanced software tool in its generation: developing a Windows tutor using SEDA versus a classical programming approach
P. Domingo*, A. García-Crespo*, V. Martínez-Orga**, M. Lancha*, B. Ruiz**, *University Carlos III de Madrid, Spain, **University Politecnica Superior de Madrid, Spain

Teletutor workbench for Internet distance learning environment
Tatiana Gavrilova, Tatiana Sankina and S. Udaltsov, State Technical University, St. Petersburg, Russia

WebCT, a tool for the creation of sophisticated web-based learning environments
Murray W. Goldberg, University of British Columbia, Canada

A language independent plagiarism detection system
Ricardo Jiménez-Peris and Marta Patiño-Martínez, Universidad Politecnica de Madrid, Spain

Visual HIPE: A prototype for the graphical visualization of functional expressions
Ricardo Jiménez-Peris*, C. Pareja-Flores**, Marta Patiño-Martínez* and J. A. Velazquez-Iturbide*, *Politecnica de Madrid, Spain, **Universidad Complutense de Madrid, Spain

On mathematical assistant CARANT-REDUCE and its application to computer science education
Nikolaj M. Glazunov, Glushkov Institute of Cybernetics NAS and International Solomon University, Ukraine

Demonstration laboratory materials for computation in algebra and informatik (computer science)
Nikolaj M. Glazunov, Glushkov Institute of Cybernetics NAS and International Solomon University, Ukraine

The SIGCSE Computing Laboratory Repository
Deborah L. Knox, The College of New Jersey, USA

Virtual school project for professional IT teachers in Latvia
Aija Kukuka, Ivars Opelts and Dzintars Tomsons, Liepaja Pedagogical Higher School, Latvia

Computer science as an integrated part of engineering education
Patrick Lambrix, Maud Göthe Lundgren, and Mariam Kamkar, Linköping University, Sweden

Algorithm demonstrations using Java
Pamela B. Lawhead, The University of Mississippi, USA

The evaluation of computer science education in Europe
Patricia Magee and Micheál Ó'Heigeartaigh, Dublin City University, Ireland
Animation of algorithms with Eliot and Jeliot  
Janne Markkanen*, Erkki Rautama*, Erkki Sutinen*, Jorma Tarhio** and Tommi Teräsvirta*, *  
University of Helsinki, Finland, ** University of Joensuu, Finland  

Three-level teaching material and its implementation in a teaching situation  
Jorma Sajaniemi and Marja Kopponen, University of Joensuu, Finland  

SHOW: a system for the presentation of three-level teaching material during lectures  
Jorma Sajaniemi and Marja Kopponen, University of Joensuu, Finland  

Distance education by distance education  
Harriet G. Taylor, Louisiana State University, USA  

Author index