

PROGRAMME 2020

Rectors:

E. Guazzelli (Paris)

A. Soldati (Vienna)

W. A. Wall (Munich)



In 2020 the following Sessions of the International Centre for Mechanical Sciences (CISM) will take place at the seat of CISM in Udine (Italy)

THE ERWIN STEIN SESSION

Data-Driven Mechanics: Constitutive Model-Free Approach

April 20 - 24

Invited Lecturers:

Manuel Doblaré (Zaragoza, Spain), Marc-André Keip (Stuttgart, Germany), Michael Ortiz (Pasadena, CA, USA), Julien Réthoré (Nantes, France), Carola-Bibiane Schönlieb (Cambridge, UK), Laurent Stainier (Nantes, France).

Coordinators: M. Ortiz and L. Stainier

Advanced Theories for Deformation, Damage and Failure in Materials

May 4 - 8

Invited Lecturers:

Holm Altenbach (Magdeburg, Germany), Artur Ganczarski (Cracow, Poland), Frédéric Barlat (Pohang, South Korea), René de Borst (Sheffield, United Kingdom), Ramesh Talreja (College Station, TX, USA), Ewald Werner (Munich, Germany).

Coordinators: H. Altenbach and A. Ganczarski

Multi-Physics and Multiscale Couplings in Geo-Environmental Mechanics

May 11 - 15

Invited Lecturers:

Francesco dell'Isola (L'Aquila, Italy), Niels Kruyt (Twente, The Netherlands), Xia Li (Nanjing, China), Olivier Millet (La Rochelle, France), François Nicot (Grenoble, France), Richard Wan (Calgary, Canada).

Coordinators: N. Kruyt and O. Millet

Physically Based Modelling of Superconductors and Their Most Advanced Applications

CISM-ESOF Summer School

May 25 - 29

Invited Lecturers:

Daniela Boso (Padua, Italy), Luca Bottura (Geneva, Switzerland), René Flükiger (Geneva, Switzerland), Blazej Skoczeń (Cracow, Poland), Józef Spalek (Cracow, Poland), Stefan Russenschuck (Geneva, Switzerland).

Coordinator: B. Skoczeń

Electro- and Magneto-Mechanics of Soft Solids: Experiments, Modeling, and Instabilities

June 8 - 12

Invited Lecturers:

Kostas Danas (Palaiseau, France), Yibin Fu (Staffordshire, UK), Massimiliano Gei (Cardiff, UK), Marc-André Keip (Stuttgart, Germany), Oscar Lopez-Pamies (Urbana, IL, USA), Zoubeida Ounaies (University Park, PA, USA).

Coordinators: K. Danas and O. Lopez-Pamies

Metamaterial in Acoustics, Elastodynamics and Electromagnetism

June 15 - 19

Invited Lecturers:

Habib Ammari (Zürich, Switzerland), Sébastien Guenneau (London, UK), Agnès Maurel (Paris, France), Kim Pham (Paris, France), Sanghyeon Yu (Seoul, South Korea), Hai Zhang (Hong Kong).

Coordinators: H. Ammari and A. Maurel

Physics of Granular Suspensions: Micro-Mechanics of Geophysical Flows

June 15 - 19

Invited Lecturers:

Pascale Aussillous (Marseille, France), Sivaramkrishnan Balachandar (Gainesville, FL, USA), Julien Chauchat (Grenoble, France), Claudio di Prisco (Milan, Italy), Laurent Lacaze (Toulouse, France), Marco Mazzuoli (Genoa, Italy).

Coordinators: M. Mazzuoli and L. Lacaze

Instability and Bifurcation of Solids Including Coupled Field Phenomena

25th CISM-IUTAM International Summer School

June 22 - 26

Invited Lecturers:

Martine Ben Amar (Paris, France), Davide Bigoni (Trento, Italy), Michel Destrade (Galway, Ireland), Luis Dorfmann (Medford, MN, USA), Yibin Fu (Staffordshire, United Kingdom), Ray Ogden (Glasgow, United Kingdom).

Coordinators: L. Dorfmann and R. Ogden

Life in Flows

July 6 - 10

Invited Lecturers:

Howard C. Berg (Harvard, USA), Christophe Eloy (Marseille, France), Charlotte K. Hemelrijk (Groningen, The Netherlands), Thomas Kiorboe (Lyngby, Denmark), James C. Liao (Gainesville, FL, USA), Z. Jane Wang (Ithaca, NY, USA).

Coordinators: C. Eloy and E. Lauga

Exploiting the Use of Strong Nonlinearity in Dynamics and Acoustics

CISM-AIMETA Advanced School

July 13 - 17

Invited Lecturers:

Bruno Cochelin (Paris, France), Oleg Gendelman (Haifa, Israel), Gaetan Kerschen (Liege, Belgium), Malte Krack (Stuttgart, Germany), Giuseppe Rega (Rome, Italy), Alexander Vakakis (Urbana, IL, USA), Fabrizio Vestroni (Rome, Italy).

Coordinators: O. V. Gendelman and A. F. Vakakis

Materials and Electro-Mechanical and Biomedical Devices Based on Nanofibers

July 20 - 24

Invited Lecturers:

Karen De Clerck (Ghent, Belgium), Tomasz A. Kowalewski & Filippo Pierini (Warsaw, Poland), Marco Lauricella (Rome, Italy), Dario Pisignano (Pisa, Italy), Alexander L. Yarin (Chicago, IL, USA), Eyal Zussman (Haifa, Israel).

Coordinators: T. A. Kowalewski and A. L. Yarin

THE MASANOBU SHINOZUKA SESSION

Mechanics of Smart and Bio-Hybrid Gels: Experiments, Theory, Numerical Simulation

August 31 - September 4

Invited Lecturers:

Mattia Bacca (Vancouver, Canada), Anne Bernheim (Be'er Sheva, Israel), Antonio De Simone (Trieste, Italy), Nancy Forde (Burnaby, Canada), Alessandro Lucantonio (Pisa, Italy), Robert M. McMeeking (Santa Barbara, CA, USA), Zhigang Suo (Cambridge, MA, USA).

Coordinators: M. Bacca and A. Lucantonio

Bone Cell and Tissue Mechanics

September 7 - 11

Invited Lecturers:

Georg Duda (Berlin, Germany), Peter Fratzl (Potsdam, Germany), Jenneke Klein Nulend (Amsterdam, The Netherlands), Ralph Müller (Zürich, Switzerland), Gwendolen Reilly (Sheffield, UK), Bert van Rietbergen (Eindhoven, The Netherlands).

Coordinator: B. van Rietbergen

Batteries - Basic Principles, Experimental Investigations and Modeling Across Scales

September 21 - 25

Invited Lecturers:

Oleg Borodin (Adelphi, MD, USA), David A. Howey (Oxford, United Kingdom), Jürgen Janek (Gießen, Germany), Arnulf Latz (Ulm, Germany), Yue Qi (East Lansing, MI, USA), Wolfgang A. Wall (Munich, Germany).

Coordinators: A. Latz and W. A. Wall

Computational Mechanics for Novel Designs of Advanced Materials

CISM-ECCOMAS Advanced School

October 5 - 9

Invited Lecturers:

Marc Geers (Eindhoven, The Netherlands), Michele Marino (Hannover, Germany), Jörg Schröder (Essen, Germany), Ole Sigmund (Lyngby, Denmark), Stanislaw Stupkiewicz (Warsaw, Poland), Peter Wriggers (Hannover, Germany).

Coordinators: M. Marino and J. Schröder

Transport Phenomena on Textured Surfaces: Fundamentals and Applications

October 12 - 16

Invited Lecturers:

Vaibhav Bahadur (Austin, TX, USA), Darren Crowdy (London, UK), Marc Hodes (Medford, MA, USA), Alan Lyons (New York, NY, USA), Demetrios Papageorgiou (London, UK), David Quéré (Paris, France).

Coordinators: D. Crowdy and M. Hodes

Metal Additive Manufacturing: Fundamentals, Modeling, Materials, and Implementation

October 19 - 23

Invited Lecturers:

Bianca Maria Colosimo (Milan, Italy), Jürgen Eckert (Leoben, Austria), Andrey Gusarov (Moscow, Russia), A. John Hart (Cambridge, MA, USA), Neil Hodge (Livermore, CA, USA), Christoph Meier (Munich, Germany).

Coordinators: C. Meier and A. J. Hart

INTERNATIONAL ADVANCED PROFESSIONAL TRAINING

Discrete Computational Mechanics of Masonry Structures

July 27 - 31

Invited Lecturers:

Daniela Aita (Pisa, Italy), Maurizio Angelillo (Salerno, Italy), Katalin Bagi (Budapest, Hungary), Philippe Block (Zurich, Switzerland), Matthew DeJong (Berkeley, CA, USA), Jose V. Lemos (Lisboa, Portugal).

Coordinators: K. Bagi and M. Angelillo

NATIONAL ADVANCED PROFESSIONAL TRAINING

National Advanced Professional Training (APT) in the fields of Structural and Geotechnical Engineering, Surveying, Environmental, Bioengineering and Industrial Engineering will be given in Italian.

Related information is available on www.cism.it.

Admission to Courses

On-line applications should be submitted no later than one month before the course.

A limited number of participants from universities and research centres who are not supported by their own institutions, can be offered board and/or lodging. Application for support must be sent to CISM Secretariat (cism@cism.it) no later than two months before the course.

Detailed programmes, admission rules and on-line application forms are available on www.cism.it.

The 2020 Course Booklet can be downloaded from www.cism.it/courses

