

## Preface

The First International Conference on Fracture Mechanics of Concrete and Concrete Structures (FraMCoS-I) was held in Breckenridge, Colorado, in 1992 and was organised by Z.P. Bažant, the first president of the International Association of Fracture Mechanics of Concrete and Concrete Structures (IA-FraMCoS). FraMCoS-II was held in Zürich, Switzerland, in 1995 under the presidency of F.H. Wittmann, while the third conference in the series was held in Gifu, Japan, in 1998. It was organised jointly by the third president, H. Mihashi, and by K. Rokugo.

The fourth conference in this series remains true to its original spirit, namely to present, discuss and exchange fundamental and applied results that pertain to the understanding, modelling and analysis of fracture phenomena in concrete and concrete structures, in the widest possible sense. It is held at the Ecole Normale Supérieure de Cachan and has been organised in collaboration between the Koiter Institute Delft of Delft University of Technology and the Laboratoire de Mécanique et Technologie.

After the call for papers more than 200 abstracts have been submitted. The organisers wish to express their gratitude to the members of the Scientific Committee of FraMCoS-IV for their careful and prompt reviewing of the abstracts: Paul Acker, Zdenek Bažant, Nenad Bićanić, Alberto Carpinteri, Hideyuki Horii, Tony Ingraffea, Bhushan Karihaloo, Eric Landis, Victor Li, Herbert Mang, Hirozo Mihashi, Harald Müller, Jaime Planas, Hans Reinhardt, Keitetsu Rokugo, Victor Saouma, Henrik Stang, Franz-Josef Ulm, Kaspar Willam and Folker Wittmann. This process resulted in the acceptance of 153 abstracts.

This two-volume set contains 143 keynote and contributed lectures, divided over seven categories:

- Microstructure and materials engineering
- Durability, time dependence and coupled problems
- Experimental techniques
- Constitutive modelling
- Size effects
- Computational techniques
- Structural performance

We hope that the Proceedings of FraMCoS-IV will serve as a major reference text in the ongoing research and developments of fracture mechanics of concrete and their application to concrete structures in engineering practice.

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