

**Euromech 219** Refined dynamical theories of beams, plates and shells and their applications  
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Professor Dr.-Ing, H. Irretier  
Institut für Mechanik  
Gesamthochschule Kassel-  
Universität  
Postfach 10 13 80  
3500 Kassel, Germany  
and Professor Dr. I. Elishakoff, Haifa

#### FOURTH RILEM INTERNATIONAL SYMPOSIUM ON CREEP AND SHRINKAGE OF CONCRETE: MATHEMATICAL MODELING

Evanston, Illinois, August 26–29, 1986

Following the tradition of the previous symposia held in Munich in 1958 and 1968, and in Leeds in 1978, The International Union of Research and Testing Laboratories in Materials and Structures (RILEM) will hold its Fourth Symposium at Northwestern University during August 26–29, 1986. Supported by U.S. National Science Foundation, co-sponsored by American Concrete Institute and dedicated to the memory of Robert L'Hermite, the symposium will deal with material models as well as structural analysis of creep and shrinkage, including numerical computer analysis and finite elements. Problems of physical mechanisms, humidity and thermal effects, cracking, material testing and observations on structure will be treated to the extent as they relate to mathematical models, their formulation, verification, calibration and computer implementation. Due to the notorious uncertainty of the phenomenon, probabilistic and statistical aspects will be emphasised. The scientific program is prepared by RILEM Technical Committee TC69-MMC. Its members, including C. A. Anderson, Z. P. Bažant (Chairman), O. Buyukozturk, M. A. Chiorino, W. Dilger, J. W. Dougill, W. Haas, G. Horrigmoe, C. Huet, J. T.-E. Jonasson, J. Lazic, H. O. Madsen, T. Tsubaki, K. William, F. H. Wittmann, and J. F. Young, will review the state of the art in principal lectures which will introduce each session. These lectures will be followed by extensive discussions and 15 min. presentations of contributed papers, which will be selected on the basis of one-page abstracts due till March 31, 1986. Camera-ready papers, up to 12 pages long (single spaced), due on June 30, will be published in a Preprint Volume, along with the principal lectures. Furthermore, the updated texts of these lectures and discussion summaries will be published after the symposium in a type-set book.

The symposium is open to RILEM members as well as nonmembers. Advance registration is necessary since the number of participants is limited by the symposium format. The registration fee is \$120 for RILEM members and \$135 for nonmembers if paid until June 1, 1985, and \$150 and \$170 afterwards. To obtain information, register, reserve low-cost university housing (where the number of rooms is limited), and submit an abstract, write to Symposium Chairman Prof. Z. P. Bažant, Director, Center for Concrete and Geomaterials, Tech 2410, Northwestern University, Evanston, IL 60201, USA.

#### WORLD CONGRESS ON COMPUTATIONAL MECHANICS

Austin, Texas, September 22–25, 1986

The International Association of Computational Mechanics announces its first World Congress on Computational Mechanics to be held September 22–25, 1986 at The University of Texas at Austin. Host of the Congress will be the Texas Institute for Computational Mechanics (TICOM), and The George Washington University. Several other societies will also contribute support to this meeting. The meeting will bring together

researchers in computational methods from many diverse areas including civil engineering, computational fluid mechanics, computational structural mechanics, control theory, applied mathematics, and supporting areas. There will also be sessions on artificial intelligence, expert systems, parallel computing, and displays of new hardware and software by various commercial firms is expected. For more information write to WCCM/TICOM, The University of Texas at Austin, Austin, Texas 78712.

## SECOND INTERNATIONAL CONFERENCE AND SHORT COURSE CONSTITUTIVE LAWS FOR ENGINEERING MATERIALS: THEORY AND APPLICATION

University of Arizona, Tucson, January 5-10, 1987

The importance of constitutive laws for reliable and realistic solutions from analytical and computational procedures has spurred significant research activity toward development and application of constitutive relations for various engineering materials. The models are based on various theories: elasticity, hypoelasticity, plasticity, viscoplasticity, endochronic and others. In addition to characterization of materials treated as solid continua, the subject of modelling for discontinuities such as contacts, interfaces, joints and fractures has also received significant attention. Models for different classes of materials often have similar or common basis of mechanics and mathematics.

The objective of the conference and short course is to provide a forum to bring together developments at the international level, leading to fruitful interchange of research results, cooperation, and transfer of basic research results for technological applications.

The conference will be held for four days during 5-8 January, 1987. The scope of the conference includes:

1. *Solids (metallic and geologic materials)* including factors such as volume changes; thermal changes; inherent and induced anisotropy; cyclic loading and seismic effects; stress on strain path; thermo- and fluid-mechanical coupling; liquefaction; micro-macro correlation; and unity in various models.
2. *Discontinuities* including contact, friction, fracture, interfaces, joints; modes of deformation; damage, softening and localization.
3. *Evaluation and Implementation* including models for different classes of materials, limits of applicability, computational characteristics, determination of parameters from laboratory and field tests, algorithms for nonlinearities, discontinuities, damage, finite strain, viscoplasticity, etc.

Short course on Implementation of Constitutive Models will be of two days' duration, 9, 10 January, 1987 and will involve presentations related to geologic and metallic materials. The main aim will be to provide to the participants information on those models that can be readily applied for practical problems. The criteria for presentations will be that (1) the models should be based on general and basic principles and at the same time sufficiently simplified, (2) significant constants should be identified and procedures for their determination from appropriate and common (laboratory) tests should be available, (3) models should have been implemented in solution (computational) procedures and shown successful and realistic predictions for boundary value problems, and (4) modulated subroutines should be available for use by the participants.

Comprehensive abstracts of papers are invited by 30 January 1986; send the abstract(s) and request for further information on the conference and short course to: Constitutive Laws Conference, Department of Civil Engineering and Engineering Mechanics (Room 207D), University of Arizona, Tucson, AZ. The completed manuscripts of accepted papers will be due by about 1 August 1986.