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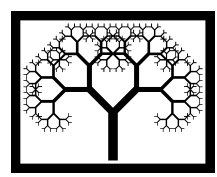

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Preface

This volume comprises the extended abstracts of contributed papers presented at The Tenth International Conference on Civil, Structural and Environmental Engineering Computing (Civil-Comp 2005) held in Rome, Italy from 30 August to 2 September 2005. The full papers from the conference are available on the accompanying CD-ROM. This conference is part of the Civil-Comp Series series that commenced in 1983. The 2005 conference was held concurrently with The Eighth International Conference on the Application of Artificial Intelligence to Civil, Structural and Environmental Engineering (AICivil-Comp 2005).

The special sessions included in this volume of Proceedings are:

- New Frameworks for Structural Analysis
  organised by Professor F. Bontempi
- Innovative Technology and Management for Construction Engineering
  organised by Professor N.F. Pan
- Computational Tools for Safety in the Built Environment
  organised by Professor F.C. Hadipriono
- Analysis of Steel and Composite Structures
  organised by Dr L.F. Costa Neves
- Computational Methods for Concrete Structures
  organised by Dr A.F. Ashour
- Buckling of Shells
  organised by Dr J. Blachut

I am particularly grateful to the organisers of these special sessions.

The following sessions are also included in this volume:

- Design and Information Technology
- Software Engineering
- Mesh Generation
- Grid Computing
- Data Processing
- Virtual Reality
- Infrastructure Management

- Construction Management
- Environmental Modelling and Simulation
- Water Engineering
- Traffic and Transportation Engineering
- Pavement Engineering
- Structural Analysis
- Finite Element Techniques: Analysis, Modelling and Design
- Finite Strip Method
- Boundary Element Methods
- Element Free Analysis
- Flow Simulation
- Computational Fluid Dynamics
- Fluid-Structure Interaction
- Structural Optimization
- Reliability and Stochastic Techniques
- Plates and Shells
- Nano-Scale Mechanics
- Hysteresis Analysis and Modelling
- Materials Engineering
- Composite Materials
- Steel Structures
- Steel Connections
- Modelling of Tall Buildings
- Building Technology: Modelling and Simulation
- Reinforced Concrete Structures
- Composite Structures
- Masonry Structures
- Timber Structures
- Control of Engineering Structures
- Earthquake Engineering and Seismic Design
- Dynamic Analysis of Structures
- Dynamics of Bridges: Vibration and Seismic
- Bridge Engineering
- System Identification, Diagnosis, Maintenance and Repair
- Dam Engineering
- Foundation Engineering
- Geotechnical Engineering
- Soil-Structure Interaction
- Tunneling

Other papers presented at the conferences in 2005 are published as follows:

- *The Invited Lectures from Civil-Comp 2005 are published in:*
  Innovation in Civil and Structural Engineering Computing, B.H.V. Topping (Editor), Saxe-Coburg Publications, Stirling, Scotland, 2005.

- *The Contributed Papers from AICivil-Comp 2005 are published in:*
  The Eighth International Conference on the Application of Artificial Intelligence to Civil, Structural and Environmental Engineering, B.H.V. Topping (Editor), (Book of Abstracts and CD-ROM), Civil-Comp Press, Stirling, Scotland, 2005.

These conferences could not have been organised without the help and support of many people. I would like to thank Jelle Muylle (Civil-Comp Press) for designing and organising this book and the volumes of conference proceedings. Once again, I would like to thank Judy Tait (Civil-Comp Press) for her organisational skills, which were greatly appreciated.

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