



NEWSLETTER



President's Address
From the Office of the Secretary-General
IUTAM Symposia 2010 and 2011
IUTAM Summer Schools 2010 and 2011
IUTAM Co-Sponsored Event 2010

IUTAM Home Page:

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

International Union of Theoretical and Applied Mechanics
N-2010-1

June 2010

President's Address

After nearly two years as President I am only slowly becoming aware of some of the broader aspects of the role. For example, I receive frequent emails from ICSU, the International Council for Science, to which IUTAM is affiliated. Many of the messages do not impinge directly on us, but every three years ICSU has a highly outward-looking General Assembly, with a more restricted “Unions meeting” in between. This year the ICSU Unions meeting took place in Paris on 7/8 April. Unfortunately neither I nor the Secretary-General was able to attend, but former President Keith Moffatt kindly agreed to represent IUTAM at the meeting. His full report will be presented to the General Assembly in July, and will subsequently be placed on the IUTAM website. One of the main scientific items was the Foresight Analysis, in which Unions are requested to focus on two questions (i) What will be the major changes in the production of science over the next 20 years? and (ii) How will the science–society interface evolve over the next 20 years? Not much time was allocated to discussing these questions, but members of IUTAM should consider how we might best contribute to answering them. Another major discussion at the meeting concerned the need for free availability of the computer codes used in making important scientific assessments and predictions, such as those related to climate change.

An important function of ICSU is its grants programme, and the 2011 programme was announced on 28 May 2010 – earlier than usual to allow Unions more time to consider possible applications. You may not be aware that IUTAM was a partner in a successful application for one of the 2010 ICSU grants, led by IUGG, to coordinate research into Extreme Natural Hazards and Societal Implications (ENHANS). The principal goals of ENHANS are:

“(i) to improve understanding of critical phenomena associated with extreme natural events and to analyse impacts of the natural hazards on sustainable development of society; (ii) to promote studies on prediction of extreme events reducing predictive uncertainty and on natural hazards mitigations; to bring the issues into the political and economical policies; (iii) to disseminate knowledge and data on natural hazards for the advancement of

research and education in general and especially in developing countries and (iv) to establish links and networks with the international organizations involved in research on extreme natural hazards and their societal implications setting up a consortium of experts of ICSU Unions and several major intergovernmental and multi-national organizations involved in the project”.

The goals of ENHANS will be achieved via scientific meetings and open forums bringing together research experts. More details can be seen on the website www.enhans.org.

A sad and increasingly frequent duty of the President is to record the deaths of major figures in Mechanics and in IUTAM. On this occasion I wish to pay tribute to Carlo Cercignani, Hans Troger and Isaac Goldhirsch.

Carlo Cercignani died on 7 January 2010, at the age of 70; he had been suffering from multiple sclerosis for many years. He was professor at the Politecnico di Milano and member of the Accademia Nazionale dei Lincei, which awarded him its Gold Medal for Mathematics in 1982, and of the Académie des Sciences in Paris, as well as receiving many other honours. His research was primarily in the field of kinetic theory and statistical mechanics, and he was probably *the* world expert on the Boltzmann Equation, both its derivation from microscopic models of molecular interaction and its applications in rarefied gas dynamics and in the dynamics of granular media, to name but two. He was the author of numerous books, including “The Boltzmann Equation and its Applications” (1987) and a scientific biography “Ludwig Boltzmann: the Man Who Trusted Atoms” (2000). Carlo Cercignani represented Italy as a member of the IUTAM General Assembly from 1982 to 2006; he was a member of the Congress Committee from 1990 to 1998 and of the Bureau from 2000 to 2004.

Hans Troger, who died on 22 February 2010, was President of the Austrian Committee for Theoretical and Applied Mechanics in the Austrian Academy of Sciences. He obtained his doctorate in 1970 from the Institute of Mechanics (now the Institute of Mechanics and Mechatronics) at the Technical University of Vienna, where he was a full professor from 1979 until his death. His research focussed on the application of novel mathematical methods in solid mechanics. He was particularly interested in applying the concepts of nonlinear stability theory and bifurcation theory to a

wide range of practical problems, such as the instability and buckling of plates and shells, to self-excited oscillations in fluid-conveying tubes, and to the motions of robot arms and tethered satellites. He was awarded the Schrodinger Prize of the Austrian Academy of Sciences in 2000 and elected a full member of the Academy in 2002.

We were all very shocked by the sudden and untimely death of Isaac Goldhirsch from a heart attack on 29 April 2010, at the age of 60. He was born in Romania but spent most of his life in Israel. He was for 27 years on the faculty of Tel Aviv University, where he rose to become the Raquel and Manuel Klachky Professor of Rheological Flows. His research was primarily concerned with the physics of granular media, in which he not only developed a rational method for the derivation of macroscopic equations from the individual details of particle motions, but also exploited a variety of mathematical and computational methods to help understand a wide range of physical phenomena. Isaac was elected as a member of the IUTAM Bureau by the General Assembly in 2008. Although he was able to attend only one meeting, in 2009, we soon learned that his contributions were very much to the point, while expressed in a characteristically humorous manner.

All three of these great mechanical scientists will be deeply missed by the whole IUTAM community.

The next meeting of the IUTAM General Assembly and Congress Committee (CC) will take place in Paris on 17 and 18 July, 2010. Inevitably, the main focus of the CC's business will be preparations for the 23rd ICTAM, to be held in Beijing in 2012, though preliminary bids for ICTAM 2016 will be heard as well.

Tim Pedley
President of IUTAM
Cambridge

From the Office of the Secretary-General

Proposals for IUTAM Symposia and Summer Schools for 2012 and 2013:

The call for proposals has resulted in 27 proposals for Symposia (12 in fluids, 10 in solids and 5 in fluid/structure interaction) and 7 proposals for Summer Schools (1 in fluids, 5 in solids and 1 in fluid/structure interaction). These proposals are being evaluated by the Symposia Panels and they will be discussed at the General Assembly in Paris.

Letter from Paul Cutler (ICSU)

17 February 2010

Dear Professor Van Campen,

On behalf of ICSU's Committee on Scientific Planning and Review (CSPR), I thank you for preparing the final report for your Spring School on "Fluid mechanics and geophysics of environmental hazards" that was supported by the 2008 ICSU Grants Programme.

The final report serves two purposes for CSPR: it helps the committee assess the impact of the seed funding with respect to ICSU's overall strategic priorities, and it informs CSPR's deliberations on any refinements to the programme.

Your report was very helpful in both regards. In general, CSPR felt that your project was successful in all key areas-broad participation, leveraging of additional funds, contributing to the advancement of priorities of ROAP, and developing outreach products such as the book that is mentioned in your report.

We thank you again for the time taken to carefully prepare your final report. Please watch for the announcement of the 2011 programme.

Yours sincerely

Paul Cutler
Science Officer for Scientific Planning and Review, ICSU

IUTAM Report 2009

The IUTAM Report 2009 is scheduled to be distributed in July 2010 to the participants to the General Assembly and by post in August to the other IUTAM Members.

Frédéric Dias
Secretary-General of IUTAM
Cachan & Dublin

IUTAM Symposia 2010

10-1 = GA.08-01 IUTAM Symposium on Computational Aero-Acoustics (CAA) for Aircraft Noise Prediction

Place: Southampton, UK
Date: March 29 – March 31, 2010
Chairman: **Prof. J. Astley**
University of Southampton
Institute of Sound and Vibration Research
Highfield
Southampton SO17 1BJ UK
Email: rja@isvr.soton.ac.uk

IUTAM Representative on Scientific Committee: Prof. A. Kluwick

10-2 = GA.08-07 IUTAM Symposium on Nonlinear Stochastic Dynamics and Control

Place: Hangzhou, China
Date: May 10 – May 14, 2010
Chairman: **Prof. W.Q. Zhu**
Zhejiang University
Department of Mechanics
310027 Hangzhou China
Email: wqzhu@yahoo.com
Co-Chairman: **Prof. Y.K. Lin**
Florida Atlantic University
Center for Applied Stochastics Research
777 Glades Rd, 33431-0991 Boca Raton, FL, USA
Email: linyk@fau.edu

IUTAM Representative on Scientific Committee: Prof. K. Sobczyk

10-3 = GA.08-15 IUTAM Symposium on Dynamics Modeling and Interaction Control in Virtual and Real Environments

Place: Budapest, Hungary
Date: June 07 – June 11, 2010
Chairman: **Prof. G. Stépán**
Budapest University of Technology and Economics
Department of Applied Mechanics
Muegyetem rkp 5
H-1111 Budapest Hungary
Email: stepan@mm.bme.hu
Email: iutam2010@mm.bme.hu
Webpage: <http://www.iutam2010.org>

IUTAM Representative on Scientific Committee: Prof. F.L. Chernousko

10-4 = GA.08-03 IUTAM Symposium on Bluff Body Wakes and Vortex-Induced Vibrations

Place: Capri Island, Italy
Date: June 22 – June 25, 2010
Chairman: **Prof. C.H.K. Williamson**
Cornell University
Department of Mechanical and Aerospace Engineering
252 Upson Hall
NY 14853-7 Ithaca USA
Email: cw26@cornell.edu
Co-Chairman **Dr. T. Leweke**
CNRS / Université Aix- Marseille I & II
Institut de Recherche sur les Phénomènes Hors
Equilibre (IRPHE)
49, rue F. Joliot-Curie - B.P. 146
F-13384 Marseille Cedex 13 France
Email: Thomas.Leweke@irphe.univ-mrs.fr

IUTAM Representative on Scientific Committee: Prof. P.A. Monkewitz

10-5 = GA.08-14 IUTAM Symposium on Nonlinear Dynamics for Advanced Technologies and Engineering Design (NDATED)

Place: Aberdeen, UK
Date: July 27 – July 30, 2010
Chairman: **Prof. M. Wiercigroch**
University of Aberdeen, School of Engineering
Centre for Applied Dynamics Research
Kings College, AB24 3UE Aberdeen UK
Email: m.wiercigroch@abdn.ac.uk

Co-Chairman: **Prof. G. Rega**
Sapienza Universita di Roma
Dipartimento di Ingegneria Strutturale e Geotecnica
Via Antonio Gramsci 53, 00197 Roma, Italy
Email: giuseppe.rega@uniroma1.it

IUTAM Representative on Scientific Committee: Prof. D.H. van Campen

10-6 = GA.08-08 IUTAM Symposium on Surface Effects in the Mechanics of Nanomaterials and Heterostructures

Place: Beijing, China
Date: August 08 – August 13, 2010
Chairman: **Prof. A. Cocks**
University of Oxford
Department of Engineering Science
Park Road, OX1 3PJ Oxford UK
Email: alan.cocks@eng.ox.ac.uk

Co-Chairman: **Prof. J.-X. Wang**
Peking University
Dept of Mechanics & Aerospace Engineering
100871 Beijing, China
Email: jxwang@pku.edu.cn

IUTAM Representative on Scientific Committee: Prof. B.L. Karihaloo

10-7 = GA.08-12 IUTAM Symposium on Analysis and Simulation of Human Motion

Place: Leuven, Belgium
Date: September 13 – September 15, 2010
Chairman: **Prof. J. van der Sloten**
K.U. Leuven, Faculty of Engineering BMGO
Celestijnenlaan 300c, 3001 Leuven Belgium
Email: jos.vandersloten@mech.kuleuven.be

Co-Chairman: **Prof. I. Jonkers**
Faculty of Kinesiology and Rehabilitation Sciences
Department Biomedical Kinesiology,
Research Center for Movement Control and
Neuroplasticity,
Tervuursevest 101, 3001 Leuven, Belgium
Email: Ilse.Jonkers@faber.kuleuven.be

IUTAM Representative on Scientific Committee: Prof. F. Pfeiffer

IUTAM Symposia 2011**11-1 = GA.08-05 IUTAM Symposium on Mechanics of Liquid and Solid Foams**

Place: Austin, TX, USA
Date: May 8 – May 13, 2011
Chairman: **Prof. S. Kyriakides**
University of Texas at Austin
Center for Mechanics of Solids, Structures and Materials
210 East 24th Street
WRW 110, TX 78712 Austin USA
Email: skk@mail.utexas.edu

Co-Chairman: **Dr. A.M. Kraynik**
Sandia National Laboratories, Dept. 1514-MS 0836
NM 87185-0836 Albuquerque, USA
Email: amkrayn@sandia.gov

IUTAM Representative on Scientific Committee: Prof. N.A. Fleck

11-2 = GA.08-09 IUTAM Symposium on Linking Scales in Computations: From Microstructure to Macro-scale Properties

Place: Shalimar, FL, USA
Date: May 16 – May 19, 2011
Chairman: **Prof. O. Cazacu**
University of Florida
REEF, 1350 N. Poquito Road
Shalimar FL USA
Email: cazacu@reef.ufl.edu

IUTAM Representative on Scientific Committee: Prof. J.B. Leblond

**11-3 = GA.08-11 IUTAM Symposium on Human Body Dynamics:
From Multibody Systems to Biomechanics**

Place: Waterloo, Canada
Date: June 5 – June 8, 2011
Chairman: **Prof. J.J. McPhee**
University of Waterloo
Department of Systems Design Engineering
N2L 3G1 Waterloo, Canada
Email: mcphee@real.uwaterloo.ca

Co-Chairman: **Dr J. Kovecses**
McGill University, Canada
Email: jozsef.kovecses@staff.mcgill.ca

IUTAM Representative on Scientific Committee: Prof. F.L. Chernousko

**11-4 = GA.08-10 IUTAM Symposium on Full-field Measurements
and Identification in Solid Mechanics**

Place: Cachan, France
Date: July 4 – July 8, 2011
Chairman: **Prof. F. Hild**
LMT-Cachan, 61 Avenue du President Wilson, F-94235
Cachan cedex, France
Email: hild@lmt.ens-cachan.fr

Co-Chairman: **Prof. D. Espinosa**
Northwestern University
Department of Mechanical Engineering
60208-3111 Evanston IL USA
Email: espinosa@northwestern.edu

IUTAM Representative on Scientific Committee: Prof. G. Maier

11-5 = GA.08-06 IUTAM Symposium on Computer Models in Biomechanics: From Nano to Macro

Place: Stanford, CA, USA
Date: August 29 – September 02, 2011
Chairman: **Dr. E. Kuhl**
Stanford University
Dept. of Mechanical Eng & Bioengineering
496 Lomita Mall, Durand 217
CA-94305-4 Stanford USA
Email: ekuhl@stanford.edu

Co-Chairman: **Prof. G.A. Holzapfel**
Graz University of Technology, Institute for
Biomechanics, Kronesgasse 5-I, 8010 Graz, Austria
Email: holzapfel@tugraz.at

IUTAM Representative on Scientific Committee: Prof. J. Engelbrecht

11-6 = GA.08-04 IUTAM Symposium on 50 Years of Chaos: Applied and Theoretical

Place: Kyoto, Japan
Date: November 28 – December 02, 2011
Chairman: **Prof. T. Hikihara**
Kyoto University
Department of Electrical Engineering
Katsura, Nishikyo, 615-8510 Kyoto Japan
Email: hikihara@kuee.kyoto-u.ac.jp

Co-Chairman: **Prof. T. Kambe**
Institute of Dynamical Systems, Higashi-yama 2-11-3
Meguro-ku, 153-0043 Tokyo, Japan
Email: kambe@ruby.dti.ne.jp

IUTAM Representative on Scientific Committee: Prof. D.H. van Campen

11-7 = GA.08-02 IUTAM Symposium on Bluff Body Flows

Place: Kanpur, India
Date: December 12 – December 16, 2011
Chairman: **Prof. S. Mittal**
Indian Institute of Technology
Department of Aerospace Engineering
UP 208016 IIT Kanpur, India
Email: smittal@iitk.ac.in

Co-Chairman: **Prof. G. Biswas**
Indian Institute of Technology, Department of
Mechanical Engineering, UP 208016 IIT Kanpur
India
Email: gtm@iitk.ac.in

IUTAM Representative on Scientific Committee: Prof. T. Kambe

GA.08-13 IUTAM Symposium on Impact Biomechanics in Sport

Place: Dublin, Ireland
Date: *2012, no exact dates available yet*
Chairman: **Prof. M.D. Gilchrist**
University College Dublin
Department of Mechanical Engineering
Belfield, Dublin 4
Ireland
Email: michael.gilchrist@ucd.ie

IUTAM Representative on Scientific Committee: Prof. D.H. van Campen

IUTAM Summer Schools

2010 IUTAM Summer School on Nanomechanics, Nanomaterials and Micro-/Nano Manufacturing

Place: Evanston, IL, USA
Event dates: May 10 – May 12, 2010
Coordinators: **Prof. W. (Wing Kam) Liu & Prof. Y. Huang**
Northwestern University
Department of Mechanical Engineering
2145 Sheridan Road
IL 60208-3 Evanston USA

Email: w-liu@northwestern.edu

2010 IUTAM-CISM Summer School on Modelling and Simulation of Multiscale Continuum System

Place: Udine, Italy
Event dates: June 28 – July 2, 2010
Coordinators: **Prof. T.I. (Tarek) Zohdi & Prof. P. Papadopoulos**
University of California at Berkeley
Dept. of Mechanical Engineering
6117 Etcheverry Hall
Mailstop 1740
CA 94720-1 Berkeley USA

Email: zohdi@me.berkeley.edu

IUTAM Co-Sponsored Event

2010 First Joint International Conference on Multibody System Dynamics

Place: Institute of Mechatronics and Virtual Engineering,
Department of Mechanical Engineering Lappeenranta
University of Technology Finland, Finland

Date: May 24 - May 28, 2010

Coordinator: **Prof. Aki Mikkola**

Email: aki.mikkola@lut.fi

IUTAM General Assembly in 2010

The dates of the 2010 meetings of the General Assembly of IUTAM have been set at 17-18 July 2010 in Paris, France, with associated committees also meeting on 16 and 19 July.

Further information concerning the 2010 meetings of the IUTAM General Assembly and associated committees is available on the IUTAM Website.

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/>

or please contact:

Professor Hassan Aref
Secretary of the IUTAM Congress Committee
Virginia Tech
Email: haref@vt.edu

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**

Notice on availability of IUTAM Newsletter

The IUTAM Newsletter is available (free of charge) to whom it concern upon request from the IUTAM Secretary-General.

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