Foreword

Because of the rapid rate of technological development, the field of software engineering is perpetually faced with the necessity of re-inventing itself. In the last few years developments in telecommunications and computer hardware have radically altered the landscape in which software engineers find themselves. Today, we must come to grips with the opportunities offered by the ubiquity of visual programming IDEs and distributed object computing, as well as the demands for integrated information systems across the vast, heterogeneous environment afforded by the Internet. How can reliable software systems be efficiently constructed, given these new and rapidly evolving circumstances? We in the software engineering community, whether serving as educators or practitioners (often we are both), must provide answers to this basic question; and, in doing so, we must not only be equipping ourselves with the most up-to-date tools and techniques but also be constantly re-educating ourselves in order to stay competitive. As a result, the activities of software engineering education and practice are now, of necessity, so intertwined that they are virtually inseparable.

It was in recognition of these developing circumstances that the International Conference on Software Engineering: Education & Practice ‘98 (SE:E&P’98) was organised and held at the University of Otago in 1998. This conference followed on the successes of two earlier conferences, SRIG-ET’94 and SE:E&P’96, both of whose proceedings were published by the IEEE Computer Society Press (SRZG-ET’94: Software Engineering Conference, ISBN O-8186-5870-3; SE:E&P’96: Software Engineering Education & Practice, ISBN O-8186-7379-6). It is interesting to look back and remember that at the time of SE:E&P’96, Java and the World Wide Web were just appearing on the scene as important elements. Now, at the time of SE:E&P’98, they virtually dominate the computing environment and have changed the nature of computing along the way. The goals of SE:E&P’98 were to provide a forum for the discussion of new and emerging approaches to software engineering and for the exchange of ideas concerning how best to impart the knowledge of software engineering principles to present and future practitioners. In support of these goals and to maximise the opportunities for productive interaction, the conference offered a mixture of formal paper presentations, tutorials, and workshop discussion group sessions. Paper submissions were invited to address the themes of

- The Internet, intranets, and Java in software engineering education and practice
- The use and development of distributed and multi-agent systems over the network
- New modelling paradigms for systems and software
- Formal and informal software engineering approaches, methodologies, and tools
- Curriculum design and review of existing delivery methods/approaches

and, as with the previous SE:E&P conference, contributions were accepted from Europe, Asia, North America, and Australasia.

The keynote address at SE:E&P’98 was delivered by Ivar Jacobson of Rational Software Corporation and was entitled, “Component-Based Development using UML”. Ivar is one of the leading figures in the software engineering community, well-known for his ideas concerning Use Case Analysis and the Objector-y object-oriented software development process. Like others attending SE:E&P’98, Ivar is both a software engineering practitioner and educator, having been a leading professional software engineer in Europe for over twenty years and also authoring well-known textbooks, such as Object-Oriented Software Engineering (which was the first textbook to be published on this subject). In his address, Ivar discussed the Unified Modelling Language...
and how it can be used in conjunction with the Objectory process for component-based software development.

Keeping us up-to-date with the latest possibilities in Web-based software development, Bernd Bruegge and Stephan Schoenig, from the Technical University of Munich, offered a tutorial, “Using Lotus Notes and the Web in a Software Engineering Project”. This included a hands-on opportunity to try out some of the software that Bernd uses for his courses taught at the Technical University in Munich and at Carnegie Mellon University.

A key component of SE:E&P’98 was the workshop discussion group sessions, which involved the participation of all the conference attendees. Each group met on two separate days during the conference and conducted extended, in-depth discussions on the following topics:

- Java as a First Programming Language
- OO-Modelling Tools for Analysis and Design: A First Level Course
- Web-based Information Systems
- The Integration of HCI and Software Engineering
- Derivation and Use of Non-Functional Requirements
- Multiple or Single First Programming Languages
- Introducing Object-Technology into the Software Engineering Curriculum
- Year 2000 Issues and Recommendations

These topics were selected to reflect current issues in software engineering and the expressed interests of those attending the conference. Summaries of the central issues that were debated and the outcomes of these discussions are presented in the final section of the proceedings.

I would like to express my appreciation for the contributions of some individuals and groups that helped make SE:E&P’98 a successful experience. The conference received support from the New Zealand Computer Society and its President, Andrew Mason, who presented some views concerning software engineering from the NZCS perspective at the conference dinner. The conference also received financial support from Rational Software Corporation, who provided for Ivar Jacobson’s visit, and from Sun Microsystems. The Information Science Department at the University of Otago provided support in numerous ways, and I would like to thank Professor Philip Sallis, the Head of the Department, for his encouragement of SE:E&P’98 and his willingness to make many resources of the Department available to support the conference. I would also like to thank Programme Co-Chairs Bernd Bruegge, Stephen Cranefield, and Steve MacDonell, and the SE:E&P’98 Programme Committee for their helpful assistance over the past year and during the conference. The operation of the conference would not have possible without the administrative assistance provided by Kitty Ko, Shelley Ashton, and Julie D’Arcy, as well as the technical support provided by Graeme Roxburgh, all of whom made sure that everything ran smoothly and that the conference was an enjoyable experience for all those who attended. The SE:E&P conferences have also been the beneficiaries of the enthusiasm of those who attend the conference. It is they who provide the spirited and stimulating community within which an enjoyable forum for the exchange of software engineering ideas can be offered.

Martin Purvis
SE:E&P’98 Conference Chair