



## 23<sup>rd</sup> INTERNATIONAL CONGRESS OF THEORETICAL AND APPLIED MECHANICS

Hosted by  
**The Chinese Society of Theoretical and  
Applied Mechanics (CSTAM)**

**19-24 August, 2012  
Beijing, China**

**Preliminary Announcement**

**April 2010**

<http://www.ictam2012.org>

### General Information

The 23<sup>rd</sup> International Congress of Theoretical and Applied Mechanics (ICTAM2012) will be held in Beijing, China, from 19 to 24 August, 2012. The Congress is hosted by

**The Chinese Society of Theoretical and Applied  
Mechanics (CSTAM)**

The Congress venue is the China National Convention Center (CNCC), which is located in the heart of the Olympic Green of Beijing, adjacent to the National Stadium (Bird's Nest) and the National Aquatics Center (Water Cube).

**President of ICTAM2012**

**Professor Yilong Bai**

**Secretary-General of ICTAM2012**

**Professor Jianxiang Wang**

Correspondence related to the Congress should be sent to:

#### ICTAM2012 Secretariat

The Chinese Society of Theoretical and Applied Mechanics  
15 Beisihuanxi Road, Haidian District  
Beijing 100190, China  
Fax: +86 10 62559588  
E-mail: [ictam2012@cstam.org.cn](mailto:ictam2012@cstam.org.cn)

All information on ICTAM2012, including registration, submission of papers, transportation, accommodation etc., is available on the Congress website at:

<http://www.ictam2012.org>

### Scientific Program

The scientific program starts and ends with opening and closing lectures. The rest of the program consists of the George Batchelor Prize Lecture, the Rodney Hill Prize Lecture, Sectional Lectures, Introductory Lectures of the mini-symposia, and contributed papers presented as lectures or seminars, mainly in mini-symposia and pre-nominated sessions.

### Mini-Symposia

Mechanical challenges in energy

Mechanics of natural disasters

Fluid-structure interactions in biological systems

Mechanics of transport in microfluidic devices

Dynamics and control of morphing structures

Effects of small size scales in materials modeling

### Contributed Papers

Contributed papers are intended to cover all aspects of mechanics. A list of topics selected for pre-nominated sessions is given below, but papers on other topics are equally welcome. Invitations to present contributed papers will be made on the recommendation of the International Papers Committee, based on their review of submitted abstracts and extended summaries.

### Pre-Nominated Sessions

#### Fluid Mechanics

Biological fluid dynamics; Boundary layers; Combustion and flames; Compressible flow; Convection; Drops, bubbles and multiphase flows; Flow instability and transition; Flow in thin films; Geophysical and environmental fluid dynamics; Low Reynolds number flow; Magnetohydrodynamics; Non-Newtonian and complex fluids; Stirring and mixing; Turbulence; Vortex dynamics; Waves in fluids; General fluid mechanics

#### Solid Mechanics

Biomechanics and biomaterials; Contact and friction mechanics; Damage mechanics; Elasticity; Fracture mechanics; Geophysics and geomechanics; Impact mechanics and wave propagation; Mechanics of multi-component materials and composites; Mechanics of phase transformations; Mechatronics; Multibody and vehicle dynamics; Nanostructures and MEMS; Plasticity, viscoplasticity and creep; Stability of structures; Structural optimization; Vibrations and control of structures; General solid mechanics

## Topics involving both fluid mechanics and solid mechanics

Acoustics; Computational methods in mechanics; Experimental methods in mechanics; Chaos and pattern formation; Electro- and magnetomechanical systems; Fluid structure interactions; Smart materials; Granular materials and flows; Mechanics of materials processing; Porous media; Foams and cellular materials; Education in mechanics

Information on the opening and closing lectures, and the two prize lectures will be announced in due course.

## Call for Papers and Pre-Registration

Congress participants are encouraged to submit papers. Papers are sought for all topics corresponding to **Mini-Symposium** or **Pre-Nominated Session** subject matters. The official language of the Congress is English. The paper should present material that is novel and preferably unpublished at the time of the Congress. Prospective authors are asked to submit only one paper for consideration. No author will be invited to present more than one paper. Submission of an Abstract and an Extended Summary should be performed on the Congress website after September 1, 2011. The submission deadline is Friday, January 9, 2012. Contributors will be informed of the decision of the International Papers Committee, and on the assignment of their paper to a session, by May 1, 2012. The author of a paper invited for presentation is expected to register and present the paper at the Congress. Instructions for submission will be announced in due course. Potential participants can pre-register using the *Registration for Participation* function of the Congress website.

## Publications

The Abstract Book and the ICTAM2012 CD-ROM with the Extended Summaries of accepted papers will be distributed at the Congress to registered participants. A hardcover book of Proceedings will appear after the Congress. It will contain the text of the Opening and Closing Lectures, as well as the Batchelor and Hill Prize Lectures, Sectional Lectures and the Introductory Lectures of the Mini-Symposia; a list of all contributed papers presented at the Congress (but not the Abstracts); a list of participants in ICTAM 2012; and a general report on the Congress. Authors of contributed papers presented at the Congress are encouraged to submit their work to appropriate journals for publication.

## Support Grants

ICTAM2012 will have at its disposal limited funds to provide partial support to participants with accepted papers who are unable to secure adequate funds from their home countries. Prospective participants who wish to apply for financial assistance should request an application form from the Secretariat along with further instructions.

## Accommodation

There are a number of hotels of different categories, close to the Congress venue, CNCC. Recommended hotels are listed on the website of the Congress. Participants should make

their own reservations on the website of the Congress at <http://www.ictam2012.org>.

## Information for Pre- and Post-Congress Tours

Information on travels, accommodation and additional tourist programs (pre- and post-conference tours) is available at the ICTAM2012 **official Travel and Tourist Agency**:

Head Office  
China International Travel Service Limited  
Rm 1110, CITS Bldg, 1 Dongdan Beidajie, Dongcheng District  
Beijing 100005, China  
Fax: +86 10 65222901  
<http://www.cits.net>

