Foreword

The rapid evolution of computer hardware and software technology has enabled the development of complex systems that are intimately involved in the processes of the industrial world. These systems now not only control the activities of jumbo jets, manage telecommunications transactions, and organize the routing of railway traffic, but are also embedded in automobiles, cameras, and other items that we encounter and use every day. The subject of software engineering—which covers all the techniques, approaches, and tools that can be used to ensure the construction of efficient and reliable software systems—is faced with the challenge of keeping pace with these developments and the necessity of adjusting to the new conditions, hazards, and opportunities as they appear. As a result, those of us engaged in the activity of software development must constantly be involved in acts of re-educating and retooling ourselves. This, in turn, suggests that the activities of software engineering education and practice must be increasingly intertwined in order to provide the cross-fertilization necessary to meet the challenges to come. It was in recognition of these developments that the International Conference on Software Engineering: Education & Practice '96 (SE:E&P'96) was organized and held at the University of Otago, New Zealand, January 23-27, 1996. This conference was intended to follow on from the success of an earlier software engineering education conference, SRIG-ET'94, that was held at the University of Otago in 1994 and whose proceedings are also published by the IEEE Computer Society Press (Software Education Conference, ISBN 0-8186-5870-3).

The goal of SE:E&P'96 was to provide a forum for the presentation and exchange of ideas in the field of software engineering, so that the interests and concerns of both software engineering practitioners and software engineering educators could be shared. In support of this goal, the conference offered not only formal paper presentations, but also tutorials and workshop discussion group sessions to enhance the opportunities for useful interaction. Paper submissions were invited to address the themes of:

- CASE tool usage and its place in the education environment
- New modeling paradigms for systems and software
- Distributed and multi-agent systems across the network
- Curriculum design and reviews of existing delivery methods/approaches

and contributors whose papers were accepted came from Europe, North America, Asia, and Australia to make their presentations.

In keeping with the theme of deriving value from the combination of software engineering education and practice, the keynote address, “Engineering Software for Use: New Models, Metrics, and Methods”, was delivered by Larry Constantine, whose contributions to the original ideas concerning structured analysis, and to the software engineering profession in general, are well-known. After years as a software engineering practitioner and consultant, Larry is now also a software engineering educator as a professor at the University of Technology, Sydney, and can view the topics of software engineering: education and practice from both perspectives.

Tutorials on two emerging technologies that can contribute to the success of software engineering projects, “Using Multimedia Tools for Software Engineering Projects” and “Using Lotus Notes Groupware in Software Engineering Projects” were offered at the conference by Bernd Bruegge and his assistants from Carnegie Mellon University.

In order to heighten the degree of interaction among the conference participants, workshop discussion groups were organised along the following themes:
Each workshop group held discussion sessions on two separate days and were attended by all conference participants. Summaries of the outcomes and central issues discussed by the groups are presented in the final section of these proceedings.

I would like to note the contributions of some individuals and groups who helped make SE:E&P'96 a success. The conference received support from the New Zealand Computer Society, the Australian Computer Society, the Information Science Department of the University of Otago, Computer World (NZ), and a grant from Sun Microsystems (NZ). I would also like to thank Philip Sallis, Bernd Bruegge, Steve MacDonell, John Hughes, and the SE:E&P'96 conference program committee, as well as the conference staff administrators, Kitty Ko, Gina Brenssell, Patricia Kovaleski, and technical support person, Ivan Mason, for their advice and valuable assistance during both the preparation stages of the conference and the event itself. In addition, Regina Sipple, of the IEEE Computer Society Press, has once again been very helpful and accommodating. Of course the key contributors to the success of any conference are the participants themselves, and SE:E&P'96 was no exception. The spirit and enthusiasm which they brought to all of the sessions of the conference were what made it a rewarding experience for the participants.

Martin Purvis
Conference Chair