



PREFACE

The Journal *Engineering Transactions* published quarterly, has appeared for more than 40 years and is edited by the Institute of Fundamental Technological Research of the Polish Academy of Sciences. The scope of the Journal covers *engineering aspects of: elasticity, plasticity, hydro- and aerodynamics, theory of structures, thermodynamics, as well as analytical and computational methods in mechanics.*

The Editorial Committee invited the Scientific Committee of the XXXI Polish Solid Mechanics Conference – **SolMec'96** organized in Mierki, September 9-14, 1996, by the Institute of Fundamental Technological Research and Committee of Mechanics of the Polish Academy of Sciences, to encourage all authors of oral and poster presentations at the **SolMec'96** Conference to publish their contributions in special issues of the *Engineering Transactions* and *Archives of Mechanics*.

The present issue of *Engineering Transactions* is the first special issue of the Journal and contains the submitted and reviewed contributions of engineering character.

The first special issue of the other journal, namely *Archives of Mechanics* has been printed simultaneously and it contains the contributions with a more basic orientation.

The number of papers presented at the XXXI Polish Solid Mechanics Conference exceeded 200, including almost 90 papers from abroad. The conference took place at the Holiday Resort Centre KORMORAN in Mierki, approximately 25 km south of Olsztyn and 200 km north of Warsaw, located in a beautiful forest on a bank of the scenic Pluszne Lake.

The program of the conference included the invited opening, 15 general and closing lectures, as well as almost 200 contributed papers presented as lectures or at the poster sessions. They were arranged according to the subject considered.

The main topics of the Conference were arranged as follows:

- mechanics and thermodynamics of solids with microstructure,
- dynamics of solids and structures,
- plasticity, damage and fracture mechanics,
- mathematical and computer methods in mechanics and engineering sciences,
- experimental methods in mechanics,

- contact and interface problems in mechanics,
- environmental mechanics,
- porous media.

Special attention of the organizers and participants coming to the Conference from several academic and research centers all over the world was paid to problems of environmental mechanics. The Organizing Committee of the Conference, together with Professors Schrefler from Padova and Professor Kleiber and Dr. Gajl from Warsaw, organized a TEMPUS – sponsored Intensive Course on Environmental Mechanics during the SolMec'96 Conference.

During the Conference an INTERNET Session was organized with the help of COMP Ltd. Warszawa, Poland and after the Conference on the WWW – page of the Book of Abstracts will be still reachable under the address:

<http://www.ippt.gov.pl/~solmec96>.

As announced during the Conference the contributions of participants who submit their papers in an electronic form are and will be included in the SolMec'96 electronic proceeding book under the same address on the INTERNET.

The Conference hosted 238 scientists from 20 countries, including: Austria, Belgium, Czech, Finland, France, German, Great Britain, Greece, Hungary, Italy, Japan, Russia, Spain, Swiss, Turkey, Republic of South Africa, Romania, Ukraine, U.S.A.

Some of the scientists coming from Russia obtained financial support towards their travel expenses from the *International Science Foundation* and from the Organizing Committee towards a reduction of the registration fees and their living expenses.

All German participants and some Polish ones obtained financial support to reduce the registration fees from the *Stiftung für deutsch – polnische Zusammenarbeit*. Moreover, the *Stiftung* will support the publishing of a special Proceedings volume dedicated to “Problems of Environmental and Damage Mechanics”.

Warszawa, February 1997

Witold Kosiński
Conference Chairman