



NEWSLETTER

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From the Office of the Secretary-General

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International Congress, XXV ICTAM, Milan 2020

IUTAM Home Page:

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

International Union of Theoretical and Applied Mechanics

N-2019-1

June 2019

President's Address

As we continue work to implement the decisions taken at the IUTAM General Assembly (GA) and associated meetings in Boston last July, it is a pleasure for me to share with you that significant progress is being made.

Under the leadership of Alberto Corigliano, President of the 25th International Congress of Theoretical and Applied Mechanics (ICTAM), and with the support of the Local Organizing Committee as well as AIMETA, the Italian Association of Theoretical and Applied Mechanics, preparations for ICTAM2020 are progressing very nicely.

Particularly, the second announcement from the International Congress on ICTAM2020 is now available for you to peruse on the ICTAM2020 website at www.ictam2020.org. There you will find an inviting welcome message by ICTAM President Alberto Corigliano, as well as the preliminary programme with the names of the two Plenary Lecturers and the 16 Sectional Lecturers announced, followed by the titles of the six Mini Symposia and the 48 Thematic Sessions (18 in fluid mechanics, 18 in solid mechanics, and 12 in solid/fluid mechanics). Additionally, potential sponsors can select from a comprehensive list of sponsorship opportunities. Furthermore, I am pleased to report that all 96 Co-Chairs of the Thematic Sessions are now finalized, and plans for additional preparation details of both the Congress and the GA will be further discussed by the Bureau and the XCCC at our meetings to be held this summer in Rio de Janeiro, Brazil.

I would also like to take a few minutes to thank those of you who participated in the nomination process for the Rodney Hill Prize in Solid Mechanics and the Batchelor Prize in Fluid Mechanics. With the nomination period having ended at the end of May, our devoted committees are starting their thorough review of the nominations.

Let me also add a few words regarding the newly founded International Science Council (ISC), of which IUTAM is one of the 40 international scientific Union members. ISC established its first Governing Board (GB) at its founding General Assembly in Paris last July. The GB, led by ISC President Daya Reddy, provides the scientific and strategic leadership for the new organization. ISC's vision is to promote "science as a global public good" and its mission to act as "the global voice for science", with much of its work

taking place at the intersection of science and policy and at the international level. The ISC's main activities span a broad range of issues from global sustainability, poverty, urbanization, disaster risk reduction, and climate change to data and science advice to governments. The next step is for ISC to finalize its Science Action Plan and appoint its Statutory Advisory Committees who will guide the implementation of such a plan. Additional information about ISC, as well as its activities and news, can be found at <https://council.science/>.

Finally, I am excited to report that as we pursue our goal to expand the impact of IUTAM, the Bureau has recently approved the IUTAM endorsement of a number of conferences around the world focused on advances in the field of mechanics. At this occasion, I would like to invite all of you to draw the attention of your colleagues worldwide to IUTAM for the possibility of additional collaborations and endorsements, as well as proposals for new associate, adhering, and affiliated organizations, especially from regions of the world where mechanics is still, unfortunately, underrepresented.

Let me now close by thanking all of you for your continued dedication to IUTAM—and more generally to the vibrant field of mechanics—and by wishing you a very enjoyable and productive summer.

June 2019

Nadine Aubry
President of IUTAM
Boston, MA

From the Office of the Secretary-General

IUTAM Report 2018:

The IUTAM Report 2018 is now available online:

<https://iutam.org/wp-content/uploads/2019/06/Annual-Report-2018.pdf> .

Printed versions are freely available upon request.

Summer 2019 meetings of the Bureau and the XCCC:

The summer 2019 meetings of the Bureau and the XCCC will be held in Rio de Janeiro, Brazil on 22 and 23 July.

Call for Symposia and Summer Schools 2022-2023:

The call for the next wave of IUTAM Symposia and Summer Schools will open online at the end of 2019. The deadline for submission will be 31 March 2020.

Symposia proceedings:

From 2018, if the organizers of an IUTAM Symposium decide to publish proceedings, the recommended form of publication is the IUTAM Bookseries by Springer. Three volumes (nos. 33–35) of the Series have already been published since 2018 and several others are planned.

The Batchelor Prize in Fluid Mechanics and the Rodney Hill Prize in Solid Mechanics:

The call for nominations closed on 31 May 2019.

June 2019

Henryk Petryk
Secretary-General of IUTAM
Warsaw, Poland

IUTAM Symposia 2019

19-1 = GA.16-20 IUTAM Symposium on Phase transformation in shape memory materials: modeling and applications

Place: Austin, USA
Date: April 28 – May 2, 2019
Chairman: **Prof. C. Landis**
University of Texas
210 East 24th street, 78712 Austin, Texas, USA
Email: landis@utexas.edu

Co-Chairman: **Prof. S. Kyriakides**
University of Texas
210 East 24th street, 78712 Austin, Texas, USA
Email: skk@utexas.edu

Co-Chairman: **Prof. D. Lagoudas**
Texas A&M University
3141 TAMU, College Station TX 77843-3141, USA
Email: lagoudas@aero.tamu.edu

IUTAM Representative on Scientific Committee: Prof. H. Petryk

19-2 = GA.16-10 IUTAM Symposium on Physics and mechanics of sea ice

Place: Espoo, Finland
Date: June 3 – June 7, 2019
Chairman: **Prof. J. Tuhkuri**
Aalto University, School of Engineering
Dept. of Mechanical Engineering
P.O. Box 14300
FI-00076 Espoo, Finland
Email: jukka.tuhkuri@aalto.fi

IUTAM Representative on Scientific Committee: Prof. R.M. McMeeking

19-3 = GA.16-03 IUTAM Symposium on Computational modelling of instabilities and turbulence in separated two-phase flows

Place: Dublin, Ireland
Date: June 10 – June 12, 2019
Chairman: **Prof. L. O’Naraigh**
University College Dublin
Belfield
D04 V1W8 Dublin, Ireland
Email: onaraigh@maths.ucd.ie
Website: <https://maths.ucd.ie/cfd2019>

IUTAM Representative on Scientific Committee: Prof. J. Magnaudet

19-4 = GA.16-04 IUTAM Symposium on Vortex dynamics in science, nature and technology

Place: San Diego, USA
Date: June 24 – June 28, 2019
Chairman: **Prof. S. Llewellyn Smith**
University of California, San Diego
Dept. of Mathematical and Aerospace Engineering
9500 Gilman Dr
92093-0411 La Jolla, USA
Email: sgls@ucsd.edu

IUTAM Representative on Scientific Committee: Prof. L.G. Leal

19-5 = GA.18-05 IUTAM Symposium on Fluid-structure interaction – in honour of Michael Paidoussis

Place: Montreal, Canada
Date: August 12 – August 15, 2019
Chairman: **Prof. M. Amabili**
McGill University
Department of Mechanical Engineering
817 Sherbrooke Street West
H3A 0C3 Montreal, Canada
Email: marco.amabili@mcgill.ca
Co-Chairman: **Dr. K. Karazis**
Framatome Ltd
Lychburg, USA
Email: kostas.karazis@framatome.com
Website: <http://fsi.symposium.mcgill.ca>

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

19-6 = GA.16-01 IUTAM Symposium on Laminar turbulent transition

Place: London, UK
Date: September 2 – September 6, 2019
Chairman: **Prof. P. Schmid**
Imperial College London
Dept. of Mathematics
South Kensington Campus
SW7 2AZ London, UK
Email: pjschmid@imperial.ac.uk
Website: <http://www.iutamtransition2019.org>

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

19-7 = GA.16-07 IUTAM Symposium on Viscoplastic flows: from theory to application

Place: Cambridge, UK
Date: September 16 – September 20, 2019
Chairman: **Prof. G. McKinley**
MIT
Room 3-254
77 Massachusetts Avenue
MA 02139 Cambridge, USA
Email: gareth@mit.edu
Co-Chairman: **Prof. I. Wilson**
University of Cambridge
Cambridge, UK
Email: diw11@cam.ac.uk
Website: <https://vpf8.ceb.cam.ac.uk>

IUTAM Representative on Scientific Committee: Prof. N. Aubry

IUTAM Symposia 2020

20-1 = 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

20-2 = 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

20-3 = 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

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

20-4 = 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

IUTAM Representative on Scientific Committee: Prof. G. McKinley

20-5 = 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

20-6 = GA.18-13 IUTAM Symposium on Optimal guidance and control for autonomous systems

Place: Honolulu, USA
Date: 2020, *no exact dates available yet*
Chairman: **Prof. D. Azimov**
University of Hawai'i at Manoa
2540 Dole Street, Holmes 202
96822 Honolulu, USA
Email: azimov@hawaii.edu

IUTAM Representative on Scientific Committee: Prof. P. Eberhard

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 Oookayama, Meguro
152-8552 Tokyo, Japan
Email: kkishimoto@ocean.zaq.jp

IUTAM Representative on Scientific Committee: Prof. N. Aubry

21-2 = 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

21-3 = 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

IUTAM Symposia 2020/2021

2X-1 = GA.18-08 IUTAM Symposium on Generalized continua emerging from microstructures

Place: Paris, France
Date: 2020/2021, *no exact dates available yet*
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

2X-2 = GA.18-09 IUTAM Symposium on Computational fracture mechanics in multi-field problems

Place: Siegen, Germany
Date: 2020/2021, *no exact dates available yet*
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

2X-3 = GA.18-14 IUTAM Symposium on Multiphysics analysis of wave propagation in electronic device structures

Place: Ningbo, China
Date: 2020/2021, *no exact dates available yet*
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

2X-4 = GA.18-15 IUTAM Symposium on Mechanics of liquid crystal elastomers

Place: Houston, USA
Date: 2020/2021, *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: 2020, *no exact dates available yet*
Chairman: **Prof. P.F. Linden**
University of Cambridge
DAMTP
Centre for Mathematical Sciences
Wilberforce Road
CB3 0WA Cambridge, UK
Email: pfl4@cam.ac.uk

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

IUTAM Summer Schools

2019 IUTAM-BICTAM Summer School on Violent flows with a free surface

Place: Shanghai, China
Event dates: June 2 – June 8, 2019
Coordinator: **Prof. H. Liu**
Shanghai Jiao Tong University
800 Dong Chuan road
200240 Shanghai, China
Email: hliu@sjtu.edu.cn
Website : <http://bictam.org.cn/iutam2019>

2019 IUTAM-CISM Summer School on Plant biomechanics

Place: Udine, Italy
Event dates: July 8 – July 12, 2019
Coordinators: **Prof. C. Eloy**
IRPHE, Aix-Marseille University
49 rue Joliot Curie
13013 Marseille, France
Email: eloy@irphe.univ-mrs.fr
Prof. Y. Forterre
CNRS/Aix-Marseille University
5 rue Enrico Fermi
13453 Marseille cedex 13, France
Email: yoel.forterre@univ-amu.fr
Website : <http://www.cism.it/courses/C1908>

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

IUTAM Endorsed Events

2019 12th International Congress on Thermal Stresses 2019

Place: Hangzhou, China
Date: June 1 – June 5, 2019
Chairman: **Prof. Weiqiu Chen**
Email: chenwq@zju.edu.cn
Co-Chair: **Prof. Richard B. Hetnarski**
Email: 632hetna@rit.edu
Co-Chair: **Prof. Naotake Noda**
Email: nodanaotake@rx.tnc.ne.jp
Website: <http://ts2019.zju.edu.cn>

2019 13th International Conference on the Mechanical Behaviour of Materials

Place: Melbourne, Australia
Date: June 11 – June 14, 2019
Chairman: **Prof. Raj Das**
Email: raj.das@rmit.edu.au
Website: <https://www.icm-13.com>

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 Joint IMSD/ACMD Conference on Multibody System Dynamics

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

2020 CISM-BICTAM Symposium on Dispersed Multi-Phase Flows: from Measuring to Modeling

Place: Beijing, China
Date: 2020, *no exact dates available yet*
Proposer: **Prof. Cristian Marchioli**
 Email: cristian.marchioli@uniud.it

**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.

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

or please contact:

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

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 Sizescale 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>