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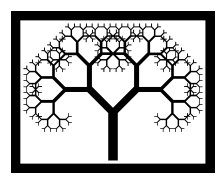

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Preface

This volume comprises the extended abstracts of contributed papers presented at The Seventh International Conference on the Application of Artificial Intelligence to Civil and Structural Engineering (AICivil-Comp 2003). The full papers from the conference are available on the accompanying CD-ROM.

The conference was held concurrently with The Ninth International Conference on Civil and Structural Engineering Computing (Civil-Comp 2003). Both conferences were held at Egmond-aan-Zee, The Netherlands from 2 to 4 September 2003. These conferences are part of the Civil-Comp series that commenced in 1983.

This conference, held on the 20th anniversary of the first Civil-Comp Conference, demonstrates the wide range of current research into the application of artificial intelligence techniques to civil and structural engineering. This field, in its infancy in 1983, is now maturing and is making significant contribution to practice as well as providing ingenious applications for artificial intelligence techniques.

I should like to thank all the authors and co-authors of the papers included in this volume of proceedings. I am especially grateful to those who took the time and made the effort to participate at Egmond-aan-Zee.

The topics included in these Proceedings are:

- Intelligent Structures
- Information Technology and Design
- Design Technologies
- Knowledge Based Systems
- KBS: Modelling, Representation and Processing
- Database and Information Systems in Civil and Structural Engineering (special session organised by: K. Orsborn)
- The Effect of Premeditated Destructive Effects on the Performance of Constructed Facilities (special session organised by: F.C. Hadipriono)
- Developments in Genetic Algorithm Technology
- Genetic Algorithms in Civil Engineering
- Genetic Algorithms in Structural Analysis
- Genetic Algorithms in Structural Engineering Design

- Application of Genetic Algorithms with Neural Networks to Design
- Neural Networks and Hybrid Systems in Civil Engineering (special session organised by P.C.G. da S. Vellasco)
- Neural Networks in Civil Engineering
- Neural Networks in Structural Engineering
- Cellular Automata Applications in Civil and Structural Engineering
- Image Processing and Pattern Recognition

Finally, I should like to thank the members of the Conference Editorial Board for their help before and during the conference: Professor M. Abe, Japan; Professor M. Alshawi, England; Professor G. Aouad, England; Dr J. Bai, Wales; Professor J. Bento, Portugal; Dr N.M. Bouchlaghem, England; Dr T. Burczynski, Poland; Dr F. Casciati, Italy; Dr W.T. Chan, Singapore; Dr I.E.G. Davey-Wilson, England; Professor W.P.S. Dias, Sri Lanka ; Dr F. Farinha, Portugal; Dr H. Furuta, Japan; Professor J.S. Gero, Australia; Dr A.T.C. Goh, Singapore; Professor A. Gupta, India; Professor F.C. Hadipriono, USA; Dr T.J. McCarthy, England; Professor J.C. Miles, Wales; Dr L. Moore, Wales; Professor A. Osyczka, Poland; Dr I.C. Parmee, England; Professor A. Portela, Portugal; Dr D. Penumadu, USA; Dr M.Y. Rafiq, England; Dr S.M. Rowlinson, Hong Kong; Professor M.P. Saka, Bahrain; Professor P.J. Scherer, Germany; Professor I.F.C. Smith, Switzerland; Dr A. Starkey, Scotland; Professor M. Sun, England; Dr W. Tizani, England; Professor C.P. Tsai, Taiwan and Dr P.C.G. da S. Vellasco, Brazil.

I am particularly grateful for the efforts of: Dr K. Orsborn, Professor F.C. Hadipriono and Professor P.C.G. da S. Vellasco who organised the special sessions.

Other papers presented at the conferences in 2003 are published as follows:

- *The Contributed Papers from Civil-Comp 2003 are published in:* Proceedings of The Ninth International Conference on Civil and Structural Engineering Computing, B.H.V. Topping, (Editor), (Book of Abstracts and CD-ROM), Civil-Comp Press, Stirling, Scotland, 2003.
- *The Invited Lectures from Civil-Comp 2003 and AICivil-Comp 2003 are published in:* Progress in Civil and Structural Engineering Computing, B.H.V. Topping, (Editor), Saxe-Coburg Publications, Stirling, Scotland, 2003.

These Conferences could not have been organised without the contribution of many who helped in their planning, organisation and execution. I am particularly grateful to Jelle Muylle, Judy Tait and Peter Iványi.

Barry H.V. Topping