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International Congress, XXV ICTAM, Milan 2021

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International Union of Theoretical and Applied Mechanics

N-2020-2

October 2020

President's Address

I hope this fall newsletter finds you and your loved ones well and healthy, even as we continue to navigate the formidable challenges of the global pandemic. I sincerely appreciate your dedication to IUTAM and to the mechanics community in these difficult times. Despite the difficulties of the past year, our community remains committed to advancing the field to new frontiers through your own contributions; educating the next generation of diverse mechanics; collaborating with scientists from all branches of theoretical and applied mechanics and other fields, as well as with colleagues from all backgrounds and from all parts of the world; and tackling the grand challenges in which mechanics plays a crucial role.

While the pandemic has taken a toll on millions and disrupted our lives and institutions around the world, IUTAM has shown tremendous resilience. As announced earlier, ICTAM 2020 President Alberto Corigliano and his local organizing committee decided to postpone the 25th Congress to 22-27 August 2021, and to rename it ICTAM 2020+1. Our Italian colleagues are working diligently to ensure the event's success. All authors of accepted papers have been invited to submit updated abstracts, and a new call is planned for abstracts in the short talk with poster category. Meanwhile, President Corigliano and his local team are monitoring the pandemic and, with the health of the community as their top priority, will decide on an in-person, virtual or hybrid format this spring. Please make sure to regularly check the Congress website at <https://www.ictam2020.org/> for important updates.

The IUTAM General Assembly (GA) met virtually on 25 and 26 August, and I am grateful to all the GA members and observers who joined us, especially those in time zones where the meeting occurred very early in the morning or very late at night. While I wish we could have met in person and mingled during breaks, the meeting, with nearly 90 attendees, was nevertheless a success, highlighted by important decisions on a number of matters.

One of the most important outcomes of the GA meeting was the election of the new Bureau. The new IUTAM president is Professor Norman Fleck from the UK, an expert in the field of solid mechanics, consistent with the IUTAM tradition that presidents alternate between the fields of fluid

mechanics and solid mechanics. Four Bureau members will continue and three members were newly elected, including our new treasurer, Professor Dan Henningson from Sweden. I very much look forward to working with Professor Fleck and the new Bureau for the next four-year term.

As Professor Robert McMeeking is retiring as Secretary of the Congress Committee (CC), Professor Sanjay Mittal (India) was elected as the next Secretary, and the elected members of the Executive Committee (XCCC) are Professors Leslie Banks-Sills (Israel, second term), Shiyi Chen (China), Alberto Corigliano (Italy) and Paul Linden (UK). In addition to the XCCC, seven continuing members and twelve new members were elected to the CC. Elections also took place for IUTAM Members-at-Large, and for the open slot on the solid symposia panel. Please join me in thanking all of those who have agreed to serve IUTAM in these important roles.

As we continue to strive for a broader representation of IUTAM globally, I am delighted to report the addition of Singapore as a new country represented in IUTAM. The newly founded Council on Theoretical and Applied Mechanics of the Materials Research Society of Singapore will serve as the Adhering Organization. Furthermore, Armenia was approved as a continuing Associate Organization for another four-year term, and thirteen IUTAM symposia and two IUTAM summer schools with locations around the world were accepted.

In order to remain a vibrant and relevant organization worldwide, we need to continue - and enhance - our efforts to make IUTAM a more diverse organization. To that end, I am excited to share that, following the discussion during the GA meeting, the Bureau has begun work on the appointment of a working party to address diversity within IUTAM. Also crucial to the future of our union will be the registration of IUTAM as a legal entity. The Bureau, as authorized by the GA, will continue its efforts in this area.

Finally, the Congress Committee met virtually on 21 and 27 August, with much of its deliberations focused on selecting the location of the 26th International Congress. Three outstanding bids were presented and, after much discussion, it was decided that the 2024 Congress will take place in Daegu, Korea. We look forward to the continued planning of our centennial International Congress by our Korean colleagues, led by ICTAM 2024 President Heuy Dong Kim.

As this is my last address as IUTAM president, I want to thank all of you for your extraordinary support and dedication over the past four years, and especially this past year during such an unprecedented time in the history of our organization.

I also want to express my deep gratitude to my colleagues on the Bureau for all their hard work, wisdom and friendship over the last four years, particularly Professors Viggo Tvergaard (Vice President), Peter Eberhard (Treasurer), and Bernhard Schrefler, who are all retiring. I am also indebted to Professor Robert McMeeking (Secretary of the Congress Committee), who is retiring as well, and to all of you who have served IUTAM with great passion and dedication.

Wishing you and your loved ones wonderful holidays and a very happy -- and healthy -- New Year,

Nadine Aubry
President of IUTAM

Provost and Senior Vice President
Tufts University
Medford, MA, U.S.A.

Short Report on the General Assembly meeting, August 2020

(The complete summary record of the General Assembly meeting will be published in the IUTAM Report 2020.)

The IUTAM General Assembly meeting was held in two sessions on 25 and 26 August 2020 by electronic means, due to the COVID-19 pandemic. Among the items discussed and decided upon at the meeting were the following:

Matters concerning Adhering Organizations

The General Assembly admitted the Council on Theoretical and Applied Mechanics of the Materials Research Society of Singapore as a new adhering organization of IUTAM, representing Singapore, with two representatives on the General Assembly.

Matters concerning Associate Organizations

The General Assembly approved the extension of the associate membership of the Armenian National Committee on Theoretical and Applied Mechanics for another four years until 2024.

Election of members of the Bureau

The General Assembly elected the following members of the IUTAM Bureau for the period 2020-2024:

Officers: Professors Norman Fleck (UK, President), Nadine Aubry (USA, Vice-President, *ex officio*), Dan Henningson (Sweden, Treasurer), Henryk Petryk (Poland, Secretary-General);

Members: Professors Atila Freire (Brazil), Irina Goryacheva (Russia), Kikuo Kishimoto (Japan), Detlef Lohse (Netherlands).

Election of Members-at-Large

The General Assembly elected the following Members-at-Large for the period 2020-2024:

Professors Yilong Bai (China), Peter Eberhard (Germany), Giulio Maier (Italy), Robert McMeeking (USA), Keith Moffatt (UK), Niels Olhoff (Denmark), Timothy Pedley (UK), Jean Salençon (France), Bernhard Schrefler (Italy), Werner Schiehlen (Germany) and Viggo Tvergaard (Denmark).

Election of members of the Congress Committee

This is reported by the Secretary of the Congress Committee later in this Newsletter. The new membership of the Congress Committee from 1 November 2020 is recorded on the IUTAM website.

Election of members of the Symposia Panels

The General Assembly elected the following persons to the Symposia Panels for the period 2020 to 2024:

Professors Detlef Lohse (Netherlands, reappointed as Chair of the Fluids Panel), Huajian Gao (Singapore, reappointed as Chair of the Solids Panel), Elisabeth Guazzelli (France, reappointed as a member of the Fluids Panel), Hua Liu (China, reappointed as a member of the Fluids Panel), Alexander Belyaev (Russia, reappointed as a member of the Solids Panel), Davide Bigoni (Italy, appointed as a new member of the Solids Panel).

IUTAM Symposia 2022 and 2023

The General Assembly agreed on thirteen IUTAM Symposia to be held in the years 2022 and 2023. These Symposia are listed hereafter in the present Newsletter. The Bureau assigned the members of the Scientific Committees according to their expertise in the fields of the Symposia and based on their geographical distribution.

IUTAM Summer Schools 2022 and 2023

The General Assembly agreed on two IUTAM-CISM Summer Schools to be held in 2022 and 2023. More information on these Summer Schools is given hereafter in the present Newsletter.

Date and venue of the next General Assembly meeting

The General Assembly agreed to hold its next meeting in Cambridge, UK, in 2022. There is also a possibility of an additional General Assembly meeting in August 2021 during ICTAM 2020+1 in Milan, Italy.

Henryk Petryk
Secretary-General of IUTAM
Warsaw, Poland

Report by the Congress Committee Secretary on the Congress Committee and Executive Committee Meetings, August 2020

As you will know, the 25th Congress of Theoretical and Applied Mechanics has been postponed until 2021, when it is scheduled to be held in Milan from 22nd to 27th August. It is designated ICTAM2020+1. I can provide some statistics regarding submissions. The number of submitted plus invited papers was 3118, with 1361 in fluids, 1344 in solids and 413 in fluids-solids. Of those submitted, the International Papers Committee (IPC) accepted 2686 papers and in addition there were 204 invited presentations. Setting aside the invited papers, the acceptance rate was thus 92%. There were 1686 submissions accepted as 20-minute lectures and 1000 as short talks with poster; members of the IPC commented very favorably on the quality of the submissions. The invited papers were broken down into 4 plenary lectures, 16 sectional lectures and 184 keynote invited papers associated with Mini-Symposia and Thematic Sessions. As for the previous ICTAMs, the chairs of Mini-Symposia and Thematic Sessions were entitled to invite up to four speakers without any possibility of these being rejected by the IPC; these account for the 184 papers mentioned above.

I should also report that additional submissions for ICTAM2020+1 were allowed in the month of November 2020, but only in the form of short talks with poster. Thus, both the total number of submissions and the total number of accepted papers will rise above the numbers just presented. The International Papers Committee will deliberate on the new submissions in the coming weeks and finalize the numbers very soon.

On behalf of the Congress Committee, I would like to thank the members of the International Papers Committee (IPC) for their dedicated hard work in evaluating and selecting the papers to be presented at ICTAM2020+1. The Committee did a heroic job of reading all submissions in February and March of this year, and then had an intense online meeting over several days at the end of March. The IPC was guided by the recommendations of the chairs of the Mini-Symposia and the Thematic Sessions, and by the national committees of eight major countries: China, France, Germany, Italy, Poland, Russia, UK and USA. All those involved in the paper assessment process deserve our warm thanks, especially the IPC, whose wise input and extraordinary efforts will ensure the high quality of ICTAM2020+1. I note that the IPC this year had additional duties dealing with the submissions

provided in November. The Committee is to be further commended for agreeing to shoulder this extra work. After ICTAM2020+1 has been held, the members of the IPC will be fully thanked and credited by name for their dedicated commitment to IUTAM and ICTAM2020+1. A future IUTAM Newsletter will carry the details.

Next I turn to decisions that the Congress Committee made during its online meetings in August, 2020. By the beginning of the summer this year the Committee had received three very strong bids to host ICTAM2024. These were from Daegu, Korea; St. Petersburg, Russia; and Tokyo, Japan. The submissions were presented to the Congress Committee by the prospective hosts and were discussed in great detail at the meetings of the Congress Committee on Friday 21st August and Thursday 27th August. The final decision was made on Thursday by secret ballot. The vote favored Daegu, so the 26th Congress of Theoretical and Applied Mechanics will be held there on dates to be determined in August 2024. It will be organized under the leadership of ICTAM2024 President Heuy Dong Kim and ICTAM2024 Secretary-General Simon Song.

Now I report on the membership of the Congress Committee. The following retired from the Committee on 31st October 2020: Professors Nadine Aubry, Horacio Espinosa, Huajian Gao, Patrick Huerre, Ann Karagozian, Djimedo Kondo, Tianjian Lu, Jacques Magnaudet, Valery Matveenko, Eric Shaqfeh, Gabor Stepan and Jens Walther. I would like to thank them all for their hard work for the Committee, but give special mention to our retiring IUTAM President, Nadine Aubry, who Chaired both the Congress Committee and its Executive Committee in addition to all her other duties as leader of the Union. I note that I also retire as Secretary of the Congress Committee and as a member.

I also wish to mark the sad passing of Bruno Eckhardt, who for many years, was a dedicated and highly effective member of both the Congress Committee and its Executive Committee. His unexpected death last year leaves those of us bereft who counted him as a friend. He is also a very significant loss to the Committees and to IUTAM, and he will be greatly missed.

At its meetings in August, 2020, the General Assembly elected the following new members of the Congress Committee: Professors Ellen Arruda (USA),

Catherine Brinson (USA), Samuel Forest (France), Peter Frick (Russia), Elisabeth Guazzelli (France), Stefan Hartmann (Germany), Gareth McKinley (USA), Stéphane Popinet (France), Gherhardt Ribatski (Brazil), Alfredo Soldati (Austria), Kathleen Stebe (USA) and Xiaojing Zheng (China). They will serve from 1st November 2020 to 31st October 2024, at which time they will be eligible for a 2nd 4-year term.

The following members were re-elected for the period 2020 to 2024: Professors Pilar Ariza (Spain), Maciej Floryan (Canada), Peter Hunter (New Zealand), Henryk Petryk (Poland), Maria Vittoria Salvetti (Italy) and Hiroshi Yabuno (Japan)

The new President of IUTAM, Norman Fleck (UK), will serve as Chair of the Congress Committee and Professor Sanjay Mittal (India) was elected as its Secretary for the term 1st November, 2020 to 31st October, 2024.

At its meetings in August, 2020 the General Assembly appointed the new Executive Committee of the Congress Committee effective 1st November 2020 for 4 years. It will be Chaired by IUTAM President Norman Fleck and Sanjay Mittal will be its Secretary. The elected members of the Executive Committee are Professors Leslie Banks-Sills (Israel), Shiyi Chen (China), Alberto Corigliano (Italy) and Paul Linden (UK). Members of the Executive Committee also serve as members of the Congress Committee

The Congress Committee also appointed ICTAM2024 President Heuy Dong Kim as a member ex officio for the period 2020 to 2024, and he is appointed in the same capacity to the Executive Committee. This will enable the Executive Committee to work closely with Professor Kim as he prepares the organization of the 26th Congress. For the same reason, ICTAM2024 Secretary-General Simon Song will be invited to attend meetings of the Congress Committee and the Executive Committee as a guest and observer.

Finally, I would like to conclude this report by re-iterating our sincere thanks to Professors Alberto Corigliano and Umberto Perego for their wise leadership of ICTAM2020 and ICTAM2020+1 in this very difficult time of pandemic.

Robert McMeeking
Secretary of the IUTAM Congress Committee, 2012-2020
Santa Barbara, California, USA

IUTAM Symposia 2021

Due to the ongoing COVID-19 pandemic, the dates and venues of IUTAM Symposia may change. Please consult the IUTAM website for up-to-date information about all IUTAM events.

21-1 = GA.18-07 IUTAM Symposium on Ultralarge-scale topology optimization

Place: Kongens Lyngby, Denmark
Date: *May 17 – May 19, 2021 (postponement considered)*
Chair: **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

21-2 = GA.18-10 IUTAM Symposium on Mechanics of smart and tough gels

Place: Austin, USA
Date: *May 23 – May 27, 2021 (postponement considered)*
Co-Chair: **Prof. R. Huang**
University of Texas at Austin
210 E 24th Street, C0600
78712-1221 Austin, USA
Email: ruihuang@mail.utexas.edu
Co-Chair: **Prof. X. Zhao**
Massachusetts Institute of Technology
Boston, USA
Email: zhaox@mit.edu

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

21-3 = GA.18-02 IUTAM Symposium on Interface mechanics of complex flows and soft matter

Place: Beijing, China
Date: June 21 – June 24, 2021
Co-Chair: **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-Chair: **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

21-4 = GA.18-06 IUTAM Symposium on Computational methods for large-scale and complex wave problems

Place: Tokyo, Japan
Date: *June 25 – June 28, 2021 (postponement considered)*
Chair: **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

21-5 = GA.18-11 IUTAM Symposium on Turbulent structure and particles-turbulence interaction

Place: Lanzhou, China
Date: July 2 – July 5, 2021
Co-Chair: **Prof. X.J. Zheng**
Xidian University
710126 Xi'an, Shaanxi, China
Email: xjzheng@xidian.edu.cn
Co-Chair: **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

21-6 = GA.18-01 IUTAM Symposium on Particles, drops and bubbles in stratified environments

Place: Toulouse, France
Date: July 5 – July 9, 2021
Chair: **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

21-7 = GA.18-08 IUTAM Symposium on Generalized continua emerging from microstructures

Place: Paris, France
Date: *July 19 – July 23, 2021 (postponement considered)*
Chair: **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

21-8 = 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.*
Chair: **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

21-9 = GA.18-12 IUTAM Symposium on Data-driven mechanics

Place: Paris, France
Date: 2021, *no exact dates available yet.*
Chair: **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

21-10 = GA.18-13 IUTAM Symposium on Optimal guidance and control for autonomous systems

Place: Honolulu, USA
Date: 2021, *no exact dates available yet.*
Chair: **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

21-11 = GA.18-14 IUTAM Symposium on Multiphysics analysis of wave propagation in electronic device structures

Place: Ningbo, China
Date: 2021, *no exact dates available yet.*
Chair: **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

21-12 = GA.18-15 IUTAM Symposium on Mechanics of liquid crystal elastomers

Place: Houston, USA
Date: 2021, *no exact dates available yet.*
Chair: **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 2021

21-S = GA.18-04 Fluid mechanics in the spirit of G. K. Batchelor

Place: Cambridge, UK

Date: 2021, *no exact dates available yet.*

Chair: **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 Symposia 2022**22-1 = GA.20-10 IUTAM Symposium on Enhancing material performance by exploiting instabilities and damage evolution**

Place: Warsaw, Poland
Date: June 5 – June 10, 2022
Chair: **Prof. K. Kowalczyk-Gajewska**
Institute of Fundamental Technological Research
Polish Academy of Sciences
Pawinskiego 5B
02-106 Warsaw, Poland
Email: kkowalcz@ippt.pan.pl

Co-Chair: **Prof. A. Srivastava**
Texas A&M University
College Station, USA
Email: ankit.sri@tamu.edu

IUTAM Representative on Scientific Committee: Prof. H. Petryk

22-2 = GA.20-04 IUTAM Symposium on Data-driven nonlinear and stochastic dynamics with the control

Place: Xi'an, China
Date: June 6 – June 10, 2022
Co-Chair: **Prof. Y. Xu**
Northwestern Polytechnical University
School of Mathematics and Statistics
127 West Youyi Road
710072 Xi'an Shaanxi, China
Email: hsux3@nwpu.edu.cn

Co-Chair: **Prof. J. Kurths**
Humboldt-University Berlin
Institute of Physics
Berlin, Germany
Email: juergen.kurths@pik-potsdam.de

IUTAM Representative on Scientific Committee: Prof. G. Stépán

22-3 = GA.20-07 IUTAM Symposium on Multiscale architecting of microstructures of solids: mechanics and manufacture

Place: Beijing, China
Date: June 26 – June 28, 2022
Chair: **Prof. Y. Wei**
Institute of Mechanics
Chinese Academy of Sciences
Bei Si Huan Xi Rd #15, Zhongguancun
100190 Beijing, China
Email: yujie_wei@lnm.imech.ac.cn

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

22-4 = GA.20-01 IUTAM Symposium “From Stokesian suspension dynamics to particulate flows in turbulence”

Place: Toulouse, France
Date: 2022, *no exact dates available yet.*
Chair: **Prof. M. Maxey**
Brown University
Providence, USA
Email: martin_maxey@brown.edu

IUTAM Representative on Scientific Committee: Prof. D. Lohse

22-5 = GA.20-02 IUTAM Symposium on Data-driven modeling and optimization in fluid mechanics

Place: Aarhus, Denmark
Date: 2022, *no exact dates available yet.*
Chair: **Prof. J.N. Sørensen**
Technical University of Denmark (DTU)
Lyngby, Denmark
Email: jnso@dtu.dk

IUTAM Representative on Scientific Committee: Prof. D. Henningson

22-6 = GA.20-03 IUTAM Symposium on Turbulent/non-turbulent interface in turbulent shear flow

Place: Beijing, China
Date: 2022, *no exact dates available yet.*
Chair: **Prof. J. Wang**
Beihang University
Key Laboratory of Fluid Mechanics of Ministry of Education of China
37 Xueyuan Road, Haidian District
100191 Beijing, China
Email: jjwang@buaa.edu.cn

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

22-7 = GA.20-08 IUTAM Symposium on Soft matter mechanics

Place: Hangzhou, China
Date: 2022, *no exact dates available yet.*
Chair: **Prof. Y. Huang**
Northwestern University
Evanston, USA
Email: y-huang@northwestern.edu

IUTAM Representative on Scientific Committee: Prof. H. Gao

22-8 = GA.20-12 IUTAM Symposium on Creep in structures

Place: Magdeburg, Germany
Date: 2022, *no exact dates available yet.*
Chair: **Prof. H. Altenbach**
Otto-von-Guericke-Universitaet Magdeburg
Institute for Mechanics
Universitaetsplatz 2
39106 Magdeburg, Germany
Email: holm.altenbach@ovgu.de

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

22-9 = GA.20-13 IUTAM Symposium on Optimal design and control of multibody systems – adjoint methods, alternatives, and beyond

Place: Hamburg, Germany
Date: 2022, *no exact dates available yet.*
Chair: **Prof. A. Held**
Hamburg University of Technology (TUHH)
Institute of Mechanics and Ocean Engineering
Eißendorfer Straße 42
21073 Hamburg, Germany
Email: alexander.held@tuhh.de

IUTAM Representative on Scientific Committee: Prof. P. Eberhard

IUTAM Symposia 2023

23-1 = GA.20-05 IUTAM Symposium on Dynamics of capsules, vesicles and cells in flow

Place: Compiègne, France
Date: 2023, *no exact dates available yet.*
Chair: **Prof. A.-V. Salsac**
Université de Technologie de Compiègne
Biomechanics and Bioengineering Laboratory
CS 60319
60203 Compiègne, France
Email: a.salsac@utc.fr

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

23-2 = GA.20-06 IUTAM Symposium on Interfacial effects, gels and cells

Place: Limerick, Ireland
Date: 2023, *no exact dates available yet.*
Chair: **Prof. J. Huyghe**
University of Limerick
Bernal Institute
AD3.020 Analog Devices building
Plassey Park Road
IE Limerick, Ireland
Email: jacques.huyghe@ul.ie

IUTAM Representative on Scientific Committee: Prof. F. Dias

23-3 = GA.20-09 IUTAM Symposium on Mechanics of advanced materials and structures with multifield couplings

Place: Nanjing, China
Date: 2023, *no exact dates available yet.*
Chair: **Prof. J.N. Reddy**
Texas A&M University
Collegue Station, USA
Email: jnreddy@tamu.edu

IUTAM Representative on Scientific Committee: Prof. I.G. Goryacheva

23-4 = GA.20-11 IUTAM Symposium on Nonlinear dynamics for design of mechanical systems across different length/time scales

Place: Tsukuba, Japan
Date: 2023, *no exact dates available yet.*
Chair: **Prof. H. Yabuno**
University of Tsukuba
1-1-1 Ten-no-dai
305-8573 Tsukuba, Japan
Email: yabuno@esys.tsukuba.ac.jp

IUTAM Representative on Scientific Committee: Prof. G. Rega

IUTAM Summer Schools 2021, 2022 and 2023

2021 **IUTAM-CISM Summer School on Instability and bifurcation of solids including coupled field phenomena**

Place: Udine, Italy
Event dates: June 21 – June 25, 2021
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/>

2022 **IUTAM-CISM Summer School on Sports physics and technology**

Place: Udine, Italy
Event dates: 2022, *no exact dates available yet.*
Coordinators: **Prof. A. Hosoi**
Massachusetts Institute of Technology
Department of Mechanical Engineering
77 Massachusetts Avenue
Massachusetts 02139, Cambridge, USA
Email: peko@MIT.EDU
Prof. C. Clanet
LadHyX, Ecole Polytechnique
Palaiseau, France
Email: clanet@ladhyx.polytechnique.fr

2023**IUTAM-CISM Summer School on Convection and deformation in porous media: geophysical and biological flows**

Place: Udine, Italy

Event dates: 2023, *no exact dates available yet.*Coordinators: **Prof. C. MacMinn**

University of Oxford

Department of Engineering Science

Parks Road

OX1 3PJ Oxford, UK

Email: christopher.macminn@eng.ox.ac.uk**Prof. M. De Paoli**

TU Wien

Institute of Fluid Mechanics and Heat Transfer

Wien, Austria

Email: marco.de.paoli@tuwien.ac.at

IUTAM Endorsed Events 2020, 2021 and 2022

2020 **18th International Congress on Rheology**

Place: virtual congress
Date: December 12 – December 17, 2020
Chair: **Prof. Paulo R. de Souza Mendes**
 Email: pmendes@puc-rio.br
Website: <http://icr2020.com>

2021 **1st BICTAM-CISM Symposium on Dispersed Multiphase Flows: from Measuring to Modeling**

Place: Beijing, China
Date: March 3 – March 5, 2021
Co-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>

2021 **International Symposium on Co-Simulation and Solver Coupling in Dynamics**

Place: Ferrol, Spain
Date: May 23 – May 26, 2021
Co-Chair: **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>

2021 **1st IACM Conference on Mechanistic Machine Learning and Digital Twins for Computational Science, Engineering & Technology**

Place: San Diego, California, USA
Date: September 26 – September 29, 2021
Co-Chair: **Prof. Wing Kam Liu**
Email: w-liu@northwestern.edu
Co-Chair: **Prof. J. S. Chen**
Email: js-chen@ucsd.edu
Co-Chair: **Prof. Charbel Farhat**
Email: cfarhat@stanford.edu
Co-Chair: **Prof. Francisco Chinesta**
Email: Francisco.Chinesta@ensam.eu
Co-Chair: **Prof. George Karniadakis**
Email: George_Karniadakis@brown.edu
Co-Chair: **Prof. WaiChing Sun**
Email: wsun@columbia.edu
Website: <https://sites.google.com/eng.ucsd.edu/iacm-mltd-cse>

2021 **6th Joint International Conference on Multibody System Dynamics and 10th Asian Conference on Multibody Dynamics**

Place: New Delhi, India
Date: October 24 – October 28, 2021
Chair: **Prof. Subir Kumar Saha**
Email: saha@mech.iitd.ac.in
Co-Chair: **Prof. Rama Krishna K**
Email: rkk@mech.iitd.ac.in
Website: <http://imsdacmd2020.iitd.ac.in/>

2022 International Conference on Nonlinear Solid Mechanics

Place: Alghero, Sardinia, Italy

Date: June 13 – June 16, 2022

Co-Chair: **Prof. Marco Amabili**
Email: marco.amabili@mcgill.ca

Co-Chair: **Prof. Francesco dell’Isola**
Email: francesco.dellisola.aquila@gmail.com

2022 1st International Conference on Mechanics for Global Challenges

Place: Singapore

Date: June 19 – June 24, 2022

Chair: **Prof. Huajian Gao**
Email: huajian.gao@ntu.edu.sg

Website: <https://icmgc.org/>

**XXV International Congress
of Theoretical and Applied Mechanics
22-27 August 2021, Milan, Italy
ICTAM 2020+1**

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.

Due to the COVID-19 pandemic, the Congress has been postponed by President Alberto Corigliano and his local organizing committee to 22-27 August 2021 at the same location. For current information see the ICTAM home page, <https://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.

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Notice on availability of IUTAM Newsletter

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

IUTAM Home Page:

<https://www.iutam.org>

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