Journal of
Mechanics of
Materials and Structures

PREFACE
Bogdan T. Maruszewski, Wolfgang Muschik
and Krzysztof W. Wojciechowski

Volume 3, Nº 6
June 2008
The International Symposia on Trends in Continuum Physics have been held every three years since 1998. The first three events took place at the Poznan University of Technology in Poznan, Poland. The fourth and most recent one took place in Lviv, Ukraine, for the first time outside the European Union. All the symposia were jointly planned and organized by B. T. Maruszewski (Poznan University of Technology), W. Muschik (Technische Universität Berlin) and A. Radowicz (Kielce University of Technology).

One of the main aims of those meetings has been to bring together scientists from Eastern Europe working in different fields of continuum physics, widely understood, as well as those from Western and Central European countries, in order to extend their cooperation and to create new connections and acquaintances.

Special emphasis was placed on the representation of various concepts applied to different physical fields interacting with each other. The scope of the Symposia includes fundamentals of continuum physics, new trends in thermodynamics and in electrodynamics, physics of materials (encompassing defective crystals, ferroic crystals, liquid crystals, molecular crystals, high-temperature superconductors, semiconductors, plasma, polymers, amorphous media, smart materials, and anomalous phenomena such as auxetics and negative thermal expansion), biophysics, multiphase systems, and multiscale problems.

The chairs of the Fourth International Symposium on Trends in Continuum Physics (TRECOP’07), where most of the articles in this issue were presented, would like to acknowledge support by the sponsoring institutions who made the meeting possible. They are:

- Institute of Applied Mechanics, Poznan University of Technology
- Pidstryhach Institute for Applied Problems in Mechanics, Ukrainian NAS Centre for Mathematical Modeling, Lviv, Ukraine
- National Academy of Public Administration Office of the President of Ukraine, Lviv Regional Institute of Public Administration, Lviv, Ukraine
- Foundation for Development of Poznan University of Technology

Krzysztof W. Wojciechowski
Chair of the Scientific Committee

Bogdan T. Maruszewski
Wolfgang Muschik
Andrzej Radowicz

Symposium Chairs
Scientific Committee

Krzysztof W. Wojciechowski (Institute of Molecular Physics, Polish Academy of Sciences, Poznan, Poland)

Jan Awrejcewicz (Lodz University of Technology, Lodz, Poland)

Angelo M. Anile (University of Catania, Catania, Italy — deceased)

Vladimir Alshits (Institute of Crystallography, Russian Academy of Sciences, Moscow, Russia)

Arkadi Berezovski (CENS – Institute of Cybernetics, Tallinn, Estonia)

Yaroslav Burak (Institute of Applied Mathematics and Mechanics, Ukrainian National Academy of Sciences, Lviv, Ukraine)

Enzo Ciancio (University of Messina, Messina, Italy)

Yevhen Czaplya (Pidstryhach Institute of Applied Problems of Mechanics and Mathematics, Ukrainian National Academy of Sciences, Lviv, Ukraine)

Juri Engelbrecht (Estonian Academy of Sciences, Tallinn, Estonia)

Karl H. Hoffmann (Chemnitz University of Technology, Chemnitz, Germany)

David Jou (University of Barcelona, Barcelona, Spain)

Jan A. Kołodziej (Institute of Applied Mechanics, Poznan University of Technology, Poznan, Poland)

Józef Kubik (Kazimierz Wielki University, Bydgoszcz, Poland)

Roman Kushnir (Pidstryhach Institute of Applied Problems of Mechanics and Mathematics, Ukrainian National Academy of Sciences, Lviv, Ukraine)

Gerard A. Maugin (University of Paris VI, Paris, France)

Stanisław Matysiak (Warsaw University, Warsaw, Poland)

Henryk Petryk (Institute of Fundamental Technological Research, Polish Academy of Sciences, Warsaw, Poland)

Liliana Restuccia (University of Messina, Messina, Italy)

Jeremiah Rushchitski (Institute of Mechanics, Ukrainian National Academy of Sciences, Kiev, Ukraine)

Czesław Rymarz (Institute of Fundamental Technological Research, Polish Academy of Sciences, Warsaw, Poland)

Jarosław Rybicki (Gdansk University of Technology, Gdansk, Poland)

Jeremiah Savula (Ivan Franko National University, Lviv, Ukraine)

Igor Slezov (Institute of Hydromechanics, Ukrainian National Academy of Sciences, Kiev, Ukraine)

Stanisław Sieniutycz (Warsaw University of Technology, Warsaw, Poland)

Jarosław Stefaniak (Poznan University of Technology, Poznan, Poland)

Gwidon Szefer (Cracow University of Technology, Cracow, Poland)

Alfons A. F. van de Ven (Eindhoven University of Technology, Eindhoven, The Netherlands)
Organizing Committee

**Chairs:**
Bogdan T. Maruszewski (Poznan University of Technology, Institute of Applied Mechanics, Poznan, Poland)
Wolfgang Muschik (Technische Universität Berlin, Institut für Theoretische Physik, Berlin, Germany)
Andrzej Radowicz (Kielce University of Technology, Kielce, Poland)

**Secretary:**
Anita Uściłowska (Institute of Applied Mechanics, Poznan University of Technology, Poznan, Poland)

**Members:**
Yevhen Chaplya (Pidstryhach Institute of Applied Problems of Mechanics and Mathematics, Ukrainian National Academy of Sciences, Lviv, Ukraine)
Stepan Mudry (Physics of Metal Department, Ivan Franko National University, Lviv, Ukraine)
Petro Shevchuk (Pidstryhach Institute of Applied Problems of Mechanics and Mathematics, Ukrainian National Academy of Sciences, Lviv, Ukraine)
Tomasz Stręk (Institute of Applied Mechanics, Poznan University of Technology, Poznan, Poland)
Hubert Jopek (Institute of Applied Mechanics, Poznan University of Technology, Poznan, Poland)
Elżbieta Szymkowiak (Institute of Applied Mechanics, Poznan University of Technology, Poznan, Poland)

**Organizing Institutions:**
Poznan University of Technology, Institute of Applied Mechanics, Poznan, Poland (**Sponsor**)
Polish Academy of Sciences, Institute of Molecular Physics, Poznan, Poland
Pidstryhach Institute of Applied Problems of Mechanics and Mathematics, NAS of Ukraine, Centre of Mathematical Modelling, Lviv, Ukraine (**Sponsor**)
Kazimierz Wielki University, Institute of Environmental Mechanics and Applied Computer Science, Bydgoszcz, Poland
Ivan Franko National University in Lviv, Faculty of Applied Mathematics and Computing Sciences, Lviv, Ukraine
National Academy of Public Administration Office of the President of Ukraine, Lviv Regional Institute of Public Administration, Lviv, Ukraine (**Sponsor**)
Gdansk University of Technology, Gdansk, Poland
Technische Universität Berlin, Institut für Theoretische Physik, Berlin, Germany
Kielce University of Technology, Kielce, Poland
Foundation for Development of Poznan University of Technology, Poznan, Poland (**Sponsor**)
Polish Association of Theoretical and Applied Mechanics, Poznan Division, Poznan, Poland