



NEWSLETTER

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From the Office of the Secretary-General

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IUTAM Home Page:

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

International Union of Theoretical and Applied Mechanics

N-2019-2

December 2019

President's Address

I hope you all had a pleasant and productive summer, as well as a very successful fall semester. I am pleased to report that this summer the Bureau and the Executive Committee of the Congress Committee (XCCC) gathered in Rio de Janeiro, Brazil, on 21-23 July, in an enjoyable and memorable meeting where discussions were focused on finalizing plans for the 25th International Congress of Theoretical and Applied Mechanics (ICTAM2020) to take place on 23-28 August 2020 in Milan, Italy. I would like to draw your attention to the final details now on the Congress' website: <https://www.ictam2020.org/>, particularly the various important dates which include the fast approaching deadline of 10 January for abstract submission. In addition, for those of you interested in submitting a bid for the 26th International Congress of Theoretical and Applied Mechanics (ICTAM2024), please contact and submit your proposals to Professor McMeeking (rmcm@engineering.ucsb.edu), Secretary of the Congress Committee. The bids will be considered at the Congress Committee meeting in July, and the successful proposal selected then.

As you know, the prestigious Rodney Hill Prize in solid mechanics, sponsored by Elsevier, and the Batchelor Prize in fluid mechanics, sponsored by Cambridge University Press, will be awarded in Milan for the fourth time. I am most grateful to both prize selection committees who worked very hard over the past few months to review carefully all the nominations and who, by now, have finished their deliberations. I am delighted to announce that Professor Vikram Sudhir Deshpande, Professor of Materials Engineering at the University of Cambridge, has been selected for the Rodney Hill Prize for his contributions to the field of mechanics of materials, ranging from the design of micro-architected materials to the modelling of soft and active materials, while Professor Alexander J. Smits, the Eugene Higgins Professor of Mechanical and Aerospace Engineering at Princeton University, has been selected for the Batchelor Prize for contributions to the structure of wall turbulence at very large Reynolds and Mach numbers, and to bio-inspired propulsion and drag reduction using modified surfaces. Both prizes will be presented at ICTAM2020 in Milan, where each awardee will present a plenary lecture.

Those of you on the General Assembly (GA) may recall that I sent a call for suggestions for the new members of the Bureau on 29 October 2019. While I am grateful to those who have already recommended some of our colleagues

for the various positions, I would like to remind those of you on the GA who have not yet responded to please share your thoughts (Nadine.aubry@tufts.edu) by 20 December 2019. The Electoral Committee will then consider all the recommendations and make a proposal to the GA in Milan, where the members of the next Bureau will be elected. The new Bureau will officially start on 1 November 2020.

As we prepare for the GA meeting this summer, please remember to submit proposals through the IUTAM website for IUTAM Symposia and Summer Schools <http://iutam.org/call-for-proposals-for-iutam-symposia-and-iutam-summer-schools-2022-2023> by the deadline of 31 March 2020. Let me also reiterate that this is a very exciting time for IUTAM, with mechanics at the core of many existing and emerging applications, and the field continuing to reach new generations of scientists and new parts of the world. While new groups of scientists are always welcomed by the broad mechanics community, we would like to encourage them to engage in IUTAM activities and submit proposals to become associate, adhering, or affiliated organizations of IUTAM. Our goal is for the Bureau to propose one or more new IUTAM organizations, to be approved by the GA this summer.

Before closing, I want to take this opportunity to remember our close friend and colleague, Professor Bruno Eckhardt, whose sudden passing on 7 August has left us all deeply saddened, just days after the meeting of the Bureau and XCCC in Rio de Janeiro. Bruno was a great scientist who had made seminal contributions to the fields of chaotic dynamics and the transition to turbulence, and had served IUTAM with much dedication. Not only had he been a member of the XCCC since 2012, but he had also served IUTAM through his membership on the Congress Committee since 2010 and on the General Assembly since 2018. Bruno's premature and unexpected passing is a huge loss to both IUTAM and the mechanics/scientific community at large. He will be long remembered and sorely missed.

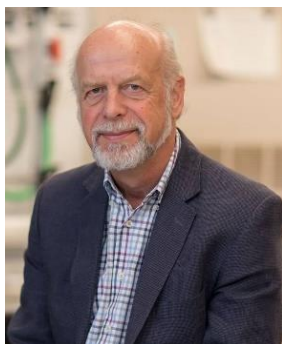
Let me now conclude by expressing my deepest appreciation to all for your hard work and remarkable achievements which continue to make mechanics a vibrant and impactful field, and IUTAM a relevant organization worldwide. I very much look forward to continuing our work together and, in the meantime, would like to express my very best wishes to all of you for a joyous holiday season and a happy New Year.

Nadine Aubry
President of IUTAM
Medford, MA

December 2019

The 2020 Batchelor Prize in Fluid Mechanics

founded and sponsored by the *Journal of Fluid Mechanics* (awarded under the auspices of IUTAM)



Professor Alexander J. Smits

The G K Batchelor Prize for 2020 is awarded to Professor Alexander J. Smits, the Eugene Higgins Professor of Mechanical and Aerospace Engineering at Princeton University.

The Prize is awarded after an international panel of experts considered nominations, over 85, received from researchers worldwide. This prestigious prize, sponsored by the *Journal of Fluid Mechanics*, is awarded every 4 years at the International Congress of Theoretical and Applied Mechanics to recognise the achievements of an active scientist who has made significant research contributions to fluid mechanics over the previous decade. Fluid mechanics is pervasive and plays significant roles throughout most branches of science. This was amply demonstrated by the broad range of disciplines spanned by the short-listed candidates for the Prize, which made comparisons between them very difficult but very interesting for the panel. The Batchelor Prize is awarded for published work that is of great current interest, representing an emerging field of application of Fluid Mechanics or a significant breakthrough in an established branch of the subject.

The Prize is awarded for Professor Smits' seminal contributions to our understanding of the structure of wall turbulence at very large Reynolds and Mach numbers, especially through the design of innovative experiments and measurement devices, and also for pioneering work on bio-inspired propulsion and on drag reduction using modified surfaces. Some of his most influential contributions are concerned with the behaviour and scaling of wall turbulence at extreme conditions, most notably its asymptotic behaviour at high Reynolds numbers, as well as its response to perturbations, especially shock waves, and to changes in Mach number. In addition he has also inspired interest in biomimetic flows, including propulsion, energy harvesting and vortex dynamics, often with the practical objective of improving the efficiency of fluid-based systems.

Professor Smits has received numerous honors and awards, has served on many academic, industrial, and governmental panels, and has served on the editorial boards of several top journals, including his now being the Editor-in-Chief of the AIAA Journal. He is a member of the National Academy of Engineering, and is also a Fellow of the American Physical Society, of the American Institute for Aeronautics and Astronautics, of the American Society of Mechanical Engineers, and of the American Association for the Advancement of Science.

Professor Smits remarked on winning this prestigious prize:

“I am thrilled to be recognized by the Batchelor Prize, and would like to thank all the people at IUTAM and elsewhere who made it possible. Also, my sincere thanks to Cambridge University Press for initiating this prize, and for their continued sponsorship.”

It is expected that the prize winner will deliver a lecture at ICTAM, which will be published in the Journal of Fluid Mechanics and be made freely available on the Cambridge Journals website.

Past winners of the Batchelor Prize:

2016 – Raymond E. Goldstein

2012 – Detlef Lohse

2008 – Howard Stone

The 2020 Rodney Hill Prize in Solid Mechanics

founded and sponsored by Elsevier (awarded under the auspices of IUTAM)



Professor Vikram S. Deshpande

It is with pleasure that the International Union of Theoretical and Applied Mechanics and Elsevier jointly announce the award of the 2020 Rodney Hill Prize in Solid Mechanics to Dr. Vikram Sudhir Deshpande of the University of Cambridge. This prize was founded by and is sponsored by Elsevier. The prize will be presented to Dr. Deshpande at the 2020 International Congress of Theoretical and Applied Mechanics to be held in Milan, Italy. Dr. Deshpande is currently a Professor in the Department of Engineering, University of Cambridge. After obtaining a B.Tech. from the Indian Institute of Technology, he moved to Cambridge University, where he received his Ph.D. in Engineering in 1998.

During his distinguished career Deshpande has made seminal contributions in mechanics of materials, ranging from the design of micro-architected materials to modelling soft and active materials. He is the world-leading authority in his generation in the emerging subject of microstructural mechanics. His research output is prodigious, with a steeply rising profile, and he combines deep theoretical understanding with insightful experiments to unravel complex phenomena over a wide range of topics. These range from the impact on structures by the shock waves within a sand blast to the role of entropic forces in cell mechano-transduction. A number of high-profile international researchers have interacted with him, and in many of these collaborations he took the intellectual lead. Deshpande's breadth of interests, theoretical and experimental skills, and general influence on solid mechanics research worldwide make him one of the strongest contemporary contributors to the field.

Past winners of the Rodney Hill Prize:

2016 – Raymond Ogden

2012 – Huajian Gao

2008 – Michael Ortiz

Short Report on the Executive Committee of the Congress Committee meeting, July 2019

The Committee, colloquially known as the XCCC, met on 22nd & 23rd July 2019 in Rio de Janeiro, Brazil. IUTAM President Nadine Aubry was in the Chair, and also present were ICTAM2020 President Alberto Corigliano, and members Bruno Eckhardt, Jacques Magnaudet, and Gábor Stépán. Congress Committee Secretary Robert McMeeking was in attendance too.

The XCCC was reminded that the Opening and Closing Plenary Lecturers for ICTAM2020, to be held in Milan in August 23rd to 28th, 2020, are Nicola Pugno of the University of Trento to open the Congress and Elisabeth Guazzelli of the Université Aix-Marseille to close it.

In addition, the XCCC learned that all 16 Sectional Lecturers for ICTAM2020 have been appointed, namely Bala Balachandran, Alessandro Bottaro, Antonio De Simone, Vikram Deshpande, Frederic Dias, Xi-Qiao Feng, Genta Kawahara, Ellen Kuhl, Eric Lauga, Jean-Baptiste Leblond, Christian Niordson, Clarence Rowley, Miles Rubin, Cameron Tropea, Roberto Verzicco and Emmanuel Villermaux. The Sectional lecturers will give their presentations in Semi-Plenary form, with 4 such lectures being given simultaneously.

Secretary McMeeking reported all Co-Chairs of the 6 Mini-Symposia have been appointed and are working on developing their sessions. The Mini-Symposia are Modeling and Controlling Turbulent Shear Flows, Co-Chaired by Ivan Marusic and Beverley McKeon; Local Mechanics of Climate Processes, Co-Chaired by Eberhard Bodenschatz and John Wettlaufer; Biological Fluid-Structure Interaction at the Microscale, Co-Chaired by Prosenjit Bagchi and Anne-Virginie Salsac; Nonlinear Dynamics for Design Co-Chaired by Remco Leine and Stefano Lenci; Mechanics of Additive Manufacturing, Co-Chaired by Ferdinando Auricchio and Matthew Begley; and Mechanics of C-Allotropic Materials and Structures, Co-Chaired by Julia Greer and Roberto Paroni.

ICTAM2020 President Alberto Corigliano gave a brief report on the status of the organization of the Congress. He reported that the titles and abstracts for the presentations by the Opening, Closing and Sectional Lecturers have been collected, and will be posted on ICTAM2020 internet site. ICTAM2020

President Corigliano noted that support for early career participants and those from poorer countries would be given in the form of a reduced registration fee. He also reported that the congress website www.ictam2020.org is up and running. Finally, he reported that the period for the extended-abstract submission will be October 1st 2019 – January 10th 2020. He encouraged authors to submit abstracts now for ICTAM2020, which can be done via a link at the congress website. He further encouraged the IUTAM community to publicize and promote the congress and the opportunity to submit an abstract.

Preparations are underway for the Congress Committee meeting in Milan at the Congress. At that meeting the Congress Committee will select the site for the 2024 Congress. Preliminary expressions of interest in providing a bid to hold ICTAM2024 have been received from Aachen, Germany; Daegu, Korea; Hyderabad, India; Rio de Janeiro, Brazil; Tokyo, Japan; and Vietnam with the city as yet unspecified.

The next meetings of the XCCC will be Sunday 23rd August 2020 from 9:00am to 12:00pm in the Milan Congress Center, and on Friday 28th August 2020 about 1 hour after the Congress closes, also in the Congress Center.

The next meetings of the Congress Committee will be Sunday 23rd August 2020, 6:00pm to 9:00pm in the Milan Congress Center and Thursday 27th August 2020, 2:00pm to 4:00pm also in the Congress Center.

Robert McMeeking
Secretary of the Congress Committee

From the Office of the Secretary-General

Meeting of the IUTAM Bureau in July 2019

The IUTAM Bureau meeting was held in two sessions on 22 and 23 July 2019 in Rio de Janeiro, Brazil. Among the items discussed at the meeting were the following:

Matters concerning Adhering and Affiliated Organizations

Current relations between IUTAM and several present and prospective Adhering and Affiliated Organizations were discussed.

Reports by the Treasurer and the Secretary-General

The financial state of Union was discussed, as well as the updated website of IUTAM, the IUTAM Bookseries by Springer, the call for proposals for IUTAM Symposia and Summer Schools for 2022 and 2023, and some issues related to ICTAM 2020.

Endorsement of international events

Upon request from the International Commission for Acoustics, an Affiliated Organization of IUTAM, the Bureau unanimously decided to endorse the International Year of Sound 2020.

Archiving of IUTAM documents

It was agreed what documents pertaining to the activities of IUTAM should be permanently stored in either electronic or paper form in the IUTAM archives.

Evaluation procedure for IUTAM Symposia proposals

An extended procedure for selecting the best symposia proposals and allocating grants was adopted for execution at the next General Assembly meeting in Milan in 2020.

Summer 2020 meetings of the IUTAM General Assembly, Bureau, Congress Committee, Executive Committee of the Congress Committee, and Symposia Panels

The summer 2020 meetings of the IUTAM bodies will be held from 23 to 28 August 2020 during the 25th IUTAM Congress (ICTAM 2020) in Milan, Italy. The General Assembly will meet on Tuesday, August 25, and on Wednesday, August 26, 2020. The Bureau will meet on Sunday, August 23, and on Friday, August 28, 2020.

Abstract submission for ICTAM 2020

Abstract submission for ICTAM 2020 has opened on 1 October 2019. The deadline for submissions is 10 January 2020. Abstracts can be submitted online [through the ICTAM 2020 website](#).

Call for proposals for IUTAM Symposia and Summer Schools 2022-2023

The call for proposals for IUTAM Symposia and IUTAM Summer Schools for the years 2022 and 2023 has been launched. The form for submitting proposals can be accessed [through the IUTAM website](#). The deadline for submissions is 31 March 2020.

Symposia proceedings

Since 2018, if the organizers of an IUTAM Symposium decide to publish proceedings, the recommended form of publication is the [IUTAM Bookseries](#) by Springer. Five volumes (nos. 33–37) of the Series have already been published since 2018.

December 2019

Henryk Petryk
Secretary-General of IUTAM
Warsaw, Poland

IUTAM Symposia 2020

20-1 = GA.18-13 IUTAM Symposium on Optimal guidance and control for autonomous systems

Place: Honolulu, USA
Date: March 19 – March 21, 2020
Chairman: **Prof. D. Azimov**
University of Hawai'i at Manoa
2540 Dole Street, Holmes 202
96822 Honolulu, USA
Email: azimov@hawaii.edu
Website: <https://manoa.hawaii.edu/ISOGCAS2020/>

IUTAM Representative on Scientific Committee: Prof. P. Eberhard

20-2 = GA.18-14 IUTAM Symposium on Multiphysics analysis of wave propagation in electronic device structures

Place: Ningbo, China
Date: May 15 – May 18, 2020
Chairman: **Prof. J. Wang**
Ningbo University
School of Mechanical Engineering and Mechanics
818 Fenghua Road
315211 Ningbo, China
Email: wangji@nbu.edu.cn

IUTAM Representative on Scientific Committee: Prof. H. Gao

20-3 = GA.18-10 IUTAM Symposium on Mechanics of smart and tough gels

Place: Austin, USA
Date: May 31 – June 4, 2020
Chairman: **Prof. R. Huang**
University of Texas at Austin
210 E 24th Street, C0600
78712-1221 Austin, USA
Email: ruihuang@mail.utexas.edu
Co-Chairman: **Prof. X. Zhao**
Massachusetts Institute of Technology
Boston, USA
Email: zhaox@mit.edu

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

20-4 = GA.18-07 IUTAM Symposium on Ultralarge-scale topology optimization

Place: Kongens Lyngby, Denmark
Date: June 8 – June 10, 2020
Chairman: **Prof. O. Sigmund**
Technical University of Denmark
Nils Koppels Allé, building 404
2800 Kongens Lyngby, Denmark
Email: sigmund@mek.dtu.dk

IUTAM Representative on Scientific Committee: Prof. V. Tvergaard

20-5 = GA.18-01 IUTAM Symposium on Particles, drops and bubbles in stratified environments

Place: Toulouse, France
Date: June 15 – June 19, 2020
Chairman: **Prof. J. Magnaudet**
CNRS & Toulouse University
Institut de Mécanique des Fluides de Toulouse
Allée Camille Soula
31400 Toulouse, France
Email: magnau@imft.fr
Website: <https://iutam-imft-2020.sciencesconf.org/>

IUTAM Representative on Scientific Committee: Prof. A.P.S. Freire

20-6 = GA.18-02 IUTAM Symposium on Interface mechanics of complex flows and soft matter

Place: Beijing, China
Date: June 21 – June 24, 2020
Chairman: **Prof. H. Duan**
Peking University
Department of Mechanics and Engineering Science
No.5 Yiheyuan Road, Haidian District
100871 Beijing, China
Email: hlduan@pku.edu.cn
Co-Chairman: **Prof. C. Sun**
Tsinghua University
Beijing, China
Email: chaosun@tsinghua.edu.cn
Website: <http://iutam2020.pku.edu.cn>

IUTAM Representative on Scientific Committee: Prof. G. McKinley

20-7 = GA.18-11 IUTAM Symposium on Turbulent structure and particles-turbulence interaction

Place: Lanzhou, China
Date: June 26 – June 29, 2020
Chairman: **Prof. X.J. Zheng**
Xidian University
710126 Xi'an, Shaanxi, China
Email: xjzheng@xidian.edu.cn
Co-Chairman: **Prof. S. Balachandar**
University of Florida
Department of Mechanical & Aerospace Engineering
231 MAE-A, P.O. Box 116250
Gainesville, FL 32611, USA
Email: bala1s@ufl.edu

IUTAM Representative on Scientific Committee: Prof. H.K. Moffatt

20-8 = GA.18-09 IUTAM Symposium on Computational fracture mechanics in multi-field problems

Place: Bad Honnef, Germany
Date: November 2 – November 6, 2020
Chairman: **Prof. M. Ortiz**
California Institute of Technology
Pasadena, CA 91125, USA
Email: ortiz@caltech.edu

IUTAM Representative on Scientific Committee: Prof. B.A. Schrefler

IUTAM Symposia 2021

21-1 = GA.18-06 IUTAM Symposium on Computational methods for large-scale and complex wave problems

Place: Tokyo, Japan
Date: June 25 – June 28, 2021
Chairman: **Prof. K. Kishimoto**
Tokyo Institute of Technology
2-12-1 Ookayama, Meguro
152-8552 Tokyo, Japan
Email: kkishimoto@ocean.zaq.jp

IUTAM Representative on Scientific Committee: Prof. N. Aubry

21-2 = GA.18-08 IUTAM Symposium on Generalized continua emerging from microstructures

Place: Paris, France
Date: July 19 – July 23, 2021
Chairman: **Prof. S. Forest**
Mines ParisTech CNRS
60 Boulevard Saint-Michel
75006 Paris, France
Email: samuel.forest@mines-paristech.fr

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

21-3 = GA.18-03 IUTAM Symposium on Dynamics and interface phenomena of bubbles and droplets at multiple scales

Place: Tokyo, Japan
Date: 2021, *no exact dates available yet*
Chairman: **Prof. S. Takagi**
The University of Tokyo
7-3-1, Hongo, Bunkyo-ku
113-8656 Tokyo, Japan
Email: takagi@mech.t.u-tokyo.ac.jp

IUTAM Representative on Scientific Committee: Prof. A.P.S. Freire

21-4 = GA.18-12 IUTAM Symposium on Data-driven mechanics

Place: Paris, France
Date: 2021, *no exact dates available yet*
Chairman: **Prof. F. Chinesta**
Arts et Metiers
151 Boulevard de l'Hopital
75013 Paris, France
Email: Francisco.Chinesta@ensam.eu

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

21-5 = GA.18-15 IUTAM Symposium on Mechanics of liquid crystal elastomers

Place: Houston, USA
Date: 2021, *no exact dates available yet*
Chairman: **Prof. P. Sharma**
University of Houston
N207 Engineering Building 1
77204-4503 Houston, USA
Email: psharma@Central.UH.EDU

IUTAM Representative on Scientific Committee: Prof. B.A. Schrefler

IUTAM Special Event 2020**20-S = GA.18-04 Fluid mechanics in the spirit of G. K. Batchelor**

Place: Cambridge, UK
Date: March 15 – March 18, 2020
Chairman: **Prof. P.F. Linden**
University of Cambridge
DAMTP
Centre for Mathematical Sciences
Wilberforce Road
CB3 0WA Cambridge, UK
Email: pfl4@cam.ac.uk
Website: <http://www.damtp.cam.ac.uk/events/batchelorcentenary/>

IUTAM Representative on Scientific Committee: Prof. T.J. Pedley

IUTAM Summer Schools

2020

IUTAM-CISM Summer School on Instability and bifurcation of solids including coupled field phenomena

Place:

Udine, Italy

Event dates:

June 22 – June 26, 2020

Coordinators:

Prof. R. Ogden

University of Glasgow

School of Mathematics and Statistics

University Place

G12 8SQ Glasgow, UK

Email: Raymond.Ogden@glasgow.ac.uk

Prof. L. Dorfmann

Tufts University

Department of Civil and Environmental Engineering

200 College Avenue

Medford, MA 02155, USA

Email: Luis.Dorfmann@tufts.edu

Website:

<http://www.cism.it/courses/C2008/>

IUTAM Endorsed Events

2020 **1st BICTAM-CISM Symposium on Dispersed Multiphase Flows: from Measuring to Modeling**

Place: Beijing, China
Date: March 4 – March 6, 2020
Chair: **Prof. Jiachun Li**
Email: jcli05@imech.ac.cn
Co-Chair: **Prof. Cristian Marchioli**
Email: cristian.marchioli@uniud.it
Website: <http://158.110.32.35/BICTAM-CISM>

2020 **International Symposium on Co-Simulation and Solver Coupling in Dynamics**

Place: Ferrol, Spain
Date: June 28 – July 1, 2020
Chairman: **Dr. Francisco J. González**
Email: f.gonzalez@udc.es
Co-Chair: **Prof. Javier Cuadrado**
Email: javier.cuadrado@udc.es
Website: <http://lim.ii.udc.es/events/cosim2020>

2020 **18th International Congress on Rheology**

Place: Rio de Janeiro, Brazil
Date: August 2 – August 7, 2020
Chairman: **Prof. Paulo R. de Souza Mendes**
Email: pmendes@puc-rio.br
Website: <http://icr2020.com>

2020 **6th Joint International Conference on Multibody System Dynamics and 10th Asian Conference on Multibody Dynamics**

Place: New Delhi, India
Date: November 1 – November 5, 2020
Chairman: **Prof. Subir Saha**
 Email: saha@mech.iitd.ac.in
Website: <http://imsdacmd2020.iitd.ac.in/>

**XXV International Congress
of Theoretical and Applied Mechanics
23-28 August 2020, Milan, Italy
ICTAM 2020**

The International Congresses of 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.

The deadline for abstract submission is 10 January 2020.

For further information see ICTAM home page,
<http://www.ictam2020.org>

Opening and Closing Lecturers

Opening Lecturer: Professor Nicola Pugno (Italy)

Closing Lecturer: Professor Elisabeth Guazzelli (France)

Sectional Lecturers

Bala Balachandran (USA)
Alessandro Bottaro (Italy)
Vikram Deshpande (UK)
Antonio De Simone (Italy)
Frederic Dias (Ireland)
Xi-Qiao Feng (China)
Genta Kawahara (Japan)
Ellen Kuhl (USA)
Eric Lauga (UK)
Jean-Baptiste Leblond (France)
Christian Niordson (Denmark)
Clarence Rowley (USA)
Miles Rubin (Israel)
Cameron Tropea (Germany)
Roberto Verzicco (Italy)
Emmanuel Villermaux (France)

Minisymposia

Modeling and Controlling Turbulent Shear Flows

Co-Chairs Professor Ivan Marusic (Australia)
 Professor Beverley McKeon (USA)

Local Mechanics of Climate Processes

Co-Chairs Professor Eberhard Bodenschatz (Germany)
 Professor John Wettlaufer (USA)

Biological Fluid-Structure Interaction at the Microscale

Co-Chairs Professor Prosenjit Bagchi (USA)
 Professor Anne-Virginie Salsac (France)

Nonlinear Dynamics for Design

Co-Chairs Professor Remco Leine (Germany)
 Professor Stefano Lenci (Italy)

Mechanics of Additive Manufacturing

Co-Chairs Professor Ferdinando Auricchio (Italy)
 Professor Matthew Begley (USA)

Mechanics of C-Allotropic Materials and Structures

Co-Chairs Professor Julia Greer (USA)
 Professor Roberto Paroni (Italy)

Thematic Sessions

Fluids Topics

FM01 Biological Fluid Mechanics
FM02 Boundary Layers
FM03 Combustion and Flames
FM04 Compressible Flows
FM05 Convection
FM06 Drops, Bubbles and Interfaces
FM07 Multiphase and Particle-Laden Flows
FM08 Flow Instability and Transition

FM09 Thin Film Flows
FM10 Geophysical and Environmental Fluid Dynamics
FM11 Low-Reynolds-Number Flows and Suspensions
FM12 Micro- and Nano-Fluidics
FM13 Non-Newtonian and Complex Fluids
FM14 Computational Fluid Dynamics
FM15 Turbulence
FM16 Vortex Dynamics
FM17 Waves in Fluids
FM18 Electro- and Magneto- Hydrodynamics
FM19 Other Topics in Fluid Mechanics

Solids Topics

SM01 Biomechanics and Biomaterials
SM02 Tribology - Contact and Friction
SM03 Damage Mechanics
SM04 Elasticity
SM05 Fracture Mechanics
SM06 Geophysics and Geomechanics
SM07 Impact Mechanics and Wave Propagation
SM08 Multi-component, Composite and Hierarchical Materials
SM09 Phase Transformations and Thermomechanical Phenomena
SM10 Scalescale Effects in Materials
SM11 Multibody and Vehicle Dynamics
SM12 Nanostructures and MEMS
SM13 Plasticity, Viscoplasticity and Creep
SM14 Stability and Instability of Materials and Structures
SM15 Computational Solid Mechanics
SM16 Vibrations and Control of Structures
SM17 Soft Materials and Extremely Deformable Structures
SM18 Metamaterials
SM19 Other Topics in Solid Mechanics

Solids/Fluids Topics

FS01 Acoustics
FS02 Exascale Computing
FS03 Experimental Methods in Mechanics
FS04 Nonlinear Dynamics and Pattern Formation
FS05 Porous Media

FS06 Fluid Structure Interactions

FS07 Smart Actuating Systems

FS08 Granular Materials and Flows

FS09 Foams and Cellular Materials

FS10 Optimization for Solids and Fluids

FS11 Inverse Problems in Solids and Fluids

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.

As of January 2018, if the organizers of an IUTAM Symposium decide to publish proceedings, the recommended route of publication is the [IUTAM Bookseries](#) by Springer. Chairpersons of Symposia can contact the Secretary-General of IUTAM for the terms and conditions of publication in this series.

Acceptable forms for proceedings are also special issues of high-quality journals or other forms previously approved by the Bureau of IUTAM.

IUTAM is a member of ISC
<https://council.science>

Notice on availability of IUTAM Newsletter

The IUTAM Newsletter is available online:
<http://iutam.org/publications/newsletters>

IUTAM Home Page:

<http://www.iutam.org>

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