



NEWSLETTER

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From the Office of the Secretary General

Meeting of the International Papers Committee

IUTAM Symposia 2012 and 2013

IUTAM Summer Schools 2012

IUTAM Co-Sponsored Events 2012

International Congress, XXIII ICTAM, Beijing, August 2012

IUTAM Home Page:

<http://www.iutam.net>

or: <http://www.iutam.org>

International Union of Theoretical and Applied Mechanics

N-2012-1

June 2012

President's Address

This will be my last Presidential Address in the Newsletter, because the next President will take over in November this year. I have greatly enjoyed my time as President of IUTAM, largely because of the wide range of contacts, both geographical and scientific, that the role has helped foster. Many warm friendships have developed over the last four years, and I look forward to maintaining them as Vice President over the next four.

The main preoccupation of everyone in the IUTAM administration at the moment is the forthcoming 23rd International Congress of Theoretical and Applied Mechanics, to be held in Beijing, 19-24 August, 2012. The Local Organising Committee continues to work very hard in preparing for the Congress and in communicating with all those who have registered or are expected to register, especially the authors of accepted papers, those selected as session chairs, members of the General Assembly and Congress Committee, etc. They have been sending out formal letters to enable us to obtain visas and are keeping the website up-to-date. The Secretary-General is preparing the agendas and papers for the General Assembly and Bureau meetings. In the absence of a formally appointed Secretary of the Congress Committee (following the death of Hassan Aref), Professor Dick van Campen has kindly undertaken to prepare the agendas and papers for the meetings of the Congress Committee (CC) and its Executive, apart from the bids to host the 24th ICTAM in 2016, which are being sent to me. Let me take this opportunity to remind those who are preparing a bid that the absolute deadline for receipt of the final bid documents (or access to an appropriately secure website containing the documents) is Saturday, 30 June, 2012. I have been given to understand that bids will certainly be received from four or five different cities around the world which would like to host us in 2016.

As reported elsewhere in this Newsletter, the International Papers Committee met in Denmark at the end of March. Professor Viggo Tvergaard, a member of the Executive of the CC, generously gave his time to act as CC Secretary for the IPC, and he has written the account below. As you can see from his report, the IPC had 1887 submitted short papers to consider, and accepted 1577 of them (971 as lectures and 606 as seminars). The quality of the submissions was clearly very high and we can be assured that ICTAM2012

will be a great success, scientifically as well as organisationally. All that remains for me to do is to urge you to register for the Congress if you have not already done so. I look forward to meeting as many of you as possible in Beijing.

June 2012

Tim Pedley
President of IUTAM
Cambridge

From the Office of the Secretary General

IUTAM Report 2011:

The IUTAM Report 2011 will be printed in July 2012 and sent by post in September 2012. The pdf versions of the Annual Reports can be downloaded from the IUTAM website:

http://iutam.org/?page_id=878

Proposals for Symposia and Summer Schools 2014-2015:

The call for proposals has resulted in 32 proposals for Symposia (14 in fluids, 14 in solids and 4 in fluids/solids) and 3 proposals for Summer Schools. The proposals are being evaluated by the Symposia Panels and they will be discussed by the General Assembly in Beijing.

IUTAM Prizes for Fluid Mechanics and for Solid Mechanics:

The G K Batchelor Prize for 2012, sponsored by the Journal of Fluid Mechanics, Cambridge University Press, has been awarded to Professor Detlef Lohse of the Technical University of Twente, the Netherlands. Professor Lohse received the prize for his outstanding research on a wide range of fundamental fluid mechanics, including bubble sonoluminescence, turbulent convection, multiphase flow and microfluid dynamics, and for technological applications. Using innovative laboratory experiments, coupled with theoretical and numerical calculations, Professor Lohse has made significant advances that have provided new understanding of the underlying physics of these many different flows.

The Rodney Hill Prize for 2012, founded and sponsored by Elsevier Limited and awarded under the auspices of IUTAM, has been awarded to Professor Hujan Gao of Brown University, USA. Professor Gao received the prize for his deep and broad scientific achievements in basic solid mechanics and its bridge to other fields, which has re-defined the modern frontiers of mechanics research. His work includes fundamental theory as well as applications to materials science, nanotechnology, and bioengineering. His highly cited publications appear not only in the major solid mechanics journals but also in many high-profile, cross-disciplinary journals. For more information, go to

www.elsevier.com/wps/find/P07.cws_home/hillprizewinner

Procedia IUTAM :

The new series was launched successfully in 2011. There are now four volumes available on the website:

<http://www.sciencedirect.com/science/journal/22109838>

Frédéric Dias
Secretary General of IUTAM
Cachan & Dublin

**Meeting of the International Papers Committee (IPC)
held at the Technical University of Denmark
24 March – 27 March, 2012**

In addition to the six members of the IPC, 3 from fluids and 3 from solids, the ICTAM Secretary-General, Jianxiang Wang, had come to Denmark together with central members of the ICTAM staff. A total of 1887 short papers had been submitted. The division of submissions by field was Minisymposia 143, Fluid Mechanics 630, Solid Mechanics 757 and Fluid-Solid Mechanics 349.

Recommendations had been received from Pre-selection Committees of nine large countries, and from the Chairs of the Mini-Symposia (MS) and of the Pre-nominated Sessions (PNS). Chairs of Mini-Symposia had been given the right to select up to three contributed papers, and PNS chairs two, which would definitely be accepted. In addition the MS chairs had selected 3 to 5 introductory lectures. The IPC paid careful attention to these recommendations and followed them in most cases. The work of the IPC was greatly facilitated by excellent preparation from the ICTAM staff, with all data pertaining to the papers and their ratings available on an Excel sheet.

The IPC generally found the scientific quality of the submitted papers to be high. Accordingly, of the 1887 submissions the IPC accepted 1577 papers (971 authors were invited to present lectures and 606 to make seminar presentations). The IPC took advantage of the fact that our Chinese hosts had found more slots available for lectures than had been possible in previous Congresses, but the IPC did not use the maximum number available. Presentations were invited from all the 60 different countries from which papers were submitted.

The IPC Meeting took three full days. Subsequently, the lectures were distributed into coherent Sessions. The whole meeting was characterized by a positive spirit of cooperation from all participants.

Viggo Tvergaard
Acting Secretary for the IPC Meeting, Congress Committee of IUTAM
Lyngby, Denmark

IUTAM Symposia 2012**12-1= GA.10-07 IUTAM Symposium on Mobile particulate systems : kinematics, rheology and complex phenomena**

Place: Bangalore, India
Date: January 23 – January 27, 2012
Chairman: **Prof. P. Nott**
Indian Institute of Science
Department of Chemical Engineering
560012 Bangalore
India
Email: prnott@chemeng.iisc.ernet.in
<http://chemeng.iisc.ernet.in/iutamblr12/>

IUTAM Representative on Scientific Committee: Prof. G. Leal

12-2 = GA.10-12 IUTAM Symposium on Advanced materials modelling for structures

Place: Paris, France
Date: April 23 – April 27, 2012
Chairman: **Prof. S. Kruch**
ONERA
29 avenue Division Leclerc
92320 Chatillon, France
Email: serge.kruch@onera.fr
<http://sites.onera.fr/amms2012/>

IUTAM Representative on Scientific Committee: Prof. V. Tvergaard

12-3= GA.10-09 IUTAM Symposium on From mechanical to biological systems - an integrated approach

Place: Izhevsk, Russia
Date: June 05 – June 09, 2012
Chairman: **Prof. V. Kozlov**
Udmurt State University
Izhevsk
119991 Moscow
Russia
Email : kozlov@ras.ru
<http://iutam2012.rcd.ru/>

IUTAM Representative on Scientific Committee: Prof. F. Chernousko

12-4= GA.10-08 IUTAM Symposium on Waves in fluids: Effects of nonlinearity, rotation, stratification and dissipation

Place: Moscow, Russia
Date: June 18 – June 22, 2012
Chairman: **Pr. Y.D. Chashechkin**
Institution of the Russian Academy of Sciences A.Yu. Ishlinskii
Institute for Problems in Mechanics of the RAS
119526 Moscow
Russia
Email: chakin@ipmnet.ru

IUTAM Representative on Scientific Committee: Prof. F. Chernousko

12-5= GA.10-16 IUTAM Symposium on Multiscale problems in stochastic mechanics

Place: Karlsruhe, Germany
Date: June 25 – June 29, 2012
Chairman: **Prof. C. Proppe**
Karlsruhe Institute of Technology
76131 Karlsruhe
Germany
Email: proppe@kit.edu
<http://www.itm.kit.edu/dynamik/iutam-symposium/>

IUTAM Representative on Scientific Committee: Prof. E. Kreuzer

12-6= GA.10-14 IUTAM Symposium on Fracture phenomena in nature and technology

Place: Brescia, Italy
Date: July 01 – July 05, 2012
Chairman: **Prof. D. Bigoni**
Department of Mechanical and Structural Engineering
University of Trento
Via Mesiano 77
38050 Trento, Italy
Email : bigoni@ing.unitn.it
<http://events.unitn.it/en/iutam2012>

IUTAM Representative on Scientific Committee: Prof. B. Freund

12-7 = GA.10-03 IUTAM Symposium on Understanding common aspects of extreme events in fluids

Place: Dublin, Ireland
Date: July 02 – July 06, 2012
Chairman: **Dr. M.D. Bustamante**
University College Dublin
School of Mathematical Sciences
Belfield, Dublin 4 , Ireland
Email: miguel.bustamante@ucd.ie
<http://mathsci.ucd.ie/~miguel/IUTAM2012/index.html>

IUTAM Representative on Scientific Committee: Prof. F.Dias

12-8= GA.10-02 IUTAM Symposium on Topological fluid dynamics II

Place: Cambridge, UK
Date: July 23 – July 27, 2012
Chairman: **Prof. K. Moffatt**
University of Cambridge
Dept. of Applied Mathematics and Theoretical Physics.
CB3 0WA Cambridge - UK
Email: hkm2@damtp.cam.ac.uk

Co-Chairman: **Dr. K. Bajer**
University of Warsaw , Institute of Geophysics
ul.Pasteura 7
02-093 Warszawa, Poland
Email: Konrad.Bajer@fuw.edu.pl

Co-Chairman: **Prof. Y. Kimura**
School of Mathematics
Nagoya University, Nagoya, Japan
Email: kimura@math.nagoya-u.ac.jp

IUTAM Representative on Scientific Committee: Prof. T. Pedley

12-9= GA.10-15 IUTAM Symposium on Hysteresis and pattern evolution in non-equilibrium solid-solid phase transitions

Place: Hong Kong, China
Date: August 15 – August 18, 2012
Chairman: **Prof. Q.P. Sun**
Hong Kong University of Science and Technology
Kowloon
Hong Kong
China
Email: meqpsun@ust.hk

IUTAM Representative on Scientific Committee: Prof. S. Kyriakides

12-10= GA.10-06 IUTAM Symposium on Particle methods in fluid mechanics

Place: Kgs. Lyngby, Denmark
Date: October 15 – October 17, 2012
Chairman: **Prof. J.H. Walther**
Department of Mechanical Engineering
Technical University of Denmark
2800 Kgs. Lyngby
Denmark
Email: jhw@mek.dtu.dk

IUTAM Representative on Scientific Committee: Prof. F. Dias

12-11= GA.10-11 IUTAM Symposium on Advances of optical methods in experimental mechanics

Place: Hsinchu, China-Tapei
Date: November 03 – November 06, 2012
Chairman: **Prof. W.-C. Wang**
National Tsing Hua University
Department of Power Mechanical Engineering
30013 Hsinchu
Taiwan
Email: wawang@pme.nthu.edu.tw

IUTAM Representative on Scientific Committee: Prof. B. Freund

IUTAM Symposia 2013

13-1 = GA.10-04 IUTAM Symposium on Vortex dynamics: formation, structure and function

Place: Fukuoka, Japan
Date: March 10 – March 14, 2013
Chairman: **Prof. Y. Fukumoto**
Kyushu University
Faculty of Mathematics
744 Motooka, Nishi-ku
819-0395 Fukuoka Japan
Email: yasuhide@math.kyushu-u.ac.jp

IUTAM Representative on Scientific Committee: TBA

13-2 = GA.10-05 IUTAM Symposium on Nonlinear interfacial wave phenomena from the micro to the macro- scale

Place: Limassol, Cyprus
Date: April 14 – April 18, 2013
Chairman: **Prof. D. Papageorgiou**
Imperial College of London
Department of Mathematics
Huxley Building, 180 Queen's gate
SW7 2AZ London UK
Email: d.papageorgiou@imperial.ac.uk

IUTAM Representative on Scientific Committee: Prof. F. Dias

13-3 = GA.10-10 IUTAM Symposium on Recent developments in impact testing of materials and structures

Place: Xi'an, China
Date: May 06 – May 10, 2013
Chairman: **Prof. Y. Li**
School of Aeronautics
Northwestern Polytechnical University
710072 Xi'an
China
Email: liyulong@nwpu.edu.cn
Co-Chairman: **Prof. Han Zhao**
Ecole Normale Supérieure de Cachan
France
Email: zhao@imt.ens-cachan.fr

IUTAM Representative on Scientific Committee: Prof. B. Freund

13-4 = GA.10-13 IUTAM Symposium on Materials and interfaces under high strain rate and large deformation

Place: Metz, France
Date: June 17 – June 21, 2013
Chairman: **Prof. S. Mercier**
Université Paul Verlaine Metz
Ile du Saulcy
57045 Metz, France
Email: sebastien.mercier@univ-metz.fr
Co-Chairman: **Prof. J. F. Molinari**
Ecole Polytechnique Fédérale de Lausanne
CH 1015, Lausanne, Switzerland.
Email: jean-francois.molinari@epfl.ch

IUTAM Representative on Scientific Committee: Prof. N. Gupta

13-5 = GA.10-17 IUTAM Symposium on Multiscale modelling and uncertainty quantification of materials and structures

Place: Athens, Greece
Date: September 08 – September 11, 2013
Chairman: **Prof. M. Papadrakakis**
NTUA
Zografou Campus
15780 Athens
Greece
Email: mpapadra@central.ntua.gr

IUTAM Representative on Scientific Committee: Prof. O. Allix

13-6 = GA.10-01 IUTAM Symposium on The dynamics of extreme events influenced by climate change

Place: Lanzhou, China
Date: September 21 – September 23, 2013
Chairman: **Prof. X. Zheng**
Department of Mechanics
Lanzhou University, China
Email : xizheng@lzu.edu.cn
Co-Chairman: **Prof. P. Linden**
Department of Applied Mathematics and Theoretical
Physics
University of Cambridge, UK
Email: p.f.linden@damtp.cam.ac.uk

IUTAM Representative on Scientific Committee: Prof. K. Moffatt

IUTAM Summer Schools

2012

IUTAM Summer School on Biomechanics of Tissue and Tissue-Cell Interaction

Place: Purdue, USA
Event dates: June 05 – June 08, 2012
Coordinators: **Prof. T. Siegmund**
Purdue University
School of Mechanical Engineering
585 Purdue Mall
47907 West Lafayette USA
Email: siegmund@purdue.edu
<https://engineering.purdue.edu/IUTAMSS>

2012

IUTAM-CISM Summer School on Mechanics of Nanocrystalline Materials: From Discrete to Continuum

Place: Udine, Italy
Event dates: September 10 – September 14, 2012
Coordinator: **Prof. M. Cherkaoui**
School of Mechanical Eng.
Georgia Institute of Technology
Atlanta, GA 30332-0405
USA
Email: mcherkaoui@me.gatech.edu

Co-Coordinator: **Prof. D. L. McDowell**
School of Mechanical Eng.
Georgia Institute of Technology
Atlanta, GA 30332-0405
USA
Email: david.mcdowell@me.gatech.edu

<http://www.cism.it/courses/C1210/lectures/>

IUTAM Co-Sponsored Events

2012 Second Joint International Conference on Multibody System Dynamics

Place: University of Stuttgart
 Germany

Date: May 29 – June 01, 2012

Coordinator : **Prof. P. Eberhard**
 University of Stuttgart
 Institute of Engineering and Computational Mechanics
 70569 Stuttgart
 Germany
Email: peter.eberhard@itm.uni-stuttgart.de

International Congress, XXIII ICTAM, Beijing 2012

August 19-24, 2012

The International Congresses on Theoretical and Applied Mechanics (ICTAM), organized every four years by IUTAM, bring together scientists from all over the world for the purpose of exchanging information about recent developments in the field. Participation is unrestricted.

For further information see ICTAM home page,
<http://www.ictam2012.org/>

Opening and Closing Lecturers

Opening Lecturer: Professor Shiyi Chen (China)

Closing Lecturer: Professor Ben Freund (USA)

Mini Symposia

MS 01. Mechanical challenges in energy

Co-chairs:

Professor Ken Reifsnider (USA)

Professor Jens Nørkær Sørensen (Denmark)

Professor Dongxiao Zhang (China)

MS 02. Mechanics of natural disasters

Co-chairs:

Professor Bernhard Schrefler (Italy)

Professor Pavel Tkalich (Singapore)

MS 03. Fluid-structure interactions in biological systems

Co-chairs:

Professor Gerhard Holzapfel (Austria)

Professor Eric Lauga (USA)

MS 04. Mechanics of transport in microfluidic devices

Co-chairs:

Professor Matthew Begley (USA)

Professor Henrik Bruus (Denmark)

MS 05 Dynamics and control of morphing structures

Co-chairs:

Professor Ephraim Garcia (USA)

Professor Haiyan Hu (China)

MS 06 Effects of small size scales in materials modeling

Co-chairs:

Professor Huajian Gao (USA)

Professor Marc Geers (Netherlands)

Pre-Nominated Sessions

Fluid Mechanics

- FM1** Biological fluid dynamics
- FM2** Boundary layers
- FM3** Combustion and flames
- FM4** Compressible flow
- FM5** Convection
- FM6** Drops, bubbles and multiphase flows
- FM7** Flow instability and transition
- FM8** Flow in thin films
- FM9** Geophysical and environmental fluid dynamics
- FM10** Low Reynolds number flows
- FM11** Magneto hydrodynamics

Solid Mechanics

- SM1** Biomechanics and biomaterials
- SM2** Contact and friction mechanics
- SM3** Damage mechanics
- SM4** Elasticity
- SM5** Fracture mechanics
- SM6** Geophysics and geomechanics
- SM7** Impact mechanics and wave propagation
- SM8** Mechanics of multi-component materials and composites
- SM9** Mechanics of phase transformations
- SM10** Mechatronics
- SM11** Multibody and vehicle

FM12	Non-Newtonian and complex fluids	SM12	dynamics Nanostructures and MEMS
FM13	Stirring and mixing	SM13	Plasticity, viscoplasticity and creep
FM14	Turbulence	SM14	Stability of structures
FM15	Vortex dynamics	SM15	Structural optimization (Co-sponsored by ISSMO)
FM16	Waves in fluids	SM16	Vibrations and control of structures
FM17	General fluid mechanics	SM17	General solid mechanics

Topics involving both fluid mechanics and solid mechanics

FS01	Acoustics
FS02	Computational methods in mechanics
FS03	Experimental methods in mechanics
FS04	Chaos and pattern formation
FS05	Electro- and magnetomechanical systems
FS06	Fluid structure interactions
FS07	Smart materials
FS08	Granular materials and flows
FS09	Mechanics of materials processing
FS10	Porous media
FS11	Foams and cellular materials
FS12	Education in mechanics

Notice on IUTAM Symposia

The IUTAM Symposia are reserved to invited participants. Those wishing to participate in an IUTAM Symposium are therefore advised to contact the Chairman of the Scientific Committee in due time in advance of the meeting.

IUTAM is a member of **ICSU**
<http://www.icsu.org>

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