

PROGRAMME 2021

Rectors:

E. Guazzelli (Paris)

A. Soldati (Vienna)

W. A. Wall (Munich)

In 2021 the following Sessions of the International Centre for Mechanical Sciences (CISM) will take place at the seat of CISM in Udine (Italy) and/or by remote

THE ERWIN STEIN SESSION

Optimization of Shape and Material Properties: Advanced Mathematical Methods and 3D

CISM-UNIUD Advanced School

Invited Lecturers:

Dorin Bucur (Le-Bourget-Du-Lac, France), Gianni Dal Maso (Trieste, Italy), Laura De Lorenzis (Braunschweig, Germany), Massimiliano Gei (Cardiff, UK, Laurent Ponson (Paris, France), Elisabetta Rocca (Pavia, Italy).

Coordinators: Giovanni Noselli (Trieste, Italy) and Rodica Toader (Udine, Italy)

April 12 - 16

Fluid Mechanics of Planets and Stars

Invited Lecturers:

Isabelle Baraffe (Exeter, United Kingdom), Keaton J. Burns (Cambridge, MA, USA), Michael Le Bars (CNRS, Aix Marseille Université, France), Daniel Lecoanet (Evanston, IL, USA), Juan Pedro Mellado (Barcelona, Spain), Jérôme A. R. Noir (Zurich, Switzerland).

Coordinators: M. Le Bars and M. Lecoanet

April 19 - 23

Composite Manufacturing Processes: Analyses, Modelling and Simulations

Invited Lecturers:

Philippe Boisse (Lyon, France), Christophe Binetruy (Nantes, France), Pierpaolo Carlone (Salerno, Italy), Luise Kärger (Karlsruhe, Germany), Kyosev Yordan (Dresden, Germany), Stepan V. Lomov (Leuven, Belgium).

Coordinators: P. Boisse and L. Kärger

April 26 - 30

Advanced Theories for Deformation, Damage and Failure in Materials

Invited Lecturers:

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

Coordinators: H. Altenbach and A. Ganczarski

May 3 - 7

Physically Based Modelling of Superconductors and Their Most Advanced Applications

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

May 24 - 28

Data-Driven Mechanics: Constitutive Model-Free Approach

Invited Lecturers:

Manuel Doblare (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

May 31 - June 4

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

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

June 7 - 11

Physics of Granular Suspensions: Micro-Mechanics of Geophysical Flows

June 14 - 18

Invited Lecturers:

Pascale Aussillous (Marseille, France), Sivaramakrishnan Balachandrar (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 21 - 25

Invited Lecturers:

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

Coordinators: L. Dorfmann and R. Ogden

Exploiting the Use of Strong Nonlinearity in Dynamics and Acoustics

CISM-AIMETA Advanced School

June 28 - July 2

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

Metamaterial in Acoustics, Elastodynamics and Electromagnetism

July 12 - 16

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

Mechanical and Biomedical Devices Based on Nanofibers

July 19- 23

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 30 - September 3

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 6 - 10

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 20 - 24

Invited Lecturers:

Oleg Borodin (Adelphi, MD, USA), David A. Howey (Oxford, UK), 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 4 - 8

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 11 - 15

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 18 - 22

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

Mechanics, Tribology and Manufacturing Processes

May 10 - 14

Invited Lecturers:

Niels Bay (Lyngby, Denmark), Leonardo De Chiffre (Lyngby, Denmark), Laurent Dubar (Le Mont Houy, Valenciennes, France), Pierre Montmitonnet (Sophia Antipolis, France), Jean-Philippe Ponthot (Liège, Belgium).

Coordinators: N. Bay and P. Montmitonnet

Discrete Computational Mechanics of Masonry Structures

July 26 - 30

Invited Lecturers:

Danila 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

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

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.

The 2021 Course Booklet can be downloaded from www.cism.it/courses

