



NEWSLETTER

President's Address

Short Report on General Assembly meeting, August 2014

Short Report on Congress Committee meeting, August 2014

Short Report on the ICSU General Assembly, August 2014

IUTAM Symposia 2014, 2015, 2016 and 2017

IUTAM Summer Schools 2015 and 2016

IUTAM Co-Sponsored Events 2015

International Congress, XXIV ICTAM, Montreal, August 2016

IUTAM Home Page:

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

International Union of Theoretical and Applied Mechanics

N-2014-2

December 2014

President's Address

The most important activity this summer has been the meetings of the GA and CC, and of the Bureau and XCCC, which took place in Denmark on 17 to 20 August. The meetings were held at the Technical University of Denmark in Kgs. Lyngby, while social arrangements took place in the center of Copenhagen, with 68 meeting participants and 12 accompanying persons. In the GA an important point was the selection of coming IUTAM Symposia, based on the evaluations carried out by the Symposia Panels. Other items included changes of the statutes concerning the Congress Committee and concerning eligibility for election as Bureau Officer and as Bureau member. There were also elections of new members for various committees. The CC meetings were devoted to detailed planning of our next ICTAM in Montreal August 2016. The ICTAM President, Maciej Floryan, presented the current status of their work. Important items were also discussions of the Opening and Closing Lectures, and the Sectional Lectures, which were decided by a vote. And co-chairs of the Thematic Sessions were selected.

The prestigious Rodney Hill Prize in solid mechanics and Batchelor Prize in fluid mechanics will be given again at ICTAM 2016. Note that the deadline for nominations to the Rodney Hill Prize is 1 June 2015, and the deadline for the Batchelor Prize will be announced shortly.

I represented IUTAM at the ICSU General Assembly in Auckland, New Zealand, 31 August to 3 September. A brief summary of the meeting is given elsewhere in this Newsletter.

The IUTAM poster has been kindly produced by Peter Eberhard, some of you saw the poster at the Lyngby meetings. The poster gives good brief information on the history of IUTAM and on our activities and structure. We plan to send a pdf of the poster to symposia and congress organisers, so that all participants can receive a print with this information. The poster will be improved on the way, when better photos or other suggestions come in.

Sometimes when I ask colleagues from a member country how visible IUTAM is in their country, they say they have no idea how the connection is.

I think it would be very good, if each Adhering Organisation feeds information about IUTAM backwards to the active mechanics groups in their country, including young researchers. It is important that we reach out to the young mechanics researchers.

At the last Bureau meeting in Lyngby it was suggested that IUTAM should co-sponsor or endorse more conferences. This would not involve money, but increase the visibility of IUTAM at the same time as we support the conference co-sponsored. We are working more on this idea.

Viggo Tvergaard
President of IUTAM
December 2014

Short Report on the General Assembly meetings, August 2014

The IUTAM General Assembly was held in two sessions on 18 and 19 August 2014 at DTU, Lyngby, Denmark. Among the items discussed and decided upon at the meeting were the following:

Matters concerning Adhering, Associate and Affiliated Organizations:

IUTAM is pursuing contacts with several countries, which might result in the establishment of new Adhering Organizations in the future. The new adhering organization for Spain in IUTAM is the Spanish Group of Fracture (AEIE-GEF). It replaces the Instituto Nacional de Tecnica Aeroespacial.

The General Assembly agreed to support the application of IMSD (International Association of Multibody System Dynamics) and the application of IASCM (International Association for Structural Control and Monitoring) for Affiliated Organization status within IUTAM.

IUTAM Symposia 2016 and 2017

The General Assembly agreed on 16 IUTAM Symposia to be held in the years 2016 and 2017. These Symposia are listed on the IUTAM website.

The Bureau assigned the members of the Scientific Committees according to expertise in the fields of the Symposia and based on their geographical distribution.

IUTAM Summer Schools 2015 and 2016

The General Assembly agreed on two Summer Schools to be held in 2015/2016.

These Summer Schools are listed on the IUTAM website.

Working Parties / Standing Scientific Committees

The General Assembly voted in favour of terminating the Working Parties.

Election of members of the Congress Committee of IUTAM

The General Assembly decided to elect 6 new persons as members of the Congress Committee for the period 2014 through 2018. The new membership of the Congress Committee from 1 November 2014 is recorded on the IUTAM website. Unfortunately, Professor Konrad Bajer passed away a few weeks after being elected.

Date and venue of next GA and Bureau meetings

The General Assembly decided to hold its next meeting during the 24th ICTAM in Montreal, Canada, on 21 August and 22 August 2016. The next Bureau meeting will be held in Stuttgart, Germany, on Saturday afternoon, 29 August, and Sunday morning, 30 August, 2015.

Frédéric Dias
Secretary-General of IUTAM
Cachan & Dublin

Short Report on the Congress Committee meetings, August 2014

The Congress Committee (CC) met twice during the IUTAM General Assembly in Lyngby, Denmark in August 2014. In addition the Executive Committee of the Congress Committee (XCCC) met just before and just after this General Assembly, and had previously met in Montreal in August 2013. The following are some highlights of these XCCC and CC meetings:

Items from the XCCC meetings in Montreal in August 2013:

- **ICTAM2016 Minisymposia**

Themes have been identified and chairs have been invited and confirmed for six minisymposia. These minisymposia are identified in this Newsletter below along with their Co-Chairs. This information will soon be listed on the ICTAM2016 website.

- **Appointment of the International Papers Committee**

All six members of the IPC for ICTAM2016 identified as the top choices have been invited and have accepted. The IPC will meet in April 2016 at a location in Quebec or Ontario to be determined.

- **Final list of Thematic Sessions**

It was decided to drop the name “Pre-Nominated Sessions” for ICTAM2016 and replace it with “Thematic Sessions” as a better descriptor. The list of Thematic Sessions was fine tuned to obtain its final form, given in this Newsletter below and at the ICTAM2016 website.

- **Short Talk and Poster**

It was also decided to rename the ICTAM2016 poster sessions with the descriptor “Short Talk and Poster” as the previous name “Seminar Presentation” had caused confusion among those submitting abstracts to the congress.

- **Proceedings of ICTAM**

The Executive Committee decided that proceedings of ICTAM will be produced in the form of two pdfs archived on the IUTAM website and retained as permanent items there, accessible online. One pdf will contain papers from the authors of invited plenary (i.e. opening and closing) and sectional lecturers plus papers from invited

lecturers for Minisymposia. The other pdf will be a list of papers presented session by session, in the form of a title, list of authors and authors' affiliations. The list will be comprehensive and will include the opening and closing lectures, the sectional lectures, the prize lectures, and those presented at each Minisymposium and Thematic Session, including both "lectures" and "short talks with poster".

- **Format of ICTAM submissions**

Additionally, it was decided that in future submissions to ICTAM will consist only of a single document in the form of a 2 page description of the material to be presented, commencing with an abstract of length 3 to 5 lines. This eliminates the previous requirement for two documents.

Items from the CC and XCCC Meetings in Lyngby in August 2014:

- **Opening and Closing lectures at ICTAM2016**

Based on 10 nominations received from around the world, the XCCC made two proposals to the CC. One proposal was that a Canadian researcher in the area of fluids should be invited to give the opening lecture. This was endorsed by the CC. The second proposal was that the CC should vote to select the closing lecture from nominees in the areas of solids. The outcome of this ballot was that Professor Norman Fleck of Cambridge was selected. He was invited and has accepted.

- **Sectional lectures at ICTAM2016**

Based on a list of 75 nominees the CC selected 16 individuals to give Sectional Lectures. These persons are

Basile Audoly (France, solids)
Eberhard Bodenschatz (Germany, fluids)
John Bush (USA, fluids)
Tim Colonius (USA, fluids)
Daining Fang (China, solids)
Charbel Farhat (USA, fluids-solids)
Samuel Forest (France, solids)
George Haller (Switzerland, dynamics)
Anette Hosoi (USA, fluids)

Haiyan Hu (China, fluids-solids)
Peter Hunter (New Zealand, solids)
Javier Jimenez (Spain, fluids)
John Rogers (USA, solids)
Ares Rosakis (USA, solids)
Alex Smits (USA, fluids)
Zhigang Suo (USA, solids)

Subsequent to the meetings, all sectional lecturers were invited and so far 14 have accepted.

Decisions re Congress Committee membership

- The Nominations Subcommittee of the CC recommended that all members completing a first term on the CC on 31st October 2014 and eligible for a second term be re-elected without contest. These members are:

Renato Cotta (Brazil)
Peter Eberhard (Germany)
GertJan van Heijst (The Netherlands)
Ravi Ravi-Chandar (USA)
Howard Stone (USA)
Kazuo Tanishita (Japan)

The CC endorsed this recommendation to the General Assembly, which accepted it and unanimously re-elected the above slate.

The Nominations Subcommittee further recommended that Paul Linden (UK), as a new member, should be elected without opposition to ensure that the UK continues to have representation on the CC. The CC endorsed this recommendation to the General Assembly, which accepted it and elected Paul Linden unanimously.

- In the competitive elections the General Assembly selected the following 5 additional new members:

Konrad Bajer (Poland)
Davide Bigoni (Italy)

Michael Gilchrist (Ireland)
Sanjay Mittal (India)
Jianxiang Wang (China)

This outcome raised the number of members of the CC by one, but exactly balanced it in regard to fluids and solids. Sadly, Professor Konrad Bajer passed away shortly after the election, so that, effective 1st November 2014, the CC has 33 members once more, with 17 in solids and 16 in fluids.

Discussion of preliminary bids re ICTAM2020

- The set of preliminary expressions of interest presented before the CC at its second meeting in August 2014 in Lyngby was felt to be adequate for identifying a suitable congress venue in 2020. Preliminary expressions of interest have been submitted by France (Venue: Paris), Italy (Milan), Russia (St. Petersburg) and a Scandinavia consortium (Lund, Sweden).

Robert McMeeking
Secretary of the Congress Committee

Short Report on the ICSU General Assembly, August 2014

The ICSU General Assembly took place on 31 August to 3 September 2014 in Auckland, New Zealand, and VT represented IUTAM at this General Assembly. A more detailed summary of the meeting will be given later in our 2014 Annual Report (about ICSU see <http://www.icsu.org>). ICSU has relations to UNESCO, which was also represented at the meeting.

ICSU has currently 31 Scientific Union Members and 121 National Scientific Members (mainly Science Academies). Most of these were represented in Auckland, so there was indeed a very broad representation of scientific activities in the world. But obviously, the general meetings were dominated by the national representatives (some nations were represented by 3 or more persons). However, conversations with several of the national representatives have shown that often they had previously served in the executive boards of their scientific unions, so their views did not differ much from those of the Unions. When voting, the votes from each Union were given higher weight, so that the two member groups had equal influence.

On the first day the Union Members and the National Members held separate meetings, while everybody were together the last three days. Already at the Union Members meeting it was stated by several members that few scientists know what ICSU is, or have even heard about ICSU, and it was requested that ICSU should improve this situation. Representatives could sign up to present their organisation during these three days in a 'Poster Expresso'. Thus, IUTAM activities were described in a 2-minute oral presentation, in addition to the IUTAM poster. There was also on each day a longer invited scientific lecture on an interesting subject.

Work of various subcommittees was presented and discussed at some length during the meeting, including '30 years of Global Environmental Change Research', 'Future Earth', 'Urban Health and Well-Being', 'Freedom and Responsibility in the Conduct of Science', and 'Open Access'.

At the end of the meeting new members of the Executive Board were elected. While the Board members have usually been far from IUTAM, it is noticeable that the new President-Elect became Daya Reddy, Cape Town University, who was member of our GA in the late 1990s, and who chaired a very successful IUTAM Symposium in 2008. One of the new Ordinary

Members is a pure mathematician, John Ball, who has a few important contributions in solid mechanics.

Report composed by Viggo Tvergaard, President of IUTAM

IUTAM Symposia 2014

14-10 = GA.12-05 IUTAM Symposium on Multiphase flows with phase change: challenges and opportunities

Place: Hyderabad, India
Date: December 08 – December 11, 2014
Chairman: **Prof. Kirti Chandra Sahu**
Indian Institute of Technology Hyderabad
Ordnance Factory Estate, Yeddumailaram
502205 Hyderabad, India
Email: ksahu@iith.ac.in
Website: <http://www.iith.ac.in/~iutam2014/>

IUTAM Representative on Scientific Committee: Prof. F. Dias

14-11 = GA.12-04 IUTAM Symposium on Advances in computation, modelling and control of transitional and turbulent flows

Place: Goa, India
Date: December 15 – December 18, 2014
Chairman: **Prof. T. Sengupta**
High Performance Computing Laboratory
Dept. of Aerospace Engineering
Indian Institute of Technology Kanpur
208016 Kanpur, India
Email: tksen@iitk.ac.in
Co-chairman: **Prof. S. Lele**
Stanford University
USA
Email: lele@stanford.edu
Website: <http://spectral.iitk.ac.in/hpcl/IUTAM2014/>

IUTAM Representative on Scientific Committee: Prof. B. Eckhardt

IUTAM Symposia 2015

15-1 = GA.12-01 IUTAM Symposium on Dynamics of bubbly flows

Place: Oaxaca, Mexico
Date: March 09 – March 14, 2015
Chairman: **Prof. R. Zenit**
Instituto de Investigaciones en Materiales
Universidad Nacional Autónoma de México
Ciudad Universitaria, Coyoacan
04510 Mexico, Mexico
Email: zenit@unam.mx
Website: <http://www.iim.unam.mx/zenit/IUTAM2015/>

IUTAM Representative on Scientific Committee: Prof. J. Magnaudet

15-2 = GA.12-17 IUTAM Symposium on Plastic localization and ductile failure

Place: Paris, France
Date: March 17 – March 20, 2015
Chairman: **Prof. D. Mohr**
Solid Mechanics Laboratory (LMS)
Ecole Polytechnique
91128 Palaiseau , France
Email: mohr@lms.polytechnique.fr
Co-Chairman: **Prof. K. Ravi-Chandar**
Center for Mechanics of Solids, Structures and Materials
The University of Texas at Austin
Austin, Texas 78712-1221, USA
Email: ravi@utexas.edu
Website:
<http://www.ae.utexas.edu/IUTAM2015/index.html>

IUTAM Representative on Scientific Committee: Prof. S. Kyriakides

15-3 = GA.12-11 IUTAM Symposium on Growing solids

Place: Moscow, Russia
Date: June 23 – June 27, 2015
Chairman: **Prof. A. Manzhurov**
Department for Modeling in Solid Mechanics
Institute for Problems in Mechanics
Russian Academy of Sciences
Vernadsky Ave 101 Bldg 1
119526 Moscow, Russia
Email: manzh@inbox.ru
Website: <http://sgs2015.ipmnet.ru/>

IUTAM Representative on Scientific Committee: Prof. N. Gupta

15-4 = GA.12-15 IUTAM Symposium on Analytical methods in nonlinear dynamics

Place: Darmstadt/Frankfurt, Germany
Date: July 06 – July 09, 2015
Chairman: **Prof. P. Hagedorn**
Dynamics & Vibrations Group
Numerical Methods in Mechanical Engineering, fnb
Technische Universität Darmstadt
Dolivostr. 15
64293 Darmstadt, Germany
Email: hagedorn@dyn.tu-darmstadt.de
Co-chairman: **Dr. G. Spelsberg-Korspeter**
Email: speko@dyn.tu-darmstadt.de
Website: <http://www.iutam.tu-darmstadt.de/>

IUTAM Representative on Scientific Committee: Prof. P. Eberhard

15-5 = GA.12-03 IUTAM Symposium on Multiphase continuum modelling of particulate flows

Place: Gainesville, USA
Date: TBA
Chairman: **Prof. J. Butler**
Dept. of Chemical Engineering
University of Florida
32611-6005 Gainesville, USA
Email: butler@che.ufl.edu

IUTAM Representative on Scientific Committee: Prof. G. Leal

IUTAM Co-Sponsored Events**2015 ECCOMAS Thematic Conference on Multibody Dynamics**

Place: Barcelona, Spain
Date: June 29 – July 02, 2015
Coordinator: **Prof. Josep M. Font-Llagunes**
Email: josep.m.font@upc.edu

Website: <http://www.multibody2015.org/>

IUTAM Symposia 2016

16-1 = GA.14-03 IUTAM Symposium on Helicity, structures and singularity in fluid and plasma dynamics

Place: Venice, Italy
Date: April 11 – April 15, 2016
Chairman: **Prof. R. L. Ricca**
University of Milano-Bicocca
Department of Mathematics & Applications
Via Cozzi 55
20125, Milano
Italy
Email: renzo.ricca@unimib.it

IUTAM Representative on Scientific Committee: Prof. T. Pedley

16-2 = GA.14-15 IUTAM Symposium on Advances in biomechanics of hearing

Place: Stuttgart, Germany
Date: May 17 – May 19, 2016
Chairman: **Dr A. Eiber, Dr. P. Ziegler**
Institute of Engineering and Computational Mechanics
University of Stuttgart
Pfaffenwaldring 9
70569, Stuttgart, Germany
Email : iutam2016@itm.uni-stuttgart.de

IUTAM Representative on Scientific Committee: Prof. W. Schiehlen

16-3 = GA.14-08 IUTAM Symposium on Dynamic instabilities in solids

Place: Madrid, Spain
Date: May 17 – May 20, 2016
Chairman: **Prof. J. A. Rodríguez-Martínez**
University Carlos III of Madrid
Avenida de la Universidad, 30 28911
Leganés, Spain
Email: jarmarti@ing.uc3m.es
Co-Chairman: **Prof. D. Rittel**
Technion
Faculty of Mechanical Engineering
32000 Haifa, Israel
Email: merittel@technion.ac.il

IUTAM Representative on Scientific Committee: Prof. K. Ravi-Chandar

16-4 = GA.14-01 IUTAM Symposium on Storm surge modelling and forecasting

Place: Shanghai, China
Date: **2016, no exact dates available yet**
Chairman: **Prof. H. Liu**
Shanghai Jiao Tong University
Mulan Building A-801, School of NAOCE, SJTU,
800 Dongchuan Road
200240 Shanghai, China
Email: hliu@sjtu.edu.cn

IUTAM Representative on Scientific Committee: Prof. F. Dias

16-5 = GA.14-04 IUTAM Symposium on Jet noise modelling and control

Place: Palaiseau, France
Date: **2016, no exact dates available yet**
Chairman: **Prof. L. Lesshafft**
Laboratoire d'Hydrodynamique
École polytechnique
91128, Palaiseau
France
Email: lutz.lesshafft@ladhyx.polytechnique.fr

IUTAM Representative on Scientific Committee: Prof. P. Huerre

16-6 = GA.14-09 IUTAM Symposium on Nonlinear and delayed dynamics of mechatronic systems

Place: Nanjing, China
Date: **2016, no exact dates available yet**
Chairman: **Prof. Z. Wang**
Nanjing University of Aeronautics and Astronautics
Yudao Street #29
210016, Nanjing
China
Email: zhwang@nuaa.edu.cn

IUTAM Representative on Scientific Committee: Prof. G. Stepan

16-7 = GA.14-10 IUTAM Symposium on Filling gaps in material property space

Place: Cambridge, UK
Date: **2016, no exact dates available yet**
Chairman: **Prof. N. Fleck**
Cambridge University
Engineering Department
Trumpington Street
CB2 1PZ, Cambridge
UK
Email: naf1@eng.cam.ac.uk

IUTAM Representative on Scientific Committee: Prof. V. Tvergaard

16-8 = GA.14-12 IUTAM Symposium on Mechanics of stretchable electronics

Place: Hangzhou, China
Date: **2016, no exact dates available yet**
Chairman: **Prof. J. Song**
Zhejiang University
Zheda Road 38
310027, Hangzhou, China
Email : jzsong@zju.edu.cn

IUTAM Representative on Scientific Committee: Prof. H. Gao

16-9 = GA.14-14 IUTAM Symposium on Nanoscale physical mechanics

Place: Nanjing, China
Date: **2016, no exact dates available yet**
Chairman: **Prof. W. Guo**
Nanjing University of Aeronautics and Astronautics
29, Yudao Street
210016, Nanjing
China
Email: wlguo@nuaa.edu.cn

IUTAM Representative on Scientific Committee: Prof. H. Gao

16-10= GA.14-16 IUTAM Symposium on Integrated computational structure-material modelling of deformation and failure under extreme conditions

Place: Baltimore, USA
Date: **2017, no exact dates available yet**
Chairman: **Prof. S. Ghosh**
Johns Hopkins University, Baltimore, Maryland
203 Latrobe, 3400 N. Charles Street
21218 Baltimore, USA
Email: sghosh20@jhu.edu

IUTAM Representative on Scientific Committee: Prof. B. Schrefler

IUTAM Symposia 2017

17-1 = GA.14-05 IUTAM Symposium on Dynamics and topology of vorticity and vortices

Place: Lyngby, Denmark
Date: July 4 – July 7, 2017
Chairman: **Prof. M. Brøns**
Technical University of Denmark
Department of Applied Mathematics and Computer Science
2800 Kongens Lyngby, Denmark
Email: mobr@dtu.dk

IUTAM Representative on Scientific Committee: Prof. K. Moffatt

17-2 = GA.14-02 IUTAM Symposium on Wind waves

Place: London, UK
Date: **2017, no exact dates available yet**
Chairman: **Prof. R. Grimshaw**
University College London
Department of Mathematics
Gower Street
WC1E 6BT London, UK
Email: r.grimshaw@ucl.ac.uk

IUTAM Representative on Scientific Committee: Prof. F. Dias

17-3 = GA.14-06 IUTAM Symposium on Co-simulation and solver coupling – Recent developments in theory and application

Place: Darmstadt, Germany
Date: **2017, no exact dates available yet**
Chairman: **Prof. B. Schweizer**
Department of Mechanical Engineering
Institute of Structural Dynamics
Technische Universität Darmstadt
Petersenstrasse 30
64287 Darmstadt, Germany
Email: schweizer@sds.tu-darmstadt.de

IUTAM Representative on Scientific Committee: Prof. P. Eberhard

17-4 = GA.14-07 IUTAM Symposium on Computational particle mechanics in fluid and solid systems

Place: Berkeley, USA
Date: **2017, no exact dates available yet**
Chairman: **Prof. T. Zohdi**
University of California, Berkeley
6117 Etcheverry Hall, Department of Mechanical Engineering, UC Berkeley
94720-1740 Berkeley, United States
Email: zohdi@berkeley.edu

IUTAM Representative on Scientific Committee: Prof. B. Schrefler

17-5= GA.14-11 IUTAM Symposium on Multiscale modelling of dislocations

Place: Oxford, UK
Date: **2017, no exact dates available yet**
Chairman: **Prof. S. Fitzgerald**
University of Oxford
Department of Materials
Parks Road OX1 3PH, Oxford, UK
Email: steven.fitzgerald@materials.ox.ac.uk

IUTAM Representative on Scientific Committee: Prof. W. Yang

17-6= GA.14-13 IUTAM Symposium on Multi-scale fatigue, fracture and damage of materials in harsh environments

Place: Galway, Ireland
Date: **2017, no exact dates available yet**
Chairman: **Prof. P. O'Donoghue**
National University of Ireland Galway
University Rd
Galway, Ireland
Email: padraic.odonoghue@nuigalway.ie

IUTAM Representative on Scientific Committee: Prof. V. Tvergaard

IUTAM Summer Schools

2015

IUTAM Summer School on Measurement, Analysis and Passive Control of Thermoacoustic Oscillations

Place: Udine, Italy
Event dates: June 29 – July 3, 2015
Coordinator: **Prof. M. Juniper**
University of Cambridge, Engineering Trumpington Street
CB2 1PZ Cambridge, UK
Email: mpj1001@eng.cam.ac.uk

2016

IUTAM-CISM Summer School on Biological and Bio-inspired Fluid Mechanics

Place: Udine, Italy
Event dates:
Coordinators: **Prof. C. Eloy**
IRPHE, Aix-Marseille University
49 rue Joliot Curie
13013 Marseille, France
Email: eloy@irphe.univ-mrs.fr

Dr Eric Lauga
DAMTP, University of Cambridge
Wilberforce Road, Cambridge CB3 0WA, UK
Email: e.lauga@damtp.cam.ac.uk

International Congress, XXIV ICTAM, Montreal 2016

August 21-26, 2016

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.ictam2016.org/>

or please contact:

Professor Robert McMeeking
Secretary of the IUTAM Congress Committee
UC Santa Barbara
Email: rmcm@engineering.ucsb.edu

Opening and Closing Lecturers

Opening Lecturer: TBD (Canada)

Closing Lecturer: Professor Norman Fleck (UK)

Minisymposia

MS 01: Bypass Transition

Co-chairs:

Professor Bruno Eckhardt (Germany)

Professor Michael Graham (USA)

MS 02: Fluid Active Matter

Co-chairs:

Professor Eric Lauga (UK)

Professor Roman Stocker (USA)

MS 03: Multiphase Flow in the Processing Industry

Co-chairs:

Professor Patrick Anderson (The Netherlands)

TBD

MS 04: Nonlinear Dynamics in Engineering Systems

Co-chairs:

Professor Giuseppe Rega (Italy)

Professor Dick van Campen (The Netherlands)

MS 05: Soft Solid Active Matter

Co-chairs:

Professor Vikram Deshpande (UK)

Professor Zhigang Suo (USA)

MS 06: Topology Optimization

Co-chairs:

Professor Ole Sigmund (Denmark)

Professor Fred van Keulen (The Netherlands)

Thematic 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	Micro- and nano-fluidics
FM12	Non-Newtonian and complex fluids
FM13	Computational fluid dynamics
FM14	Turbulence
FM15	Vortex dynamics
FM16	Waves in fluids
FM17	Other topics in fluid mechanics

Solid Mechanics

SM1	Biomechanics and biomaterials
SM2	Contact and friction
SM3	Damage mechanics
SM4	Elasticity
SM5	Fracture mechanics
SM6	Geophysics and geomechanics
SM7	Impact and wave propagation
SM8	Multi-component materials and composites
SM9	Phase transformations and thermomechanical phenomena
SM10	Sizescale effects in materials
SM11	Multibody and vehicle dynamics
SM12	Nanostructures and MEMS
SM13	Plasticity, viscoplasticity and creep
SM14	Stability of structures
SM15	Computational solid mechanics
SM16	Vibrations and control of structures
SM17	Other topics in solid mechanics

Topics involving both fluid mechanics and solid mechanics

FS1	Acoustics
FS2	Exascale computing
FS3	Experimental methods in mechanics
FS4	Chaos and pattern formation
FS5	Porous media
FS6	Fluid structure interactions
FS7	Actuating and smart materials
FS8	Granular materials and flows
FS9	Foams and cellular materials
FS10	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>

Notice on availability of IUTAM Newsletter

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